



Chukchi Sea Planning Area

Oil and Gas Lease Sale 193 and Seismic Surveying Activities in the Chukchi Sea

Final Environmental
Impact Statement

Volume II
Section VII, Comments and Responses



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in the Chukchi Sea

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Impact Statement

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(Section VII, Comments and Responses)

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U.S. Department of Commerce,
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National marine Fisheries Service

SECTION VII

REVIEW AND ANALYSIS OF COMMENTS RECEIVED

VII. Review and Analysis of Comments Received

Response approach to comments

During the comment period, various governmental agencies, organizations, and individuals provided letters, e-mail messages, or oral testimonies. Tracking numbers were assigned to comments received. Specific comments were identified in numerical order, and responses to comments were placed at the end of each oral testimony, letter, or e-mail message where appropriate. We have not reproduced all the e-mail messages received as most of the e-mail messages were identical to or based on one of two different form messages posted on an environmental group's internet web site.

All of the hearing transcripts, comment letters, and e-mail letters were reviewed by a team of MMS specialists and considered in preparing responses. Comments required a response if they were substantive and suggested modifications to alternatives, including the proposed action; recommended new alternatives or mitigating measures; disagreed with analysis or methodologies; or related to the accuracy and/or completeness of the data or information. As noted previously, we received numerous comments that did not suggest changes to the EIS but offered opinion, a point of view, and/or a recommendation to the decisionmaker(s) to adopt specific alternative(s), specific mitigating measures, or take specific actions. These comments are included as part of the public record, and they are available to the decisionmaker(s) during the deliberation process for the proposed sale evaluated in this EIS.

**Document
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5-YEAR OCS OIL AND GAS
PROPOSED LEASING PROGRAM
FOR 2007-2012
Point Lay, Alaska

NORTH SLOPE BOROUGH PUBLIC HEARING/MEETING
for the Draft Environmental Impact Statement

Taken November 14, 2006

Commencing at 7:00 p.m.

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I-N-D-E-X

Minerals Management Service:

Cleveland Cowles, Regional Supervisor

James Bennett, Chief of Environmental Assessments

Albert Arros, Community Liaison

Michael Salyer, Wildlife Biologist, EIS Coordinator

Peter Johnson, Geophysicist, Resource Evaluation

Reported by Britney Chonka, CR

PUBLIC COMMENTS

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1 MS. ANNISKETT: Thank you, everybody, for
2 showing up. Our mayor is out of town. Being the
3 secretary, I'm going to open the meeting. We're
4 going to have Charlie Tuckfield do the invocation
5 and I'll turn the floor over to the MMS people.

6 (Prayer was said in Inupiaq.)

7 MR. COWLES: Well, thank you everybody for
8 coming tonight. My name is Cleve Cowles. And I'm
9 the MMS in Anchorage. And I'm the acting regional
10 supervisor for the leasing office there. And what
11 we would like to do tonight is talk to you a little
12 about some of the things that are -- three major
13 things that are happening in the Outer Continental
14 Shelf Oil and Gas Program, the Department of
15 Interior's program which MMS manages and implements.

16 And before I talk any further, I'd like to
17 introduce some of the people who are here with me
18 who can help as we go along. Here is Mr. Jim
19 Bennett from Washington D.C. He is the branch chief
20 for the environmental assessment branch in
21 Washington with MMS.

22 Mr. Mike Salyer, Mike. There's Mike. He's with
23 our office in Anchorage and involved with the
24 environmental assessment process and the EIS that is
25 out for review. Peter Johnson, where is Peter? Oh,

1 Peter's back there. Peter's a -- a -- with our
2 resource evaluation group, the folks who work with
3 the geology and estimating the amount of oil and gas
4 that may be available for exploration.

5 And Mr. Al Barros is just there -- this is Peter
6 with the -- and Al Barros is our community liaison.
7 And we have Britney Chonka, who is our
8 transcriptionist. And she will be keeping a record
9 of the -- of the things that we talk about and your
10 testimony tonight.

11 I guess one of the things that I'd like to
12 mention, and I'll probably mention again, is if you
13 would please sign in. And also as we move forward,
14 if we have conversation about these topics, if
15 you -- and you want to make a statement or question,
16 if you'd identify who you are for our -- our record
17 we would appreciate that very much.

18 Now, to get more into the specifics of what I
19 would recommend that -- or hope you could consider
20 for our evening, you saw our handout and it's got
21 quite a few pages in it, so if it's okay with you
22 what we thought we would do would be to talk about
23 it a little bit. Or I would talk for a few minutes,
24 and then if you had some questions about the things
25 I said, I could attempt to answer them.

1 And then Mr. Bennett will talk about part of it
2 For a few minutes, and if you had some questions at
3 that point. And then Mr. Salyer. And we would
4 break it up, probably take about a half hour for our
5 presentation. And then follow up later on with all
6 the comments or questions or testimony that you may
7 have for our recorder.

8 So would that be okay?

9 Yes, sir?

10 UNIDENTIFIED SPEAKER: You forgot one person,
11 our former mayor, Ahmaogak.

12 MR. COWLES: Oh, I'm sorry, George, I didn't
13 mean to --

14 Okay. On the handout, on the first page in the
15 first panel, it summarizes the, really the three
16 things that we're here to talk about. First, we
17 have a proposed five-year offshore oil and gas
18 program for the next five years, 2007 to 2012.

19 Secondly, there was an environmental -- a draft
20 environmental impact statement written that is open
21 for comment for that program. And that's mainly a
22 scheduling for potential lease sales in the future.
23 So there's the five-year program and an EIS
24 associated with it.

25 And then also we have a -- a draft EIS for lease

1 sale 193 in the Chukchi Sea which we've been working
2 on for, roughly, the past year. And there's things
3 in this handout that show facts, for example, on the
4 second panel on the first page, this map shows the
5 four areas off Alaska that are in the proposed
6 program, and for which we have a schedule of
7 potential lease sales.

8 And there is a map over there on the wall that
9 shows it a little bit better. And in the things
10 attached here we've also, in one of the federal
11 register notices, let's see, it's roughly the --
12 it's the ninth page for your own purpose in your
13 handout.

14 And let's talk about that, first of all, in
15 terms of just why we have these areas identified off
16 Alaska. It gets back to the Department of
17 Interior's need to manage our offshore gas resources
18 and best meet our nation's energy needs. And I am
19 sure many of you are aware the demand for energy
20 nationwide is increasing. Production is not meeting
21 that demand. And so this is one way our country can
22 attempt to meet the oil and gas needs of the
23 country.

24 And the Department then uses this process that
25 I'll be talking about to evaluate potential

1 schedules in places that that can be done through
2 the lease sale process.

3 Just a couple of quick things about these areas.
4 The Cook Inlet Region, which is the Southcentral
5 part of the map there, you're familiar with that, is
6 an area that MMS, over the years, has had lease
7 sales. And most recently the industry interest has
8 not been real high there. So this proposed program
9 includes the possibility of holding what they would
10 call special interest lease sales where we would,
11 MMS would go out, and say, announce that we were
12 considering a lease sale, as industry is interested.
13 If industry is not, then we would not pursue an EIS,
14 because there is not that strong interest.

15 So we would check, and I think we'll do that
16 periodically, and we probably don't think there's
17 going to be a lot of activity there. Then the next
18 one up north of the Alaska Peninsula, that's the
19 North Aleutian lease sale -- excuse me, proposed
20 sale area.

21 And when this draft program came out, it was
22 much larger. But subsequently, the governor of the
23 State of Alaska requested that the Department of the
24 Interior only include that part that was analyzed
25 previously under a previous lease sale, 92. So

1 that's why that area is now shown as -- as you see
2 there.

3 For the Chukchi Sea and the Beaufort, they are
4 similar, but actually there was a change in the
5 Chukchi Sea, and there's a buffer zone now along the
6 coast. And this relates to two things, one,
7 there -- there was no previous oil and gas interest
8 near shore; and, secondly, the State of Alaska did
9 not request that that area be included. And in the
10 past the Department and the State have coordinated
11 lease sales, for example, in the Beaufort Sea where
12 industry is interested close to shore.

13 So there's now, subsequent to the first draft
14 proposed program, the proposed program now shows
15 that buffer zone. And those are the reasons for it.
16 So that's pretty much what I had to say about this
17 first map.

18 And on the second page, just a quick summary of
19 the two main things we were talking about here. And
20 I'd like to get down to the chart at the bottom
21 here. I'll talk about that very briefly, then I
22 will be done. What you see here are the steps of
23 the whole process that the Department of the
24 Interior/MMS follow for these lease sales. And the
25 upper line is the line for the development of the

1 proposed program. And that's what we're talking
2 about in part tonight. And we are, as far as
3 proposed program's concerned, we are in this middle
4 block that says: Proposed program draft EIS. And
5 we're in the comment period right after that.

6 So these articles had come out, they were put
7 out for distribution in August and the comment
8 period has been going on. That whole process is
9 involved in the proposed program. When you get
10 through the -- you'll have a final and you'll have a
11 final program announcement, that can take two years
12 roughly. That's a -- that's a scheduling, that's
13 basically what that does, is it schedules these
14 areas and the possibilities for us then pursuing
15 lease sales in each area.

16 And if we go forward with a lease sale, for
17 example, in the Chukchi Sea, we would then follow
18 the green line. And that's the EIS sale process.
19 And I'll -- for the time being, just to not take a
20 lot of time, mention that that process, we have a
21 draft EIS, final EIS. And then a decision for a
22 lease sale, to hold a sale can take two to
23 two-and-a-half years. It's -- it's in that line.

24 And there may be a -- as we move along through
25 that process, it may be decided not to have a sale.

1 So again we use the schedules and we have decision
2 along the way. The important point on that is that
3 those two lines are under MMS', kind of, influence.
4 That's a process within the Department of the
5 Interior. But once there's a lease sale and the
6 industry has bid on tracts and been awarded tracts,
7 then it's up to industry when these next phases
8 occur, because they'll -- they'll get a lease. And
9 they have to decide when they will explore.

10 MS. ANNISKETT: We got elders that don't know
11 what you're talking about. You need to get a
12 translator.

13 MR. COWLES: Okay.

14 MS. ANNISKETT: You're mumbling on too fast.

15 MR. COWLES: I'm sorry.

16 Would you like me to start over? What I'm
17 saying, we have a long process. And all that could
18 take, through the exploration plan, up to
19 six-and-a-half years at the end there. And then if
20 oil and gas is discovered, depending on industry's
21 rate of progress, it could take eight-and-a-half to
22 12 years before you actually saw production.

23 See, you have an exploration phase, you
24 discover, maybe. If there's nothing there, people
25 are probably done, they go home. But if there is

1 something, there's another set of time, a block of
2 time that it takes to go into production. So this
3 whole process is quite long. It could take
4 eight-and-a-half to 12 years.

5 One other important point is as you see these
6 large areas shaded in blue, that's just what's up
7 for consideration right now. But as this process
8 proceeds, it gets more and more focused. So, for
9 example, in the last Beaufort sale, the company's
10 only -- they were awarded leases on about six
11 percent of what was offered under the lease sale,
12 because they don't want to explore any -- they'll
13 bid on tracts and they'll bid, maybe, on a number of
14 tracts and then within that, they'll decide: We'll
15 explore some of these, and in some sequence in time.

16 So it doesn't happen all at once. And that's a
17 process of focusing. And the important thing about
18 all of this is there are places all along the way
19 for us to get very valuable input from the villages
20 and folks who have this happening nearby.

21 So that's the important part. And we do value
22 that. And that's why we're here tonight, because we
23 want to hear your questions and your ideas and your
24 comments.

25 So I'm done for my part of this. Does anybody

1 have any questions about what I just went over?

2 MS. ANNISKETT: So your five-year plan starts,
3 what year do you start and what year do you plan to
4 end the five years?

5 MR. COWLES: I think that's what Mr. Bennett
6 will talk about.

7 MS. ANNISKETT: And are you going to be doing
8 this in just the summertime or in the wintertime, or
9 what?

10 MR. COWLES: Well, the program and these
11 processes, the government's always there and so
12 we're always working along, but most of the industry
13 activity to start with will probably be during
14 periods of time when it's safest for the environment
15 and for industry and for the communities. But that
16 will vary, depending on the location and the
17 company.

18 MS. ANNISKETT: So how many times a year, a
19 month do you plan on working out there?

20 MR. COWLES: I -- I can't answer that, because
21 it will -- it will vary. And if you're talking
22 about exploration and when industry will come,
23 that's something that they would have to decide
24 subsequent to whether or not they are -- they win
25 leases, whether they bid enough to get a lease.

1 And that's a -- those are the decisions that the
2 corporations, the industry companies must make. And
3 there are many things along the line here that they
4 have to take into consideration.

5 Okay. Jim?

6 MR. BENNETT: Thank you Cleve.

7 Again, my name is Jim Bennett. And I'm with
8 Washington headquarters office, Minerals Management
9 Service.

10 MR. TRACEY: Jim, I still have questions for --
11 I know Lily had a question directed towards you that
12 you might want to answer, but before you start your
13 presentation --

14 MR. BENNETT: I'd be happy to.

15 MS. ANNISKETT: Lily Anniskett.

16 MR. TRACEY: Bill Tracy, for the record.

17 I am curious about the buffer zone. I'd like to
18 know a little bit more about it, like is it the
19 entire North Slope Coast? If not, exactly what are
20 the boundaries of it? How deep is it? How far up
21 the ocean does it go?

22 MR. COWLES: In the background on your text on
23 page 50458 there is some information there that
24 summarizes that. And let's see if I can --

25 MR. JOHNSON: How do they find 50458?

1 MR. COWLES: Well, it's about the -- if you see
2 this map showing that -- the -- the Chukchi Sea, go
3 to the two pages beyond that and up in the
4 upper-left corner it says 50458, and then down at
5 this corner it says Alaska Region, and then this
6 text here. And it says for the Chukchi, and also
7 mentions North Aleutians, it says: In the Chukchi
8 Sea the proposed program removes from the leasing
9 consideration, a 25-mile buffer area along the
10 coast, as there is no existing oil and gas activity
11 in the area and the State has made no request to
12 include leasing closer to shore.

13 So it's described as a 25-mile buffer. You can
14 see, it runs from, roughly --

15 MR. SALYER: It's the black line right here,
16 this black line right here.

17 MR. TRACEY: Okay.

18 MR. BENNETT: And to answer your question, I
19 think it applies to the Chukchi Sea planning area
20 for the five year.

21 MR. TRACEY: And not up in just Beaufort Sea?

22 MR. BENNETT: Correct.

23 MR. TRACEY: Okay. I guess, secondly, this EIS,
24 if everybody knows, it's an environmental impact
25 statement.

1 MR. COWLES: That's correct, thank you.

2 MR. TRACEY: When do we get to look at it? And
3 how do we gain access?

4 MR. COWLES: The program EIS was sent out. And
5 we sent to all the -- the villages and the
6 libraries. And we also have it available through
7 the Internet. And I have some CD-ROMs that --
8 compact disks that have it. If you're interested, I
9 could provide you with one. So there are different
10 ways it can be accessed.

11 MR. BENNETT: It was sent out. If you want a
12 hard copy, we'll be happy to send you a hard copy.
13 It's on the web right now. And we have some CDs
14 available, as well.

15 MR. TRACEY: I think the CDs would be
16 appropriate.

17 MR. COWLES: Okay. One thing about that, you
18 know, when you look at these things, they're big
19 documents. And I just, for my own purposes, I
20 pulled the section out for Alaska. And I think the
21 Alaska portion is about 100 pages of this bigger
22 document. So it's -- it's, you know, digestible in
23 a few days.

24 So it's -- again, there's a piece of it, you can
25 you go right to and find it. It's accessible within

1 the document.

2 MR. TRACEY: Okay. Thank you.

3 MR. COWLES: Thank you.

4 MR. BENNETT: Any other questions for Cleve?

5 MS. HENRY: I do.

6 Are you planning on working with the elders --
7 Lupita Henry.

8 Are you planning on working with the elders in
9 our community as to what kind of environmental
10 impact this might have? Because they have records
11 of what was here, you know, what kind of animals and
12 where they migrate and whatnot.

13 MR. COWLES: There are different ways that --
14 and we would like to --

15 MS. HENRY: Because it would be better to do it
16 one-on-one with the elders, I think, to go through
17 this, so that you know where our animals are and
18 where they harvest that and where we go and, you
19 know, where they breed and whatnot.

20 MR. COWLES: I understand. And there are a
21 number of different ways we would like to do that,
22 and we'll attempt to do as best we can. For
23 example, meetings like this when we talk about later
24 on the Sale 193, if people would like to pass
25 information to us, we'll have it on the record.

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1 We also have an environmental studies program
2 that, from time to time we will come out and do
3 biological studies or sociocultural types of studies
4 where we will ask the people in the community to
5 give us information. And we will put that in with
6 the scientific work. And we'll have the scientists
7 come and ask for assistance and information for how
8 to best work around your community.

9 So there's a lot of different ways. And it just
10 depends on what stage of the process we're talking
11 about. So, for example, in this five-year program,
12 in this schedule, and there's about 7 to 9 possible
13 lease sales in those five years.

14 During each of those sales, there will be a
15 phase of the EIS process called scoping where we
16 will seek people's input, as we say, or information
17 about things we need to take into consideration.
18 And we certainly would hope that the elders would be
19 comfortable with helping there.

20 So it's -- there's a lot of different ways. And
21 as we move forward and you have ideas, we -- we
22 certainly would appreciate those suggestions and
23 we'll try to see how we can work things in.

24 MS. HENRY: Now I have another question. You
25 know, the last seismic activity that we just had

1 with Shell?

2 MR. COWLES: I know a little bit about it. I
3 know some about it.

4 MS. HENRY: You know some about it?

5 MR. COWLES: Yes.

6 MS. HENRY: I don't know if Shell had an
7 environmental impact statement released yet? Did
8 you guys have one released already?

9 MR. COWLES: Mr. Peter Johnson is with the group
10 that deals with the -- works with the seismic
11 exploration and how those permits, and so forth, are
12 managed. And so he might be able to answer your
13 question.

14 Peter?

15 MR. JOHNSON: To my knowledge, there was not an
16 environmental impact statement for this --

17 MS. HENRY: Because I was told they would
18 provide one, I believe, that somebody was going to
19 provide one to us. And I know Bill's asking the
20 same thing, because we haven't seen anything yet.

21 MR. COWLES: Minerals Management Service
22 published a programmatic environmental assessment,
23 that's out for public information.

24 MS. HENRY: Now, when you guys do your
25 newsletters, and I notice that you have our names

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1 back there, when you guys do these, you guys don't
2 send them out to us, you send them to our tribal
3 leaders. I would like to see it being sent to
4 everybody that's on that list. And if you're going
5 to be sending stuff out like that, for it to be sent
6 out, because I didn't see anything. And, you know,
7 I was looking, I wanted to see what kinds of impacts
8 were shown.

9 MR. COWLES: That list there, that's, we were
10 trying to keep a record of who came tonight. And if
11 you -- if there are other individuals who would like
12 us to put you on our mailing list -- why don't you
13 see me at a break or after the meeting and I will
14 get your name and address. That will be a separate
15 mailing list from our office.

16 MS. HENRY: And anybody here can get on that
17 mailing list?

18 MR. COWLES: We can put you on that mailing
19 list. And you will get an announcement for things,
20 like when studies come out. And then if you -- what
21 we do is we send out what we call a technical
22 announcement. And we send that out, it summarizes
23 what the study was about. I think they include the
24 EISes.

25 And then if you're interested, all you have to

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1 do is get back in touch with our office and then
2 they will send you the document.

3 MS. HENRY: That's why I was asking about the
4 elders, because they know and if you show the impact
5 statement, you know, and what is there, then they'll
6 know if it's been impacted.

7 MR. COWLES: Okay. Yeah.

8 MS. HENRY: That's something to put in
9 consideration.

10 MR. COWLES: We value that information highly.
11 And we try, as best we can, on our studies to bring
12 that into the project.

13 MR. BENNETT: The same with the EISes. We will
14 be happy to include anyone on the mailing list for
15 those. If they change over time and if they're
16 dated and they're -- they don't have anybody on
17 there that they should be, we'll be more than happy
18 to add those names to the list.

19 MS. HENRY: Okay. Thank you.

20 MR. COWLES: Okay.

21 MR. BENNETT: Cleve, I think you've got one
22 more.

23 MR. COWLES: Oh, yes, sir.

24 MR. NUKAPIGAK: Thomas Nukapigak, for the
25 record. Can you tell me, face-to-face, why, in our

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1 ocean, you want to put some sales on the Chukchi or
2 the Beaufort, since this ocean is our garden? You
3 got garden right outside your house. This ocean is
4 our garden, us, the Inupiat. Why our ocean? We eat
5 from it. Why you want to sell some lease on this
6 ocean?

7 MR. COWLES: I think the answer is, is that
8 because of the national needs and the laws of our
9 nation, we have to explore -- we have to go through
10 this process so that the many different uses of the
11 ocean and the Outer Continental Shelf can be
12 considered. It doesn't mean that we have to or that
13 we must. But we have a responsibility, as a
14 department, to go through this process to find out
15 whether we can do it in a way that is
16 environmentally safe and sound.

17 MR. NUKAPIGAK: Are you doing this because you
18 guys can't go to ANWR?

19 MR. COWLES: Well, MMS doesn't deal with this --

20 MR. BENNETT: This whole process is independent
21 of ANWR. We operate under the Outer Continental
22 Shelf Lands Act and we have a mandate for developing
23 these five-year programs, which is what I was going
24 to talk about. But it -- it has no relation to
25 ANWR, as far as what we have to do.

1 MR. COWLES: That whole thing is -- has other
2 decision-makers involved with it than MMS.

3 MR. KILLBEAR: Cleve?

4 MR. COWLES: Yes, sir?

5 MR. KILLBEAR: Are you with the State?

6 MR. COWLES: I'm with the Department of the
7 Interior, Anchorage.

8 MR. KILLBEAR: The way I understand it, it is
9 the State that plans the least. And I'm glad that
10 you guys have at least a 20 -- 25-mile buffer zone.

11 MR. COWLES: Ours is a federal buffer, but the
12 State has a program that goes from the shore out to
13 three miles. So, for example, with Beaufort Sea, I
14 know they've had lease sales there and they've had
15 some recently. I don't think they have in the
16 Chukchi.

17 I'm not that knowledgeable about the State's
18 history of sales. So what goes on from the
19 shoreline out to three miles is State waters and
20 that's the State of Alaska. And I think it's the
21 Department of Natural Resources that has that
22 program, oil and gas.

23 MR. KILLBEAR: Gordon Killbear.

24 MS. ANNISKETT: You have this grant from Point
25 Hope, Point Lay, Wainwright, Barrow is there any way

1 we can contact some of these residents here to find
2 out what their villages are saying?

3 MR. COWLES: These transcripts will --

4 MS. ANNISKETT: We might be all saying the same
5 thing.

6 MR. COWLES: These transcripts will eventually
7 be available to the public, that would be one way.
8 We're having our meetings -- there is a panel in
9 there, I can't remember what page it's on, it shows
10 the dates we will be at those other villages.

11 MR. BENNETT: The final environmental impact
12 statement for both the five-year programs and Sale
13 193 is going to address all of the comments that was
14 raised at all of the meetings.

15 It won't be --it won't have the transcripts
16 themselves in the document, but it will have
17 summaries of all the issues that have been brought
18 up and how we address them at the Environmental
19 Impact Statement.

20 MR. ITTA: Bill Itta from Barrow. I'm glad that
21 she was wanting to know what we felt like, I'm from
22 Barrow. About a year ago, last winter we had a
23 meeting, I think with the Minerals Management
24 Service about this before -- when this was started.

25 MR. COWLES: A scoping.

1 MR. ITTA: Yeah. There was an unanswered
2 question by the Minerals Management Service. We had
3 to ask that, you know, like during the production
4 stage down there, we had asked them who would be
5 responsible for a spill, a very large spill. And we
6 had asked them: Is it going to be the Minerals
7 Management Service themselves that are going to be
8 liable to give back what is lost? And from what we
9 heard, we were -- there's quite a number that --
10 what we heard from the Minerals Management Service
11 that it would be the contractors that would be
12 liable. Then who will be able to go out there and
13 clean up a possible oil spill that can happen? It's
14 been known to happen in the North Sea, and out there
15 in the oceans.

16 And we had to ask them another question that
17 wasn't answered, who would go out there and clean
18 up? And they brought out the Coast Guard. And
19 those are some of the questions that weren't
20 answered during the scoping meeting we had in
21 Barrow. And those were very serious questions that
22 weren't answered by the Minerals Management Service.
23 And also in the retrieval of oil that is still
24 not -- they're not capable of retrieving oil from
25 the ice. And those are the concerns that were made

001-004

1 by the residents of Barrow towards the end of the
2 meeting.

3 MR. COWLES: I understand. Those are a good
4 points and good questions. And some of those
5 questions still can be clarified. And -- and they
6 are -- there are ways that we will probably look at
7 to provide more information. For example, in the
8 Draft EIS, there is some information on the Chukchi
9 Sea EIS that summarizes what, for example, MMS
10 regulates.

11 We have a pollution prevention program which has
12 a number of different points in it that we require
13 of the companies to do, as best we can, make sure
14 that doesn't happen. And that's, I think, one of
15 the things about the MMS pollution prevention
16 program inspections that is important, in that we
17 try to make sure that the companies put together the
18 best program they can to avoid that.

19 And so we emphasize prevention. We have a
20 number different things, I'm not an expert on it,
21 but I do know that in our field operations section,
22 there are requirements that companies have to
23 fulfill before they work on the OCS. For example,
24 to go out and explore on a tract, they first have to
25 do things like a shallow hazards survey. They have

1 to make sure that they're not, for example shallow
2 gas deposits that may create problems.

3 They have to -- they have to have their site
4 design and their exploration and construction design
5 reviewed. They have to have a verification of their
6 project by a third party, not just MMS, by a third
7 party. I guess it's an engineering look at things
8 from an independent party.

9 They have to have safety planning and drilling
10 with their equipment. For example, on their well
11 control systems, they have to show that they can do
12 that and make it work. They have to have emergency
13 plans. And they have to do drills relating to those
14 emergency plans. For example, they have to have
15 emergency plans for oil spill. If there was a
16 spill, their crews would have to go out and show
17 they can deploy what equipment they will be using
18 for that.

19 They have to -- for things like hydrogen
20 sulfide, which is a dangerous gas, they have to have
21 an emergency plan for that. There's about five
22 different emergency plans they have to present and
23 review and exercise.

24 So there's a number of different things that --
25 and certainly most important is on-site inspections

1 when they are there. Our inspectors go out and make
2 sure they are complying with these things. For
3 example, on a platform they have to have what we
4 call redundant safety systems. So if one system has
5 a problem, there's another one that will take care
6 of it. They have to have backup systems for many of
7 these different processes that they do.

8 So there's a long list of things. I'm not, you
9 know, the best one to go through that. It's
10 actually in the Federal Regulations. It's in the
11 Code of Federal Regulations Chapter 30, I think it
12 is, Section 250. And that's there and companies
13 have to do it.

14 So that makes for a program that achieves as
15 much of a safety margin as we can. And it changes
16 over time as technologies over time improve and
17 change.

18 Is there anything else we could add on that
19 question?

20 MR. BENNETT: Just -- as you're raising that
21 point, the EIS, both EISs do address oil spill
22 cleanup and -- and liability. And we will ensure,
23 based on the comment that you've made tonight, that
24 that's as complete an explanation as it -- as it can
25 be in those documents.

1 MS. HENRY: I -- I had a question. I know Shell
2 has scientists, they're working on ice cleanup. How
3 come, if you're going to be putting up these leases,
4 why don't your environmentalists or geologists, or
5 whatever, if they come out, why don't you have
6 somebody doing that to clean up our ice? Because
7 ice is, you know, different than land, way
8 different.

9 MR. COWLES: Yeah. MMS right now, in its
10 research, it has a technology research program,
11 besides environmental studies. And we have a large
12 ice tank where they test with different types of
13 equipment and new designs. So we do manage this
14 facility. And that's one thing that we do, as far
15 as trying to learn more about things. It's an
16 experimental situation, but it helps the companies
17 later on as they put it to practice. So there are
18 those things that we do.

19 MS. HENRY: Are you going to be providing that
20 information out to the community as well?

21 MR. COWLES: As reports come out of our --

22 MR. BENNETT: As reports come out, there will
23 be. And as the status of information is available,
24 it will be included in the EISs.

25 MR. SALYER: Right. It will get incorporated

1 in, and the more technology --

2 MR. BENNETT: Let me clarify just a little
3 further. As Cleve is pointing out, these companies,
4 as they come in, they have to put together
5 exploration plans and they have to be approved. So
6 they're going to need to identify what their
7 capability is to clean up oil and ice. And it will
8 not be approved unless it's at some kind of
9 satisfactory level.

10 MS. HENRY: So, like he was saying in Barrow,
11 there's no way that MMS is claiming liability if we
12 do have an oil spill? Is that what -- my
13 understanding? Is it just the contractors that are
14 going to be liable for cleanup or, like he was
15 stating, is that --

16 MR. COWLES: My understanding is the first line
17 of responsibility would be the company that is doing
18 the exploration.

19 MS. HENRY: But the leases come from the
20 government. Like you're here, you're doing the
21 leases. You got part in this, why aren't you guys
22 liable as well?

23 MR. COWLES: There are other compensation
24 programs for damages and losses.

25 MS. HENRY: And our tribal government, through

001-005

1 the EIS statement coming out, can apply for these
2 grants?

3 MR. COWLES: I think you would have to show that
4 you, as an individual --

5 MS. HENRY: Not our tribal government? Our
6 tribal government can't?

001-005

7 MR. COWLES: I don't know. That's a good
8 question.

9 MR. BENNETT: You're -- you're asking a question
10 that's very involved in a number of different
11 programs. Not only the leasing program and the oil
12 spill contingency program, but also our Natural
13 Resource Comp -- Damage Compensation and --

14 MS. HENRY: Now it's a wide range.

15 MR. BENNETT: And there's a lot of complexities
16 to where the liability rests. And it would depend
17 very much on the individual circumstances as well.
18 So it's very hard for us to give you a specific
19 answer to that.

20 MS. HENRY: I was just asking, you know, why --
21 why won't you guys be liable if you guys are putting
22 up the leases? I don't see where --

001-005

23 MR. BENNETT: I don't know where exactly the
24 liability rests.

25 MS. HENRY: Because you're putting up these

1 leases for these companies to come in. Like Thomas
2 said, our garden is our -- you know, our ocean is
3 our garden. And this is all we have up here. We
4 don't have grocery stores that we could just go in
5 and buy beef. I mean, we do, but it's limited,
6 because of our mailing system and where we live. We
7 really depend on this. This is really going to be
8 something that's going to really hurt our community.
9 And not only ours, the other communities around.
10 That's why we're so into this, because it's
11 something that is going to really affect us, really.

12 MR. COWLES: Thank you. These are good points.
13 We're -- we're aware of it. And it is -- there are
14 a lot of different federal laws that apply. And
15 that it -- it is something that has to be sorted
16 through.

17 And I -- I am not going to be able to handle it
18 tonight. But those are good points. And we will
19 take that into consideration.

20 MS. TRACEY: Marie Tracey, for the record. I
21 notice that Billy Itta's question was not answered
22 on the, if there's a spill out in the ocean, who
23 would clean up? Would you ask for help from the
24 village? And can the Point Lay Village have a
25 staging area for cleanup?

001-006

1 MR. BENNETT: I -- I can't answer that
2 specifically in this forum. But the -- the lessees
3 are responsible for having an appropriate oil spill
4 cleanup and contingency plan in place. What it
5 includes could be any number of -- any number of
6 measures, including that, possibly.

7 MS. TRACEY: Okay. I guess you can understand
8 our concern for oil drilling in our ocean, that it
9 will affect us.

10 MR. BENNETT: Absolutely. Absolutely.

11 MS. TRACEY: And were you guys involved in that
12 Teshepuk Lake area that you guys want to drill
13 there, too?

14 MR. BENNETT: No.

15 MS. TRACEY: No. Okay.

16 MR. BENNETT: Again, we're a federal agency, the
17 Minerals Management Service, part of the US
18 Department of the Interior. And our program is the
19 Outer Continental Shelf Program, as Cleve was
20 saying, from three miles offshore out.

21 Other than that, it's other -- it's other
22 programs and other agencies that deal with near
23 shore areas and onshore areas.

24 MR. COWLES: Jim, do you have anything else?

25 MR. KILLBEAR: I guess what everyone's trying to

1 say is we don't want a another Exxon oil spill to
2 happen here. There's still people down in Cordova
3 and Tatitlek, they have haven't seen a dime from all
4 that disaster that they had. Those people, they're
5 probably on food stamps. And that, that's what
6 we've been trying to tell the U.S. government for
7 years, is that if you don't want to put us on food
8 stamps, let us do our own subsistence hunting,
9 provide for our own families.

10 And the way it sounds to me, you got this
11 department and that department, it -- it's handed
12 from one department over to another and then who is
13 going to do the cleanup? Probably nobody. It's too
14 much. Because that ice when -- when it starts to
15 move, it breaks anything in its way. Because you
16 only see ten percent of it on top of the surface.
17 And then 90 percent is underneath.

18 And those safety valves that you put on those
19 wellheads under the sea, are they going to work?
20 They probably get sheared off, too. So, I guess
21 that's what we're all trying to do, is trying to see
22 if you're going to -- if you're going to take care
23 of our food, our beluga, our whales. You're right
24 in the migration path out there where you're going
25 to be doing your exploration.

001-007

1 Just like the summer, we had an exploration for,
2 for coal. I kept telling that helicopter pilot
3 don't fly over that area, I said go straight out,
4 straight to the mine. I guess they must not have a
5 GPS on that chopper. But anyway, caribou didn't
6 come. That takes care of my dinner. Lots of the
7 people here didn't get any caribou because of that
8 noise. And, you know, what they told me said: Oh,
9 there's no caribou out there. That's right, there's
10 no caribou out there. They migrate here. As long
11 as you keep bothering their migration path, they
12 aren't going to come. I said caribou migrate.

13 Just go straight out to the coal mine where
14 you're supposed to go. That's the same as the seas,
15 where you're going to be. We got to try and make
16 sure that our -- our food, our beef that we've been
17 getting for thousands of years here, that we
18 maintain our way -- way of life.

19 You got your cattle. You got the buffalo taken
20 care of for the Indians. Now, hopefully you'll
21 listen to us and you take care of our dinner plate
22 up there. Thank you.

23 MR. BENNETT: Could you give your name again?

24 MR. KILLBEAR: Gordon Killbear.

25 MR. BENNETT: Thank you.

1 MR. COWLES: A few minutes ago there was some
2 comments that there are all these different
3 departments. And in the Department of the Interior,
4 the directors for the different bureaus in Anchorage
5 are working closely together to attempt to
6 consolidate the departments' abilities to deal with
7 these things. And I think you'll see in the future
8 that there will be better mechanisms for some of
9 these things that you brought up. But it all takes
10 time.

11 MR. KILLBEAR: We've seen broken treaties. We
12 had U.S. Air Force talking to the IRA Tribal
13 government here, saying we're going to give this
14 land back to you when we're done with it. Well,
15 they're done with it. They give it To BLM. And BLM
16 gives it to whoever, and not back to the IRA Tribal
17 government here.

18 The North Slope Borough was not in existence and
19 the Cully Corporation was not in existence when
20 these talks were made. And now that that -- that
21 hasn't been honored at all. When that land should
22 have been given back to -- to the tribe of Cully --
23 Cully people here. So that -- stuff like that, BLM,
24 they're not going to give it back to -- they got to
25 follow their -- the way they do business. BLM is

1 going to give it to North Slope Borough, and on down
2 the line, which -- which they have already started,
3 without giving any piece of it to the IRA Tribal
4 Government. Thank you.

5 MR. COWLES: Thank you.

6 MR. NUKAPIGAK: Thomas Nukapigak.

7 Looking at your draft proposal for your year
8 2007 to 2012, looking at the Chukchi Sea 193, 212,
9 221, how many acres or how many -- how much of this
10 lease are you guys going to be selling, or --

11 MR. BENNETT: I think we have some numbers on
12 that, but maybe we could -- would it be helpful to
13 work through the five-year program and then talk
14 specifically about Sale 193? And we can answer that
15 exact question.

16 MR. SALYER: I'll definitely be able to answer
17 that.

18 MR. COWLES: Maybe some of that, Mr. Bennett can
19 finish up with here on some of those schedules.

20 MR. BENNETT: The five-year program that will
21 lead into the specific sale, Chukchi Sea Sale 193,
22 we can provide some exact numbers for you on that.
23 Okay.

24 On the five year, just so we have a little bit
25 of context for this, we are required under the

1 federal law under the Outer Continental Shelf Lands
2 Act to put a plan together for every five years for
3 lease of oil and gas on the Outer Continental Shelf,
4 three miles offshore out to the extent of the
5 exclusive economic zone.

6 If you look in on page 3, your first slide
7 there, what we are doing in this five-year program,
8 this is the seventh program now that we have done
9 under this law, dating back to the late 1970s.

10 What we are doing is identifying those areas
11 that have potential for oil and gas leasing. And
12 only those areas that are part of the five-year
13 program will be considered further. Any area that
14 is identified as part of the five-year program is
15 subject to a specific lease sale EIS, which we're
16 going to talk about in a few minutes with regards to
17 Sale 193.

18 So for an area to be considered further for
19 leasing, it has to be in the five-year program. And
20 being in the five-year program does not necessarily
21 mean that leasing will occur.

22 On your next slide, it talks about comments on
23 the program and the draft EIS for the five-year, and
24 the -- the deadlines are coming up next week,
25 Wednesday before Thanksgiving. We can accept

1 written comments, comments submitted by the web or
2 the testimony that you're providing tonight, which
3 is why we're here for these hearings, both for the
4 five-year draft EIS and Sale 193 draft EIS.

5 The five-year program is nationwide. It
6 includes eleven sales in the Gulf of the Mexico, one
7 sale in the Atlantic and nine sales in Alaska,
8 including three up here in the Chukchi.

9 On page 4 there's a list of all of the sales
10 that will occur under the proposed program as it
11 stands right now. And we have, in developing the
12 draft EIS on the five-year program, we have scoping
13 meetings up here, down in Anchorage, out in the
14 Aleutians. We've had 19 public hearings. The four
15 that we're having this week, or three now, because
16 we weren't able to get to Wainwright last evening,
17 are -- are -- we'll complete the set of 19 public
18 hearings where we want your input on what we cover
19 in the drafts EIS, and whether or not it
20 sufficiently addresses environmental concerns.

21 With that, that gives you the context. You have
22 a five-year program and you have individual lease
23 sales. We're asking for your comments both on the
24 draft EIS for the five-year program and on Sale 193.

25 And with that, I am going hand it over to Mike

1 Salyer, who can talk to you about specifically Sale
2 193, which is the first sale in the Chukchi Sea.
3 And maybe you can start with the figure on total
4 acreage. Do we have that?

5 MR. SALYER: Yeah. Total acreage for the entire
6 planning area for the Chukchi Sea Sale 193 is this
7 green area right here. That's a lot of area.
8 That's about 34 million acres. That's a big area
9 right there. But that's the planning area. The
10 green line denotes that.

11 So that answers your question, I believe, sir,
12 for the size of the area. And that brings us to
13 Lease Sale 193. And where we are on this process,
14 that's -- I know it can be confusing, but Mr. Cowles
15 was talking about earlier, this brings us to one of
16 the specific lease sales from the five-year program,
17 that was from the 2002 to 2007 program, which brings
18 to Lease Sale 193. So on this chart right here,
19 we're sort of in that part of the process on Lease
20 Sale 193.

21 So what we did was we held scoping meetings that
22 Mr. Itta brought up in March -- excuse me, September
23 of 2005. I wasn't there quite yet, but we took
24 everyone's input in the different villages at that
25 time. And we used that information to incorporate

1 into the environment impact statement to develop our
2 alternatives, our possible alternatives which ended
3 up being deferrals, which we will talk about in just
4 a moment.

5 A little background on this slide, Lease Sale
6 193 is a special interest sale. And all that that
7 means is that at about three years ago there was a
8 call, if there was any interest in industry in the
9 Chukchi Sea, and there was none. None -- no
10 interest was in the Chukchi Sea up until last year.
11 And whenever that interest became known, it was at
12 that point in time we determined there needed to be
13 an environmental impact statement, we needed to
14 scope and go through the Natural Environmental
15 Policy Act information, the NEPA information, to put
16 out an environmental impact statement on that lease
17 sale.

18 At that point in time, September of '05, put out
19 notice of intent to prepare the environmental impact
20 statement. And area ID was announced in January of
21 2006. That area ID is the area on the map that's
22 marked out in green.

23 So that's a little background how that went. So
24 that brings us to the proposed action, which I
25 believe Tom was talking about, and wanted to know

1 if -- it encompasses a total 6,155 blocks, whole or
2 partial blocks. You can see the individual blocks
3 on the map, if you walk up to it. I apologize it's
4 too small to see from here. But it encompasses
5 roughly a total of 34 million areas for the entire
6 project ID area.

7 Now this area excludes the spring lead system
8 the Polynya. And that's why you see that buffer
9 zone drawn in there on the map. This is
10 incorporating waters anywhere from depth 95 to 262
11 feet. And we're looking at a possible mean
12 recoverable oil could be anywhere up to 12 billion
13 barrels.

14 We also have, I'll just walk over here, we're
15 going to go ahead and go into the different
16 deferrals. We have -- this is again a result of the
17 scoping process that took place. We consolidated
18 the information that everybody provided in that
19 scoping meeting to develop these alternatives.

20 Corridor 1 is one of the alternatives. It
21 occurs the farthest out. It's roughly 60 miles off
22 of the coast line. And it jogs in certain areas
23 because of different resources that were of a
24 concern. And what that did, that was derived from
25 multiple subsistence areas that everybody was

1 concerned over for the walrus hunting, as well as
2 there was some eider, fishing and some critical
3 habitat down here. And there was also some interest
4 in the Barrow Canyon area where there were folks
5 that were concerned about the impact to that.

6 So what we do, rather than having individual
7 deferral areas, we put them together and we came up
8 with this large deferral area which would meet those
9 needs.

10 The second alternative which was corridor 2
11 deferral, this would be this lighter blue line right
12 here. And that was developed at the time from the
13 National Marine Fisheries Service biological
14 opinion. So that was the information that we had at
15 that time to come up with that alternative. All
16 right. So that was the other deferral possibility.

17 Now, these are the alternatives that were
18 outlined in the environmental impact statement for
19 the Sale 193, which is out for comment right now for
20 the draft environmental impact statement. Now, the
21 comments for the draft environmental impact
22 statement are going to be due December 19th. And
23 that's when that comment period will end. So
24 remember that date, December 19th.

25 MR. BENNETT: Mike, let me just add something.

1 We realize that this is very confusing because we
2 have so many different documents and things going
3 on. The five-year document, the national program,
4 the draft EIS on the national program comment period
5 closes at Thanksgiving basically. The comment
6 period that Mike is talking about is the comment
7 specifically on Lease Sale 193. And the date again
8 was?

9 MR. SALYER: December 19th. So you have two
10 environmental impact statements, essentially, is
11 what Jim's saying. There's the one for the
12 five-year and one for Lease Sale 193 specifically.
13 That's the comment period that's December 19th. The
14 one for the five-year is, it was the 24th.

15 MR. BENNETT: Thanksgiving, before Thanksgiving.
16 23rd, I think.

17 MR. SALYER: So real briefly, with Lease Sale
18 193 we filed -- we're going to be hoping to file a
19 final environmental impact statement sometime in the
20 spring of '07. Depending on what takes place
21 between now and then. At that point in time we'll
22 start with the governor's Section 19 consultation
23 and the coastal zone consistency determination.

24 The notice of sale is intended to hold the sale
25 in October of 2007, if everything goes well.

1 So that's sort of summarizes Lease Sale 193, the
2 specific environmental impact statement for that
3 lease sale particularly. And that's a little
4 different than the five-year environmental impact
5 statement. I know it's confusing.

6 But at this time if you have any questions
7 concerning Lease Sale 193, please feel free to ask.

8 MR. TRACEY: Bill Tracy, for the record.

9 What specifically sparked the interest to have
10 this 193 Lease Sale, the special sale? You said for
11 the longest time from 2002, there was no interest
12 and all of a sudden --

13 MR. SALYER: The companies were interested. The
14 background information that went into that, I am not
15 sure what it was. They just became interested in
16 that. Now, where they drew their information from,
17 I would assume from some different information they
18 have, whether it's from geology, I don't know.

19 MR. TRACEY: You wouldn't know if it was because
20 all of a sudden barrels of oil were worth \$70?

21 MR. SALYER: Could be.

22 MS. TRACEY: Or Iraq.

23 MR. SALYER: It could be numerous, numerous. I
24 mean, there were two special interest sales that
25 came out. One was the Cook Inlet, one was the

1 Chukchi Sea.

2 Yes, sir, Mr. Itta.

3 MR. ITTA: I don't know whether it's a question
4 or a comment. When they struck oil over there in
5 Prudhoe Bay, I think one of the biggest mistakes
6 that were ever made on lease sales by the United
7 States Government was allowing different countries
8 to buy leases for its interior. You know, like all
9 the monies that are derived from the people over
10 here, all over the Slope on their land, how the
11 lease that was made to the British Petroleum, like
12 they make \$6 billion a year from our land. And the
13 Minerals Management Service, you have a sub service
14 there, right?

15 MR. BENNETT: I'm --

16 MR. ITTA: I mean BLM, I'm sorry.

17 MR. JOHNSON: Actually, it's the State has
18 Prudhoe Bay.

19 MR. ITTA: I think handling the lease sales,
20 whoever handles them back then when they discovered
21 oil, that was one of the biggest mistakes this
22 country ever made, to sell leases to out -- other
23 companies that are not within, you know, the United
24 States. And I'm glad Shell, you know, is an
25 American company and -- I don't know who all is

1 going to be bidding out there, but it would be good
2 to, you know, think of what happened over there in
3 Prudhoe Bay, all the money that is being derived
4 from -- they say Prudhoe Bay is good for another 50
5 years, and that's too bad. A lot of it goes out,
6 out from the state, out from the people who are
7 affected by, you know, the oil. And I just wanted
8 to point that out. I believe some people know that
9 it was a big mistake for BP to you know, be a part
10 of all the monies that go to the Cook Inlet. I just
11 wanted to point that out. And I hope that doesn't
12 happen, like in the name of profit. You said if
13 you're not going to be liable and have the
14 contractors come in, they make the money. It will
15 be in the name of profit that our way of life might
16 be lost.

17 MR. SALYER: Thank you. Anyone else have any
18 questions on Lease Sale 193?

19 MR. COWLES: We've been going for about an hour
20 now. And I would think we might want to take a
21 break sometime, but if there are any elders or
22 parents with children who would like to ask a
23 question or make a statement before then, we
24 would -- that would be -- this would be a good time.
25 And if you needed to, as parents, get back to your

1 families tonight, we want you to have an early
2 chance to speak.

3 What I think would be another thing we could do
4 is take a break and then come back. And if you
5 would like to make specific testimony on any of
6 these things, you could then have it recorded and
7 just, either read your testimony or speak so that we
8 could take it down and pass it along to people who
9 will address it and consider it in our various items
10 that we're talking about tonight.

11 So how about ten minutes between now and, say
12 8:25 or so.

13 (Thereupon, a brief recess was taken, after
14 which the following proceedings were had:)

15 MR. COWLES: Okay. So each of these is a
16 separate process. Why we have three different
17 things. One relates mainly to schedules and places,
18 that's part of the program. When that was designed,
19 there was a draft EIS that looked at some different
20 alternatives as to whether a surface area will be
21 included or taken out. That's more of kind of an
22 environmental technical document. If you're
23 interested in schedules to comment on the proposed
24 program and you're interested in evaluation of
25 options and the basis for that, you could comment on

1 the EIS. And then the Chukchi Sea Lease Sale is a
2 separate thing that was started. And that draft
3 comments EIS statement is very detailed, relates
4 very specifically to the Chukchi Sea, it's not as
5 broad as the other two. So if you want to comment
6 on that, because that's really close to home, that's
7 another basis.

8 You could comment on all three, you can comment
9 on any one of them. And as we proceed, if you'd
10 like to testify and have it recorded, we would
11 appreciate you saying which one of the three you're
12 talking about. But if you want to talk about all of
13 them at once, that's fine. We will consider that
14 comment in relation to all three of them.

15 So if we can help separate things fine, if not,
16 we will pass that information to each of these three
17 processes of addressing and considering your
18 comments. So I know it's a lot all at one time and
19 it's -- but we're here to help, you know, kind of
20 understand it.

21 MS. ANISKETT: It's so confusing.

22 MR. COWLES: Anyway, three different things,
23 program, five-year program, an EIS related to it,
24 draft EIS related to it and then this lease sale,
25 which is what Mike Salyer just talked about.

1 So -- and the other thing, of course, if you
2 would like to speak further, we would appreciate it
3 if you identify yourself so our transcript can be
4 complete. And other thing, if you're interested in
5 getting on our mailing list for things like our
6 study reports or mail-outs for different documents,
7 if you want to sign your name here before you leave,
8 certainly be glad to do that.

9 So I thought we'd go for a while. We don't have
10 to stay any later than you folks would want to stay
11 to make your comment and give you a chance for that.

12 Yes, sir?

13 MR. KILLBEAR: Gordon Killbear. I guess what
14 we're, mainly what we're concerned about is our
15 wildlife and our sea life, our way of life here.
16 Who is going to be responsible for any disaster?
17 Who is going to take care of our -- make sure that
18 we're able to go out subsistence hunting? Is there
19 going to be assurances that we'll be able to go
20 someplace else to get our food and who is going to
21 pay for that cost? Are you? Or how many different
22 departments were you talking about? And if I know
23 the government, they'll shove it from one department
24 to another and nothing gets done.

25 MR. COWLES: There are some things you can say

1 that we'll have as part of the, what we call
2 mitigating measures or stipulations that address
3 that and urge the companies to work closely with the
4 villages.

5 And, Mike, maybe, would you be able to mention
6 some of the mitigating measures that are in the
7 draft EIS that deal with subsistence, such as the
8 Conflict Avoidance Agreements?

9 MR. SALYER: Sure. There's a Conflict Avoidance
10 Agreement to make sure that they're in the different
11 meetings, that they're conferring with the
12 individuals and the elders in the different
13 villages. There's certain stipulations that are --
14 I'm sorry. There's certain stipulations involved
15 that deal with pre-booming, making sure we have the
16 equipment in stages in certain areas, or I should
17 say the oil companies, there's certain companies of
18 the lease sale that they have to meet those
19 requirements that we were talking about earlier.

20 There are various stipulations dealing with the
21 subsistence hunting to make sure that's able to
22 continue. So through that process is how that gets
23 heard and how that gets presented to the
24 decision-makers and how it goes forward.

25 So I hope that helps a little. There's seven

1 different stipulations. I don't have them all
2 memorized in my head right now, but they pertain to
3 the biological resources and different ways things
4 are getting done. And they use that as a mechanism
5 to try to, as best we can, ensure some of that gets
6 dealt with.

7 MR. KILLBEAR: Well, there is one disaster that
8 happened here some years ago with the Kotzebue
9 beluga. They don't hunt beluga anymore because
10 their beluga perished over -- over in Siberia. They
11 got frozen in and all the beluga pods that used to
12 go to Kotzebue Sound, they're all gone. And we got
13 a different pod that comes here, but during the
14 spring whaling season, there are belugas that go
15 over into Canadian area, which the Point Hoppers get
16 and that the Canadian Eskimos get their beluga from.

17 And we're lucky to have our beluga to be of
18 healthy numbers right now. And if any oil spill or
19 anything like that happens, maybe they wouldn't
20 be -- maybe we wouldn't be able to eat them. If
21 they get -- they get infected with oils and
22 minerals, or whatever, that comes out of the ground,
23 mercury and lead and stuff like that. Thank you.

24 MS. TRACEY: Marie Tracy for the record. I
25 think what we feel is that it's like a terrorist

1 waiting to happen against our way of life, you know.
2 Anyway, but it's like no matter how many meetings we
3 have and any kind of testimony that we give,
4 these -- the sale leases and the drilling and
5 everything will happen anyway. But then at the same
6 time, you know, as our village, we would like to try
7 and get along with whoever is going to be out there.
8 And we would like to know everything that's going
9 on, you know.

10 MS. HENRY: Lupita Henry, for the record.

11 On the studies that you guys do for
12 environmental, I think with your scientists, I think
13 you need to be publishing that and putting that out
14 in written form. Because the community, I think,
15 needs to know what we have out there, where they go.
16 Like you said you fronted the beluga committee, you
17 know, when Robert came out and they searched out our
18 belugas and where they go and where they migrate, I
19 think you need to publishing that in written form
20 instead of just putting it on e-mail, because a lot
21 of people in this community don't have computers at
22 home. We do have internet access through grants,
23 but it's limited.

24 MR. COWLES: Right. Over the years every
25 village has said that. We try, every time we do a

1 study, to, through our program, let people in the
2 villages know about these reports. And so by
3 getting on this mailing list, as these documents
4 come available, you'll find out about them. And
5 hopefully that will get the -- they are published.
6 And on our website, if you have access to it, as a
7 report comes in, we actually put it up on the
8 website so you can read it there.

9 The problem with that is you have to have paper
10 at home if you want to print it. So don't be the
11 least bit hesitant to ask us to send you the copy.
12 We get a number of copies in our office and we will
13 send them out first come, first serve as the supply
14 lasts.

15 So we sent out this announcement. And sometimes
16 all of our copies of a particular report are sent
17 out. Sometimes we have leftovers, so -- another
18 source of information, which you can go to, we have
19 a cooperative agreement with the University of
20 Alaska at Fairbanks. And I believe this Beluga
21 Project was through that program. And they have a
22 site, and they do some of the reports. And they may
23 have copies there, too. So that's what we call the
24 Coastal Marine Institute.

25 MS. HENRY: Do you usually go through the

1 University of Fairbanks for your studies?

2 MR. COWLES: It's a portion of our program. We
3 have -- and it's going to end in a while, but we
4 enter into an agreement for a five-year period where
5 they can suggest certain research that we might
6 fund, but the requirement is, is that for every
7 federal dollar that our program pays, the university
8 has to find a nonfederal matching dollar. So it's
9 one of these leveraging, we call leveraging where
10 you get a bigger bang for your bucks. So there's
11 some research the university can do that way and
12 there's other things that they can't do, because
13 either they don't have that particular expertise or
14 they can't find the matching dollar. And so then we
15 may explore competitive approaches to engaging
16 research.

17 So you can learn about that from our studies
18 plan, which I can send you a copy of, if you would
19 like, and let me know.

20 Yes?

21 MS. ANNISKETT: My name is Lily Anniskett, I've
22 lived here all my life. And we had so many oil
23 company meetings, I don't know who I testified on.
24 But I've lived here all my life, this whole area
25 between Barrow, all the way down to Kotzebue, Point

1 Hope, this is all our hunting area. Even if this is
2 not our area, we would backup Kaktovik, so we feel
3 like we're always battling the oil companies. And I
4 wish that you guys would listen to us seriously.

5 MR. COWLES: Thank you. And we are here to
6 listen seriously.

7 And I think that I would add that when
8 Mr. Salyer mentioned some of these conflict
9 avoidance stipulations we have, these are excellent
10 ways to work with the companies. And I am sure that
11 there's a point where your suggestions will be very
12 important to the companies in working directly with
13 them.

14 And so I know that coming to these meetings for
15 many years at times seems like it's, you know, not
16 doing much, but it is. And --

17 MS. ANNISKETT: We'll always come to these
18 meetings. There's a lot of people concerned about
19 this. We will always come to your meetings.

20 MR. COWLES: Thank you. And we're very, very
21 appreciative to have people who have lived in this
22 area for these years to come and give us this input.

23 Mr. Itta?

24 MR. ITTA: Yeah, Bill Itta.

25 When she had asked how we felt about this, you

1 know, this course of action that the Mineral
2 Management Service is doing, I would suggest, this
3 is a suggestion that should be followed, you know,
4 looked at on her behalf, on behalf of the people
5 suggest that you get a panel for the -- instead of
6 the subsistence on the land, get a panel from each
7 village that has to do with the ocean of how -- get
8 a panel and meet with them instead of trying to
9 locate people through mail, get a point of contact,
10 the panel member, and see what kind of a decision
11 each village makes and how they feel and how,
12 what -- what they think needs to be done instead of
13 village by village and getting individual addresses.
14 And get a, you know, panel member from each village
15 for this huge project that you're going to be doing.
16 It's huge.

17 It could be very drastic to the little kids when
18 they grow up. And on her behalf, her question of
19 how we felt about the -- what I felt that, there was
20 one question that was also unanswered to the Mineral
21 Management Service, they had some kind of an
22 engineer. We had asked them, the mayor was over
23 there, the people from Barrow, the Wildlife
24 Department, the -- the City, we had -- we bluntly
25 asked them seriously, is there approved technology

1 to recover oil? And they said they couldn't answer
2 it. They said no, that's what -- another question
3 came up, who would be liable, that was another
4 question that was -- still wasn't answered.

5 And I don't think it will be answered. And I
6 hope, you know, people like, you know, the
7 Wilderness Society maybe, if nothing is done, on
8 behalf of the people who are affected, maybe that
9 would be a different way to go, other than a meeting
10 with Mineral Management Service, how we can stop
11 something that can happen really drastic, like --
12 like he said, you know, it's impossible to recover
13 oil. Thank you.

14 MS. ANNISKETT: Lilly Anniskett, I went down to
15 the Exxon meeting at Texas and Anaktuvuk person from
16 all the villages, that person asked an Exxon person:
17 What happens if you spill oil? Oh, we'll never do
18 that. That would never happen in a million years.

19 Boy, I bet you all of us in, from all of the
20 villages were laughing, because they said that it
21 wouldn't happen in a million years. See, it
22 backfired. He came up with a question that that was
23 a big concern and he thought it was a big joke of a
24 question. And now it's a big joke from us to them.

25 MR. COWLES: Well, we don't think it's a joke.

1 Ms. ANNISKETT: Well, it is to me, because they
2 weren't listening. They couldn't even see it.

3 MR. COWLES: Okay.

4 MR. TRACEY: Bill Tracey.

5 I've lived here most of my life. Maybe I should
6 say the best part of my life. Been on planning
7 commissions, worked for the Borough, a father, a
8 grandfather, you name it. I have a vested interest
9 here, as well as everybody else here. I want to
10 talk about effects, not just offshore effects, but
11 cumulative effects. Now I really now know how the
12 people of Nuiqsut feel, because they're surrounded
13 by industry, pipelines, anywhere they go, they run
14 into signs of progress, if that's what you want to
15 call it.

16 We have coal in one direction, zinc and iron
17 ores in another direction, methane gases over here.
18 We're extracting gravels from rivers. We're
19 surrounded by in South NPR-A. And then all our
20 brothers and sisters up north with NPR-A, the oils
21 coming out of the ground there, the caribou
22 migrations being changed, whale migrations being
23 changed just from seismic survey, it's proven that
24 migration patterns have changed.

25 Okay. A lot of people are mentioning oil spills

1 here as the one disaster to be concerned about. But
2 I think there's a lot of minor ones that, as I said,
3 as a cumulative effect, if you put it all together,
4 we might have to move. So we're not going to move.
5 We live here. This is where we're going to stay.
6 We're going to deal with all this going on. I don't
7 know what mitigation is involved. There's several
8 programs that are being worked into the EIS and the
9 whole program. But we're going to have, say,
10 populations explosions here, we're going to have all
11 kinds of vessels using our coast. These are things
12 that the Borough can't really help us with. And we
13 can't help ourselves with.

14 So, you know, how do we write in some sort of
15 mitigation that would help us with population
16 explosions, sicknesses, just general things that are
17 going to affect our everyday life?

18 MR. COWLES: You know, I can't answer that
19 question in its entirety. But I think by taking
20 part in these kind of meetings and the kind of
21 things that we've talked about, like this conflict
22 avoidance thing, it will make for better
23 communications for people to work together as we go
24 on through and get, move into the these different
25 kinds of things.

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1 And without your involvement, we won't really
2 have the final picture as to what we need to do.
3 And I can think of one thing that we've proposed
4 from our end, at the Minerals Management Service,
5 that we think is a worthwhile idea, but we don't
6 even know whether it will make difference. And
7 that's a study that we've proposed for this fiscal
8 year, between now and June, that we will --
9 actually, now and September that we're going to try
10 to take some steps forward with. It's what we're
11 calling a -- trying to think of the name some of
12 them, the titles are long, but it deals with
13 creating a human activities database. We already
14 did it to a certain extent related to previous oil
15 and gas activity in the Arctic.

16 We had that project. And it ran for a few
17 years. And we got some information, but it was
18 incomplete. But we've heard your concerns about the
19 fact that there's these -- this other type of
20 transportation going on in the ocean, other vessels
21 and transportation, cruise ships, and so forth.
22 More than just oil and gas.

23 And we, as part of our EISs, have to address
24 this concept of cumulative effects. And one way to
25 do that is to start documenting what we know. MMS

1 can help get information on oil and gas, because
2 that's what we're involved with. But there's other
3 information out there that we don't collect, it's
4 beyond our mission, but other people have it.

5 So what we want to do with our database is to
6 create a place where if other parties want to put in
7 information into it, it will be there. And we'll
8 let folks know that it's there and encourage them to
9 add to it. And that would be about the best we can
10 do, because we don't -- we can't require some of
11 this information, but we can go to other agencies or
12 the State or local communities and say, listen, this
13 database is out there. It's sitting there. We've
14 spent some money to put it there. And we've worked
15 on it for a few years and we have some feel for how
16 it can be structured and efficiently managed. And
17 if you want to contribute to it, here's what we
18 would need to you do.

19 So that's one of our ideas. And we're going to
20 try to pursue that a little bit this year to help
21 our analysts get a better handle on the cumulative
22 information that may be going on, say, in the Arctic
23 in the Chukchi and Beaufort sea.

24 All I can say is by trying that we create a
25 seed. And it will either grow or it will, you know,

1 it may not serve the public needs. But we've got to
2 try. So that's one of our projects. And as time
3 goes on, there may be other projects like that that
4 folks like you will suggest to us. And we can, if
5 they fit in with our program and our mission, we can
6 see if we can get more out of it than just our
7 mission. But we will need other people to add some
8 energy to it. So it's an idea.

9 UNIDENTIFIED SPEAKER: Socioeconomic reporting,
10 database collection.

11 MR. COWLES: Right. That's basically what this
12 is. There's other things that we've done in the
13 Beaufort, which I see later on will be a possibility
14 but it's going to be past my time. But in the
15 Beaufort, you know, the development's gone on. We
16 got North Star out there and there's a prospect
17 delivery. One of the ideas that we thought was part
18 of a -- to monitor after development. We have a
19 mandate in our program to do monitoring if, in the
20 event of development. We say it's a mandate, it's
21 our mission to do that, so that we can see if
22 there's changes in the marine environment in the
23 area around oil and gas leasing.

24 So up in the Beaufort, whaling goes on at Cross
25 Island. That's right there next to all this stuff

1 going on. So we thought as one of our projects it
2 would be very helpful if we could get the Nuiqsut
3 whalers to help us keep track of information of what
4 they do over time.

5 And so we've had a person who has gone out
6 there. And they've been very gracious and they
7 allowed a scientist that's been funded by us to be
8 with them on that island during the whaling season.
9 And that person kind of keeps track of how many
10 crews there are, and where they go and where they
11 hunt, how many trips they take, and so forth.

12 And we would, ideally, like to see if the
13 whalers, if they want to whale, but they don't want
14 to deal with a bunch of numbers, but if they wanted
15 to do that, we think that information would be fine,
16 if they would just do that and do that over the
17 years.

18 And that's the kind of information over time
19 then a regional director such as the regional
20 director from Minerals Management Service, he can
21 look at it and say: I've got this monitoring
22 information, I've getting it for ten years, and
23 here's a change. And I talked to people in the
24 community and they think this is the reason for that
25 change. Then when you have that kind of solid

1 information, you've got a basis for further
2 decision-making.

3 So those are some of our ideas, our long-term
4 ideas, they're things we are doing in the Beaufort.
5 It will be many years before you might need
6 something like that in this part of the ocean, but
7 those are future possibilities. And they don't
8 answer everything, but they are a start.

9 MR. NUKAPIGAK: Thomas Nukapigak, for the
10 record.

11 With this 34 million acres you're talking about,
12 I want to know where and the exact location -- I'm
13 reading from the back, says 15 to 200 miles
14 offshore. And you talk about the 25-mile buffer
15 zone and with reading, 15 miles. Where about is
16 this --

17 MR. COWLES: You may be talking about the --
18 let's see.

19 MR. NUKAPIGAK: The Chukchi Sea planning area
20 and the 15 to 200 mile offshore, the 25-mile buffer
21 zone.

22 MR. COWLES: That's our press release on the
23 Chukchi Draft EIS. Mike can answer that.

24 MR. SALYER: Here's what he's talking about.
25 This is the original project area ID, the green

1 line. And there's a couple places where it dips in.
2 That's the original project ID right there, okay,
3 for the Chukchi Sea and Lease Sale 193.

4 We also have alternatives we're looking at which
5 has the deferrals, which are these other lines here.
6 Now, it's not our decision, in this room, what it's
7 going to be, but we present the information you give
8 us and the Environmental Impact Statement and
9 incorporate it into the analysis, and that goes on
10 to the decision-makers to make the decision.

11 But in that particular press release, when it's
12 talking about the 15 miles on out, you can see where
13 this green line comes close to this right here.
14 That would be that 15, you know from 15 on out.
15 That's what that's in reference to. Does that help?

16 MS. HENRY: So the outer line of that is 25?

17 MR. SALYER: This right here is roughly 60 miles
18 from this line. This is, you know, I guess you
19 could say roughly 30 -- 25. We have had different
20 resources we were trying to capture, is the reason
21 we have the referrals. You know, and that all went
22 into shaping how they took shape. That's from the
23 scoping meetings we had on the Chukchi Sea last
24 year, taking that information. So those are out
25 there. This is the whole project ID area in the

1 green. That's the proposed action. And then
2 there's the alternatives, which are these deferrals.

3 MR. COWLES: I think another part of the answer
4 might be, Mike, maybe you could clarify, but this
5 Chukchi Sea 193 started under the 2000 -- previous.

6 MR. SALYER: 2002 to 2007 five-years, which a
7 five-year program, like he's talking about the new
8 five-year program.

9 MR. COWLES: The 25-mile buffer, what you see on
10 the blue map is related to the new program.

11 MR. BENNETT: The point is that there are
12 several different deferral alternatives out there
13 based on different criteria. And when you look at
14 them and when you evaluate them, you should
15 provide -- we encourage you to provide your feedback
16 as to which one should be adopted and why. So we
17 can provide that information up the line to the
18 decision-makers.

19 MS. HENRY: My name is Lupita Henry, for the
20 record.

21 Now, these deferral lines, did you take into
22 account the beluga migration pattern when you did
23 these deferral lines? Was that part of it?

24 MR. SALYER: Yeah, that was part of it from the
25 scoping. Whatever you all indicated in the scoping,

1 and I wasn't there, but I have the notes, that was
2 part of it.

3 MS. HENRY: Okay. Because my understanding was
4 that when they had the -- when they did the testing
5 where they migrate to, I heard that they went all
6 the way up towards Barrow, way more towards the
7 North Pole way up. And when they were coming back
8 down, they went out and around and went down. So
9 they were actually further out when they were
10 migrating down, back down.

11 Now, did you guys take that part in, when they
12 were migrating down, that's further.

13 MR. BENNETT: Isn't that in the 60-mile deferral
14 that you --

15 MR. SALYER: Well, what she's talking about -- I
16 mean, it fluctuates. And it changes from year to
17 year. There you're getting into some of the
18 information as well as the ecology and biology of
19 the whale. So --

20 MS. ANNISKETT: The beluga.

21 MR. SALYER: The beluga specifically.

22 And the walrus, that's the reason this took
23 shape, that it did, because of the four different
24 areas identified for the walrus. There was four
25 circles, you know, radius areas we were setting

1 aside. But what you're talking about is in terms of
2 where the belugas may be migrating from.

3 I think that's, you know, trying to take that
4 information, eventually you would just be covering
5 the whole area, if there's a lot that goes -- they
6 go a long way in their migration.

7 MR. BENNETT: So that 60-mile deferral basically
8 incorporates a lot of different environmentally
9 sensitive resources, including the beluga and the
10 walrus.

11 MR. SALYER: It was considered, definitely, for
12 the subsistence hunting. If they're up here, higher
13 near the Pole, they migrate up here --

14 MS. HENRY: I mean when they go up there, they
15 stay up for so many weeks, and when they are coming
16 back down, they go further out in our ocean when
17 they migrate down.

18 MR. SALYER: Right. That was all considered in
19 the impact statement.

20 MS. HENRY: Okay.

21 MR. KILLBEAR: The beluga, when they come up
22 here, they go all over. After they come up and go
23 past Barrow and then they start spreading up all
24 over. I have the e-mail on my computer on the
25 beluga that was tagged, the five beluga that was

1 tagged, there was some that had gone, that had gone
2 way up here. And then there was some here. Then
3 they followed that -- where it gets deeper here, the
4 canyon and over by Wrangell Island and around here.
5 But they do come back mostly right between Barrow
6 and Point Lay.

7 MR. SALYER: Yes, sir.

8 Well, the canyon was -- the reason the canyon
9 came up was specifically because of the beluga
10 whale. And that was also one of the referrals that
11 was identified in the scoping meeting back in
12 September of last year. So that's another reason it
13 went a little higher up up here, to make sure we
14 encompassed the canyon area. That was part of the
15 project ID area for that reason.

16 MS. HENRY: Lupita Henry. I got another
17 question.

18 Now, when Shell does their -- when they come up
19 and, you know, do their exploration and do the
20 seismic activity, how do we now that they are within
21 their regulations as to where they are supposed to
22 be? Do you guys have tags for the boats or a paging
23 system for that, or do you just go by their word?

24 MR. SALYER: I'll have to defer that to our
25 gentleman handling the seismic.

1 MR. JOHNSON: Yeah, there was -- this summer
2 when they were doing the seismic testing, I think
3 daily they were sending reports in of their
4 location, the ship log, as to where they were
5 located. And I wasn't the one who it was sent to,
6 so I don't have you know day-to-day information.
7 But I think it was at least a couple times they were
8 shut down, because they were getting too close to an
9 area where they had to -- it was out of the
10 permitted area. So they had to shut down, wait
11 until they got back into the right area where they
12 could start shooting again.

13 So, yeah, we do keep very detailed monitoring of
14 where the ships are when they are doing the surveys
15 for the seismic.

16 MS. HENRY: So if they gave you false
17 information, then you wouldn't know, basically.

18 MR. JOHNSON: My understanding is, and maybe
19 someone else can correct me --

20 MS. HENRY: I'm not trying to say anybody would
21 lie, but I'm just saying, because, you know, we have
22 all these resources out here. I want to get a good
23 idea of, you know, how you guys are making sure that
24 these regulations are being fulfilled.

25 MR. JOHNSON: Yeah. My understanding is that

1 the seismic ships had whale observers on board. And
2 I believe they were mostly local Inupiat observers
3 on board. And we -- were you out there?

4 MR. STALKER: I was part of the operation as a
5 -- my name is Jack Stalker. And each one of those
6 vessels has a marine animal observer that goes with
7 the ship wherever they go. And when they -- they
8 have a rotating schedule, so there's always somebody
9 there all the time. And because they don't feel the
10 oil companies can just give us approximate
11 locations, so that we can tell them, hey, yeah,
12 there's a vessel over here, support vessel. And I
13 had the (inaudible) in the search and rescue
14 building. And we just got done with the operation.
15 As a matter of fact, yesterday was my last day. And
16 we have some communications now and just, you know,
17 we got a lot of good things (inaudible).

18 MR. JOHNSON: I think the bottom line is that we
19 are keeping very close tabs on where these folks
20 are. And they do have a GPS tracking, so they --
21 that log is recorded and sent back to our offices,
22 if not daily -- if not constantly, then at least
23 daily. I am not sure exactly the interval that that
24 comes back to, but we are keeping close tabs.

25 MR. AHMAOGAK: Maybe I can end some of the

1 questioning that is taking place regarding Shell.
2 Shell was out there doing exploratory seismic work.
3 And seismic work was required under a federal permit
4 through the National Marine Fisheries. And there is
5 regulations that we had to adhere to and the
6 locations that we have to be reporting. We have GPS
7 locations, exact locations that were required and
8 mandated to log. We got Inupiat observers that are
9 on board these ships, Inupiat communicators here in
10 Point Lay. And all of our plans of exploration and
11 seismic shocks are all controlled on a really,
12 highly regulatory regime. And we report every
13 couple moments of our activities, logbooks.

14 We went as far as our federal permit from the
15 National Marine Fishery Service offers to protect
16 fisheries, when we see walruses, when we see seals,
17 when we see ugruk, when we beluga, when we see
18 bowhead whales, as well, these are all logged during
19 the time. And any of the seismic activity that
20 takes place, when the Inupiat observer sees a ugruk
21 or a seal near the vicinity, that observer has the
22 authority to stop all operations and not shoot
23 within the vicinity of the marine mammal. That's
24 why we have marine mammal observers on these boats.
25 And all of the operators were required, under a

1 federal permit, to have these Inupiat observers on
2 the ships and including communication centers in
3 Point Hope, Point lay, Wainwright, Barrow, Deadhorse
4 and also in Kaktovik.

5 And these were all set -- we had one here, I
6 believe, at the search and rescue building here.
7 And then we had one in Point Hope, which was the
8 fire station. And then we had one in Barrow, which
9 was at the volunteer search and rescue building.
10 And one in Deadhorse. The one in Kaktovik was at
11 the Native Village of Kaktovik Building. So this
12 was some of our plans that we submitted to the MMS
13 and National Marine Fisheries. And we received our
14 permits and followed regulations. And now we're
15 getting ready to file our report for our federal
16 permits that we received to do and conduct the
17 seismic. We're required to monitor the marine
18 mammals that we observe from the effects of the
19 seismic operations that we did.

20 So that is, again, another regulatory regime
21 that we have to report to. And we're getting ready
22 to do our end of the season report for the seismic
23 operation.

24 Now, these seismic operations that were done
25 this summer were out in this area. Keep in mind,

1 this area is not sold, but the operators can come in
2 here and decide to shoot seismic to see what tracts
3 that they would be interested in. And that's mainly
4 the permission under the regulatory regime and the
5 permits that we file for. And that's where Shell's
6 operation stopped for '07, but they have no planned
7 activities to do any, conduct any activities. We
8 wanted to be able to get the information to see if
9 there's possible oil that is out there. And in case
10 if they open up this area for oil and gas lease
11 sales, then we want to be in a position to bid.
12 That's mainly it, that's as far as that goes.

13 MS. ANNISKETT: Is that in five years, or what?

14 MR. AHMAOGAK: Whenever the federal government,
15 like what they're proposing to you is they do -- if
16 they do open it up for oil and gas.

17 MR. KILLBEAR: Eight to 12 years, like he said.

18 MR. AHMAOGAK: Eight to 12 years, whatever the
19 time frame is after all the public hearing process
20 and this is done.

21 MR. COWLES: Thank you, Mayor.

22 MS. ANNISKETT: Mayor?

23 He ain't no mayor.

24 MR. AHMAOGAK: I'm retired now.

25 MR. KILLBEAR: I guess that answers our

1 questions.

2 MR. COWLES: And I appreciate the
3 clarifications.

4 MS. HENRY: Thank you, George.

5 MR. COWLES: Well, thank you very much. And we
6 appreciate your comments. And we look forward to
7 any others you might make for these three things,
8 the proposed program, the EIS for it and this
9 Chukchi Sea EIS. And the dates are in that handout.

10 If you have any other questions, let me know
11 afterwards.

12 MR. KILLBEAR: Are we going to hear anything
13 from National Marine Fisheries?

14 MS. TRACEY: Marie Tracey for the record. Like
15 Shell, George, and with what they were doing, we
16 like this interaction that they have with our
17 villages, that they come in and they hire people
18 from our villages to, you know, to work with them.
19 And this is kind of interaction that we would like
20 with these -- the future people that work for
21 these -- these other oil companies that come in.
22 You know, we would like to interact with them and
23 get information from them that, you know, we would
24 like to know what's going on.

25 MR. COWLES: Okay. Thank you.

1 Thomas?

2 MR. NUKAPIGAK: When is your next trip back to
3 Point Lay?

4 MR. COWLES: This will be our last trip on the
5 proposed program. So if that proposed program is
6 implemented the way its draft is, there is a
7 proposal, and it may not happen, it's still up for,
8 you know, finalization for another Chukchi Sea lease
9 sale in 2010. So sometime prior to that, say a year
10 or two, couple years before, we would have scoping
11 again. So what you want to watch is what happens
12 with Sale 193 and what leases might be issued there
13 and what additional process would take place after
14 that. And there would probably be other
15 opportunities or meetings relative to exploration
16 plans. But again, that's all very uncertain.

17 Yes, sir?

18 MR. STALKER: For the record, my name is Jack
19 Stalker again. We have hand-held radios that were
20 issued this summer. And they help the
21 communications (inaudible). Now I'm looking forward
22 this time. I hope they issue us GPS and (inaudible)
23 they were off (inaudible) this summer. And I sure
24 appreciate it, because, you know, you need that for
25 saving lives and need the communications.

1 Thank you.

2 MR. TRACEY: Bill Tracey, I just wanted to
3 include, traditional knowledge goes a long way. And
4 in this room alone, you're going to get an awful lot
5 of history on belugas, walrus, geese, ducks, fish,
6 you name it. But at the same time, I'm not sure if
7 you have tapped into a wealth of information that
8 the North Slope Borough has obtained from Point Lay.
9 We've allowed biologists to go on our beluga hunts
10 every year now for the last 20 years.

11 MR. COWLES: I know.

12 MR. TRACEY: All that is documented scientific
13 information, as far as beluga patterns, seals,
14 walrus. So I am hoping that if that didn't come out
15 during the scoping meetings, it's coming out now and
16 that's included in your EIS and all that.

17 MR. COWLES: We had a project some years ago
18 that we started to try to collect the traditional
19 knowledge in one place and we're awaiting the
20 completion of that project. So -- and a lot of
21 information we understood would be available through
22 the North Slope Borough and sources there. So thank
23 you. Yes, we're trying to keep tabs on it.

24 And we appreciate the information that's come
25 in. I have to say in my regular role as involved

1 with the environmental studies that we're very aware
2 of the assistance that the village has given.
3 Different studies over the years, not only that
4 beluga study, but I remember, oh, ten years ago, we
5 had a project Ksegaluk Lagoon. And we had
6 scientists that came and asked for your assistance.
7 And thank you very much for all that help over the
8 years.

9 MR. NUKAPIGAK: One more thing. I see you got a
10 meeting in Point Hope tomorrow. Can one of -- do
11 you have an extra seat on that flight?

12 MR. COWLES: I don't know. I'm not sure what
13 the flight will be.

14 MR. NUKAPIGAK: I want the output of that
15 meeting.

16 MR. COWLES: How would somebody obtain that? Do
17 you know, Jim, if there's a transcript from Point
18 Hope?

19 MR. BENNETT: If you send in a request, we can
20 provide. It's a matter of public record, the
21 transcript, so we can provide that to you. But we'd
22 have a to have specific request as to exactly what
23 it is you're asking.

24 MR. COWLES: Mr. Bennett's e-mail is on one of
25 these transparencies, these panels, it's on page 8.

1 MR. BENNETT: I have a couple of cards, if
2 anyone wants.

3 MR. TRACEY: What time of day are you leaving
4 tomorrow?

5 MR. COWLES: 11:00.

6 MR. TRACEY: If somebody has another question or
7 comment for you before 11:00, where can we find you?

8 MR. COWLES: We are over in the camp. If you
9 want to drop it off with me, I'm in room 10.

10 MR. BENNETT: You still have -- you can mail
11 things. You can send something via the web. You
12 can get on the web. There's a mechanism to send a
13 comment in directly.

14 MS. ANNISKETT: I'd like to thank everyone that
15 made an effort to come. I know there's a lot of
16 council members missing, but I sure appreciate
17 everyone showing up. Thank you very much.

18 (Whereupon, the hearing was concluded.)

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REPORTER'S CERTIFICATE

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I, Britney E. Chonka, Court Reporter, hereby
certify:

That I am a Court Reporter for Alaska Stenotype
Reporters and Notary Public in and for the State of
Alaska at large. I certify Hereby that the forgoing
transcript is a true and correct transcript of said
proceedings taken before me at the time and place stated
in the caption therein.

I further certify that I am not of counsel to
either of the parties hereto or otherwise interested in
said cause.

In witness whereof, I hereunto set my hand and
affix my official seal this 12th day of December, 2006.

BRITNEY E. CHONKA, REPORTER

Notary Public - State of Alaska

MMS Responses to Point Lay Comments

Point Lay 001-001

Since 1995, MMS has incorporated Traditional Ecological Knowledge (TEK) into its EIS analysis process by including Inupiat observations into the text of the EIS analyses. Indigenous speakers are cited in text and in the bibliography. In addition to other available published TEK sources, TEK has been solicited from Inupiat sources that included past and more recent testimony from community meetings conducted for MMS lease-sale hearings. Indigenous public comment in the form of 25 years of MMS lease-sale hearings in the Alaskan Arctic has been posted on the Alaska OCS Region website at <http://www.mms.gov/alaska/ref/PublicHearingsArctic/PublicHearings.htm>.

The MMS considers TEK in lease-sale and project planning, in determining deferral areas, in EIS analyses, in the formulation of new mitigation measures, in the drafting of new scientific studies, and in decisionmaking. The MMS has also posted on its Alaska OCS Region website a discussion entitled “Traditional Knowledge and How MMS Uses it in the Decision Process” at http://www.mms.gov/alaska/native/tradknow/tk_mms2.htm.

A TEK-specific subsistence report, *Passing on the Knowledge: Mapping Human Ecology in Wainwright, Alaska* (Kassam and Wainwright Traditional Council, 2001) was used in the subsistence-harvest pattern analysis the Chukchi Lease Sale 193 draft EIS. The MMS’s ongoing study *Subsistence Mapping at Nuiqsut, Kaktovik, Barrow, and Wainwright: Past and Present Comparison* will incorporate local TEK and map geographic patterns of subsistence use near these communities. The MMS will use this comparative time-series information to assess cumulative sociocultural impacts in the Chukchi and Beaufort seas regions.

The proposed Deferral Alternative III, Corridor I for Chukchi Lease Sale 193, was developed in direct response to TEK and more recent comments by bowhead whale subsistence hunters to protect important bowhead whale habitat used for migration, feeding, nursing of calves, and breeding.

We agree that traditional and local knowledge is a rich source for new information in the Chukchi Seas region slated for leasing activity and it is our policy to use research, exchanges with local governments and tribal organizations, and public meetings such as this to continue to update what we know.

Point Lay 001-002

The MMS appreciates the comment. You may request a copy of the draft EIS by either writing Minerals Management Service, Alaska OCS Region, 3801 Centerpoint Drive, Suite 500, Anchorage, Alaska 99503-5823, or calling (907) 334-5200 or toll free at 1-800-764-2627. The draft EIS may also be viewed on the MMS webpage at <http://www.mms.gov/alaska>.

Point Lay 001-003

The MMS recognizes the importance of subsistence. Its importance is analyzed in the EIS and addressed through rulemaking, lease stipulations, and mitigations. The OCS is used by many groups and individuals, but it belongs to all citizens of the United States. Under the OCS Lands Act, MMS manages oil- and gas-related activities in these offshore areas to balance all the interests, including local, State, national, commercial, traditional, scientific, military, and others. The goal is to provide opportunities to explore for and develop the oil and gas resources of these Federal areas while not damaging the environment and avoiding conflicts between users whenever possible.

Point Lay 001-004

Responsibility for oil-spill response and cleanup operations and costs rests with the company or responsible party (RP) that is conducting the operations. One of the main purposes of the Oil Pollution Act of 1990

(OPA 90), enacted following the *Exxon Valdez* spill, was to firmly establish the responsibilities and liabilities for companies conducting oil exploration, development, or production activities. The OPA 90 placed a number of requirements on these companies to be met before their operations can commence. Companies are required to establish pollution-prevention programs to eliminate or reduce the potential for oil spills and develop oil-spill-response plans (OSRP's) that address how a spill will be brought under control and cleaned up.

The company first and foremost is responsible for cleaning up a spill. They must provide the equipment and personnel necessary to respond to their worst-case discharge. Part of their OSRP requirements is to provide contractual evidence that they have sufficient spill-response assets to respond to their worst-case discharge. For most if not all operators, this is done through the use of Oil Spill Removal Organizations like Alaska Clean Seas (ACS). The ACS was formed by the North Slope oil companies to purchase and maintain spill-response equipment and provide training for personnel to meet this obligation. Should for any reason it be determined that a RP's response is inadequate, the Federal On-Scene Coordinator, a U.S. Coast Guard (USCG) representative for offshore spills, may take over the response and commit Federal assets to help clean up the spill.

Companies also are required to post Oil Spill Financial Responsibility documents with the MMS to ensure funds are available to fund oil-spill response and cleanup activities. If the company's funds are insufficient to cover the response, the Oil Spill Liability Trust Fund (OSTLF) becomes available to continue spill-response and -cleanup activities. The OSTLF is a \$2.7 billion fund that is available to the USCG and the Environmental Protection Agency for oil removal, to states for cleanup costs, to Federal, State, and Indian tribe trustees for payments to conduct natural resource damage assessments and restorations; and for payment of claims for uncompensated removal costs and damages.

Point Lay 001-005

See the response to comment **Point Lay 001-004**.

Point Lay 001-006

Oil-spill cleanup would be the responsibility of the company responsible for the spill. Use of village members for oil-spill cleanup would be up to the company conducting the spill response. For current Prudhoe Bay operations, ACS has implemented Village Response Teams in Barrow and Nuiqsut to train and use village residents for response operations. Establishment of similar teams would have to be discussed with the company operating in the area.

Staging equipment for oil-spill response also is up to the company, and that decision would be based on where a company intends to drill. If a company were to drill in close proximity to Point Lay, it may make sense for them to position spill equipment there so they can get it rapidly deployed to sites that are very environmentally sensitive or have special significance to the village.

Point Lay 001-007

Per MMS regulations at 30 CFR 250.801(e)(1), A Subsurface Safety Valve (SSSV) shall be installed at a depth of 100 feet or more below the seafloor within 2 days after production is established. When warranted by conditions such as permafrost, unstable bottom conditions, hydrate formation, or paraffins, an alternate setting depth of the SSSV may be approved by the MMS.

For operations in the Arctic, we would require that the SSSV be installed below the permafrost. If ice were to cut or damage the flowline, this valve would automatically close shutting off flow from the well.

As stated in MMS regulation 30 CFR 250.451(h), if an operator wants to use a subsea blowout prevention (BOP) system in an ice-scour area, the BOP stack must be installed in a glory hole. The glory hole must be deep enough to ensure that the top of the stack is below the deepest probable ice-scour depth.

Point Lay 001-008

Community-level effects are examined in the Sociocultural Systems, Section IV.C.1(m)(4)(a) and include population immigration or outmigration and public services, such as public safety. In the analysis, the greatest effects occur at Wainwright, the community nearest the shore base in the hypothetical scenario. Because the enclaves tend to be self-sufficient, they create little demand for government services and infrastructure. Where demand is created for these services, costs usually are recouped through a fee-for-service or some other arrangement negotiated by the developer and the affected government that provides the service, in this case the North Slope Borough. The shore base is expected to create little inflow or outflow of population in the nearby community, and community services appear sufficient to handle what little may occur. Section IV.C.1.m(5)(b) and (c) discuss a range of mitigation measures available to address some of the concerns.

See Section IV.C.1.p(4), Standard, Potential, and Ongoing Studies and Mitigation Initiatives, for a summary of mitigation that applies to the subsistence resources and the sociocultural environment. See Section V.C.16.b, Mitigation Initiatives Related to Environmental Justice Cumulative Impacts, for a summary of mitigation that applies to environmental justice issues and concerns.

**Document
002**

5-YEAR OCS OIL AND GAS
PROPOSED LEASING PROGRAM
FOR 2007-2012
Point Hope, Alaska

NORTH SLOPE BOROUGH PUBLIC HEARING/MEETING
for the Draft Environmental Impact Statement

Taken November 15, 2006

Commencing at 7:00 p.m.

Volume I - Pages 1 - 74

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I-N-D-E-X

Minerals Management Service:

Cleveland Cowles, Regional Supervisor

James Bennett, Chief of Environmental Assessments

Albert Arros, Community Liaison

Michael Salyer, Wildlife Biologist, EIS Coordinator

Peter Johnson, Geophysicist, Resource Evaluation

Reported by Britney Chonka, CR

PUBLIC COMMENTS

Page 3

1 MR. COWLES: Well, thank you for coming
2 everybody. My name is Cleve Cowles with Minerals
3 Management Service. And Dorcas will be our
4 translator tonight, if you would like to have that
5 service. I'm with the Minerals Management Service,
6 and we're here for a public hearing and meeting, as
7 shown on this handout you have. But before we get
8 started we're --

9 MR. BENNETT: Cleve --

10 MR. COWLES: -- very honored to have Ely give a
11 blessing and appreciate that very much.

12 (Prayer was said in Inupiaq.)

13 MR. COWLES: Thank you.

14 Okay. Again, my name is Cleve Cowles. And I am
15 the acting regional supervisor for the Minerals
16 Management Service, Alaska office for -- I supervise
17 the office of Leasing and Environments. So I'm with
18 the Anchorage office.

19 And as I mentioned, the purpose of our meeting
20 is, on this first slide we're talking tonight about
21 aspects of the next five-year OCS oil and gas
22 proposed leasing program and also a draft EIS for
23 Sale 193.

24 I'd like to just ask a couple of things. We
25 have, there's a sign-in sheet, if you would please

1 sign in, particularly if you're going to make a
2 statement about these items that are on our purpose.
3 And we also have some people with us tonight who
4 will help in discussing these matters. And I would
5 like to introduce them.

6 To my left is Mr. Jim Bennett from our
7 Washington office. Mr. Bennett is the branch chief
8 for the Branch of Environmental Assessments. Mr.
9 Michael Salyer, sitting here is an EIS coordinator
10 in our office in Anchorage. Mr. Peter Johnson is
11 with our resource evaluation section office in our
12 Anchorage organization. And they are the group that
13 do the estimates of hydrocarbons that are on the
14 federal Outer Continental Shelf. Mr. Al Barros,
15 sitting at the back table there with the handouts,
16 is our community liaison specialist. And Britney
17 Chonka here is our transcriptionist, she will be
18 taking a record of your statements about these
19 matters.

20 And, in relation to that, we appreciate very
21 much if, when you do have a statement, you would
22 identify yourself for the record. What I thought we
23 would do tonight is to, very briefly, go through
24 this handout to give you kind of an overview of what
25 we are going to do.

1 Does anybody need that translated to this point,
2 and then I can start? Okay. Looks like we're okay
3 so far.

4 On the front page, page 1, the second panel,
5 there is a map, and it's similar to this map here.
6 And that shows you the areas that are in the
7 proposed five-year program for 2007-2012, that we
8 are seeking testimony on, or comment, depending on
9 your -- how you might want to do that. And these
10 have been formulated as a result of previous
11 information and analyses that we have done within
12 the Minerals Management Service, Department of the
13 Interior. And they are part of a national program
14 that plans a process for providing opportunity to
15 the oil and gas industry to lease, potentially,
16 explore and -- and if they were to discover oil and
17 gas, to develop.

18 But these are just large areas for which we are
19 setting or -- or proposing a schedule for future
20 lease sales between 2007 and 2012. So it is not
21 decided yet. It is, however, open for discussions
22 and -- and commentary.

23 And that's summarized on the second page as to
24 what we are receiving public comments for on the
25 top. Because in addition to the five-year program,

1 which has a schedule out for comment and a
2 environmental document, or draft EIS for those two
3 things, we also have a EIS, a draft EIS for a lease
4 sale that has been scheduled for the Chukchi Sea.
5 So there's these things on our agenda tonight and
6 these are our main purposes.

7 Now, there's three different things. And they
8 actually are part of this process, on the second
9 panel on page 2 of the handout. And I would just
10 like to talk about that briefly. What this is is
11 a -- a summary of the key steps for how MMS goes
12 through and how the Department of the Interior
13 approaches these questions about how best to provide
14 energy for the nation.

15 And, as you know, the demand for fuel is
16 increasing. Production is not keeping up. So the
17 Department of the Interior has goals under the laws
18 to have a process like this to find out and see
19 where industry might get an opportunity to explore
20 and go through the variety of environmental reviews
21 that this summarizes.

22 So the first line, the yellow line, is the
23 process for the five-year program. And we are, at
24 this point in time, in the third, middle block that
25 says Proposed Program and Draft EIS. And then just

1 past that, it says there's a comment period. And
2 that is the stage for the five-year program in this
3 schedule.

4 And that will eventually move to a secretarial
5 decision in, I think, roughly July of 2007.

6 MR. BENNETT: Or May.

7 MR. COWLES: Now, if this schedule is adopted,
8 as shown here, where there are lease sales proposed
9 to be held in those blue zones on that map, then we
10 would go down to this next row, which is a
11 sale-by-sale process. And that is a process of
12 focusing.

13 MR. TIMETHY: Excuse me.

14 MR. COWLES: Yes, sir?

15 MR. TIMETHY: You jumped to the middle where
16 there's a 45-day area, there was 60-day period. It
17 jumped to the 90, so we must be on the third part
18 right now?

19 MR. COWLES: I just -- I'm trying to give you a
20 sense for how the Department of the Interior of
21 Minerals Management Service provides a number of
22 different places for reviews and opportunities to
23 comment. So again, I will talk about all these
24 things as we get down on this chart. So I wanted to
25 explain, for the five-year program, we're on this

1 first row in the comment period, right after the
2 third block.

3 Now, if we proceed --

4 MR. TIMETHY: The 45-day and the 60-day period
5 already passed, right?

6 MR. BENNETT: Yes, they are already past. The
7 process began for the solicitation of comments from
8 August of 2005. And we put a draft proposed program
9 together. And then issued it and distributed it in
10 February of 2006. The draft EIS and the proposed
11 program, which is on the street now is what we're
12 looking for comments for.

13 MR. TIMETHY: So after this meeting will be
14 another 90-day comment?

15 MR. BENNETT: We're in the 90-day comment period
16 now. And it's going to be closing next week.

17 MR. COWLES: And we'll talk about those
18 specifics a little later. I just wanted you to
19 realize that these are processes and procedures that
20 we must follow according to different rules and
21 regulations that are within the National
22 Environmental Policy Act or the OCS Lands Act, for
23 example.

24 Then as we a talk about these things in more
25 detail, we can give you some more of the information

1 on dates. And before I forget, for the safety --

2 MR. TIMETHY: Jakie Timethy.

3 MR. COWLES: Thank you.

4 Anyway, and then if an oil company bids on a
5 lease and is awarded a lease, they might explore and
6 then they go through the next line. And if they
7 find oil and gas, then they have to go through more
8 reviews for a development plan. And this whole
9 process takes quite a while and has a lot of
10 opportunity for us to get ideas, suggestions,
11 comments from the public, and communities, all the
12 organizations, the tribes, subsistence groups.
13 Everybody that's interested in this gets a chance to
14 say what they think all through this before the
15 decisions are made. And this may take 10, 12 years.

16 MR. TIMETHY: Sir, Jakie Timethy again. But
17 with the democrats being voted in, do you think this
18 is -- they might not let it pass or --

19 MR. COWLES: This process will -- won't change
20 depending on the party that's in the executive
21 branch. These are -- this is how the Department of
22 the Interior does this. There has to be changes in
23 the laws for -- and right now, this is a way things
24 are being done.

25 MR. TIMETHY: Governor Hammond, like -- Governor

1 Murkowski, like, in trial for (inaudible) -- it's
2 all over the news, trying to open up --

3 MR. COWLES: There are places where the Governor
4 of the states can make comments in here, yes, sir.

5 MS. ROCK: Excuse me, wasn't that the time that
6 you had the meeting and you came here and you talked
7 about that and we did all those -- put questions and
8 answers on it. I think that's the meeting, you
9 missed it. Maybe if you hadn't missed it, you
10 wouldn't be asking these questions, because they
11 have been here before. And I have interpreted for
12 them before.

13 (Interpreter interpreting.)

14 MR. COWLES: Thank you. One point, couple
15 points that are important about this, then I'll get
16 done with this. The first portion, which -- the
17 first two rows are under the government's influence,
18 as far as schedules. And we try to follow along
19 with the schedule, the time allowed for each step.

20 However, once a lease sale is held and then
21 leases are awarded to a company that would bid and
22 have -- be the highest bidder. It's then up to them
23 to decide when they might want to submit an
24 exploration plan. That's their business decision.

25 So that's why I said this may take a range of

1 time, because we don't know how long it would take a
2 company to -- to put forth an exploration plan.

3 The second thing is that this goes from large
4 areas to small areas. Usually we have these areas,
5 that you see here in the Beaufort Sea recently, for
6 example, when we had a lease sale a couple of years
7 ago, only about six percent of that Beaufort area
8 shown there was actually bid -- was awarded for
9 leases.

10 So even though you see these large areas, the
11 company's are more interested in smaller portions of
12 it. So we don't have, usually, that large an area
13 that is awarded as leases. And so then the
14 companies will pick within what they've bid on and
15 it will even be a smaller amount that they actually
16 will explore.

17 So --

18 MR. E. KINGIT: Excuse me, do you have a map of
19 other -- do these -- the lease part already? You
20 know, we know that there's already some red marks
21 that have already been leased a few years back.

22 MR. COWLES: There is in this -- there is in
23 here. And Mr. Bennett will talk a little bit more
24 about the five-year program and then Mr. Salyer will
25 talk about that map that you just asked about. So,

1 if that's okay, we can move through this.

2 MR. SALYER: What's your name, sir?

3 MR. E. KINGIT: Earl Kingit.

4 MS. ROCK: Earl Kingit.

5 MR. COWLES: Mr. Bennett will now talk a little
6 bit more about the schedule for the proposed
7 program.

8 (Interpreter interpreting.)

9 MR. BENNETT: Thank you.

10 MS. ROCK: Oh, excuse me.

11 (Interpreter interpreting.)

12 MR. BENNETT: Thank you. Again, my name is Jim
13 Bennett. I'm with the Minerals Management Service
14 of the U.S. Department of the Interior. We're a
15 federal agency. I'm out of our headquarters office
16 in Washington. I just want to take just a couple of
17 brief moments to talk to you about the five-year
18 plan.

19 As Cleve pointed out, we're talking now about
20 two things, basically, the five-year plan for Outer
21 Continental Shelf and Lease Sale 193, which is
22 specifically in the Chukchi Sea.

23 The five-year plan for, which an EIS is
24 currently on the street for your review, identifies
25 those areas which we will consider further for

1 leasing over the next five-year period, 2007 to
2 2012. Only those areas that are included in this
3 five-year plan will be candidates for a sale over
4 that five-year period. And any area that is
5 included in the five-year plan is subject to a
6 detailed environmental review for that specific
7 lease sale, which is what Lease Sale 193, the EIS
8 for lease Sale 193 addresses.

9 And finally, the inclusion of an area in the
10 five-year plan does not guarantee that there will be
11 a lease sale. It just means that that area will
12 receive further consideration.

13 The proposed five-year program is a national
14 program. It includes eleven sales in the Gulf of
15 Mexico, one sale in the Atlantic and nine sales in
16 Alaska, including the Beaufort Sea, Chukchi Sea,
17 North Aleutian Basin and Cook Inlet.

18 The first sale in the Chukchi Sea, Sale 193,
19 which Mike is going to talk about, is scheduled for
20 2007, late 2007. The EIS that has been prepared on
21 the five-year plan is out for review right now. We
22 want your comments on it, whether it fully addresses
23 the anticipated impacts that may result from the
24 national program that we're dealing with.

25 Comments -- the comment period closes on

1 Wednesday the 24th, the day before Thanksgiving next
2 week. We can receive comments either in written
3 form, via the web at MMS.gov or the testimony that
4 you provide tonight.

5 MR. E. KINGIT: What about flyers?

6 MR. BENNETT: I'm sorry?

7 MR. E. KINGIT: Flyers.

8 MR. BENNETT: You mean like comment cards?

9 Do we have any of those, Albert?

10 MR. BARROS: No.

11 MR. E. KINGIT: We're going to -- the flyers, is
12 it okay to give flyers out?

13 MR. BENNETT: Yeah, if you want -- if you
14 want -- we don't have comment cards, per se. But if
15 you want to just write a comment on a piece of paper
16 and give it to us, we'll be happy to receive it.
17 We'll be happy to do so.

18 MR. E. KINGIT: Okay.

19 MR. BENNETT: Okay.

20 MR. NASHOOKPUK: So this meeting is documented.
21 This lady that's taking it?

22 MR. BENNETT: That's a good point. Everything
23 that's said tonight goes on the record. And
24 anything you say, the comments on either of the
25 draft EISs or on the program will be addressed in

1 that process.

2 MR. NASHOOKPUK: Can we get a copy of, whatever
3 she's writing on there?

4 MR. BENNETT: Well, you wouldn't want a copy of
5 that. It wouldn't make much sense. But we'll get
6 you a copy of a transcript that's created and we'll
7 be happy to provide that upon request.

8 On page 4, slide one, identifies a list of sales
9 that I just talked about. And the process that
10 we've been -- that we've been involved in for the
11 five-year, in addition to, approximately, 20 scoping
12 meetings, we're also in the process of conducting 19
13 public hearings, one of which is this hearing
14 tonight.

15 And we've had four hearings this week up on the
16 North Slope, or actually three because we were not
17 able to get to Wainwright on Monday. But we are
18 here tonight and we have a hearing in Barrow
19 tomorrow. We had a couple of hearings over in
20 Beaufort and Nuiqsut and Kaktovik last week.

21 The schedule right now is for us to prepare a
22 final EIS for publication and in spring 2007,
23 probably April. And a decision will be made by the
24 director, by the Secretary of the Interior on what
25 sales will continue on in this process. And -- and

1 that would be, I think in May and in July, the new
2 program will take effect. So that's the five-year
3 program and then -- yes, sir?

4 MR. NASHOOKPUK: Could you give us definite date
5 before for the Secretary of Interior?

6 MR. BENNETT: We don't have the definite date
7 right now. We know that it's going to occur.

8 MR. NASHOOKPUK: But you do have a deadline,
9 though.

10 MR. BENNETT: I'm sorry?

11 MR. NASHOOKPUK: What is your deadline --

12 MR. BENNETT: Oh, our deadline.

13 MR. NASHOOKPUK: -- for the Secretary?

14 MR. BENNETT: We don't have a deadline in the
15 sense that -- we have a target to get a program in
16 place by July of 2007, that would require an action
17 by the secretary in May of 2007.

18 MR. NASHOOKPUK: What is the deadline for the
19 comments?

20 MR. BENNETT: Deadline for the comments on the
21 draft EIS is November 24th, Wednesday, November
22 24th.

23 MS. KINNEEVEAUK: But didn't we ask for an
24 extension?

25 MR. BENNETT: We have a request for an extension

1 but we have to evaluate that and determine whether
2 or not we're going to be able to grant it.

3 I encourage you to get your comments to us even
4 if they're not exactly on Wednesday, get them in by
5 mail Wednesday, and we'll receive them, or send them
6 by the web, that would be very helpful.

7 Yeah, that's it for me on the schedule. I'm
8 going to turn it over to Mike.

9 MR. G. KINGIT: On your EIS, on the comments on
10 EIS, we're going to comment on what you -- that big
11 thick book what you gave us, especially in the
12 ordinance hazard. There is no such thing as
13 ordinance hazard within your book, it says, but we
14 all know when you open up this area, our neighbors
15 from Russia had spill out, some contaminants in the
16 Arctic. But I was surprised to see they were in
17 your ordinance hazards, there is no such thing as
18 contaminants in OCS.

19 MR. BENNETT: Okay. Well -- we'll --

20 MR. G. KINGIT: Some of the comments (inaudible)
21 some of the comments, we like to fix things within
22 the book.

23 MR. BENNETT: That's exactly the kind of
24 comments that we need to have. If we don't have the
25 appropriate information and you provide it to us, we

1 can research it and make sure it's what -- what is
2 appropriate.

3 MR. G. KINGIT: It's kind of embarrassing,
4 because we all know, back in them days, you know how
5 much the Russians spill over there --

6 MR. BENNETT: Okay.

7 MR. G. KINGIT: -- in the Arctic Region
8 (inaudible). I was kind of surprised.

9 MR. BENNETT: If you have specific information
10 to provide, we'd be happy to work with that.

11 MR. G. KINGIT: Thank you.

12 MR. BENNETT: Thank you.

13 MR. E. KINGIT: Earl Kingit, for the record. We
14 just have a hearing in 2002 and we have another
15 hearing in 2005 with MMS. Our comments are still
16 recognizable and our elders, afterwards, that were
17 here during our comment period. You should have
18 records of all the activities that we want, and more
19 important, the environmental issues under your
20 five-year plan, you know. You shouldn't -- you just
21 come here and we only got how many days before the
22 deadline of the comments?

23 MR. BENNETT: Well, we --

24 MR. E. KINGIT: Majority of our people haven't
25 even seen a copy (inaudible). And our tribal office

1 (inaudible) places (inaudible) they just sent them
2 out a couple weeks ago. Why is that? You know,
3 this is very serious issue. (Inaudible)

4 MR. BENNETT: We sent the documents out at
5 the end of August.

6 MR. E. KINGIT: (Inaudible) the Russian.

7 MS. KINNEEVEAUK: That -- I only got the, excuse
8 me, a copy of that EIS, the draft EIS in October.
9 And what he's saying is we need an extension.
10 That's why we requested one in our Native Village
11 meeting. The copy you sent us, it's very hard for
12 our council members to look at it. It's this thick.
13 And then, you know, I -- it's impossible for my
14 office to make copies for everybody. Not everybody
15 has access to the Internet where you can go over it.

16 MR. BENNETT: Okay.

17 MS. KINNEEVEAUK: So that's why they're -- they
18 are making these comments. You need an extension.

19 MR. BENNETT: We'll -- we'll -- we'll take the
20 request back, and we'll see what we can work out.

21 MS. ROCK: Dorcas Rock, for the record.

22 If I remember right, I think the meeting started
23 with the MMS in 2001, 2002, probably missed on -- or
24 a year, or whatever, last year, 2005, 2006, two
25 times this year. Last year we had a meeting. And

002-001

1 if I remember right, most of the people I see here
2 were not here.

3 Now, if you were here and we were concerned
4 about that and we have mentioned it, they were
5 talking about the sale, the past -- maybe less than
6 ten years ago. And I've -- the reason why I know is
7 I always had to interpret.

8 (Interpreter interpreting).

9 MS. ROCK: I interpreted what you were saying.

10 MR. E. KINGIT: Earl Kingit, for the record.
11 You know, thank you, Dorcas, for interpreting that
12 pretty good. But, you know, there might be a few
13 people here, all right, but we do have over 50
14 strong that opposing our -- the MMS lease sale. And
15 we were stronger in 2002 when our elders took the
16 fight and you guys listened. So thank you, Dorcas.

17 MS. ROCK: One more, I forgot. I'm sorry.

18 (Interpreter interpreting).

19 MR. G. KINGIT: I still got one more. You know,
20 like -- like about your EIS, we just got our EIS two
21 weeks ago. And that's a big, big book to read. And
22 that's the reason why they wanted an extension. I
23 have not yet presented it to my council because it's
24 so darn thick. But some of the things we see in
25 that EIS, what I go through just a little bit,

1 there's some things we'd like to say about, because
2 we like to comment on your EIS, too. That's why she
3 asked for extension.

4 MR. BENNETT: Okay.

5 MR. G. KINGIT: My name is George Kingit.
6 I'm Native Village of Point Hope.

7 MS. ROCK: (Speaking in Inupiaq.)

8 MR. SALYER: Okay. My name's Mike Salyer. I'm
9 a wildlife biologist, and I function as an
10 environmental impact statement coordinator for the
11 Minerals Management Service and the U.S. Department
12 of the Interior. And what we've been talking about
13 up until now is the program environmental impact
14 statement.

15 And these gentlemen have discussed a little bit
16 about how, within that program, we have specific
17 lease sales that we also conduct environmental
18 impact statements on. And that brings us to Lease
19 Sale 193 Chukchi Sea Environmental Impact Statement.
20 And that you can find over on page 5 in your
21 handouts beginning with the slides that I'm just
22 going to talk about briefly.

23 Corresponding with these slides, we also have
24 the map on the left-hand -- my left-hand side over
25 here, where it shows the lease sale area. We began

1 scoping for this process, we discussed it a little
2 bit, September of 2005 where the villages --
3 everybody went to the different communities and
4 spoke with folks and tried to get everyone's input.

5 During that time, we took that input and we used
6 that to develop our alternatives that also get
7 analyzed along with the proposed action. Now, the
8 proposed action for Lease Sale 193, you can see in
9 the map in your handout, as well as this map over
10 here, would be the area that's outlined in green, in
11 bold green. And this map occurs in your package, as
12 well, back in the back. Okay. That's the Chukchi
13 Sea Lease Sale area for 193, that this environmental
14 impact statement that's out there right now is on.
15 That was the analysis.

16 Now, the comment period for the draft
17 environmental impact statement, the comment -- the
18 deadline for those comments are -- is December 19th,
19 okay. December 19th for the environmental impact
20 statement for Lease Sale 193.

21 As a result of the scoping process that we had,
22 we took those comments and that's where we came up
23 with the deferrals. You can see the different
24 colors. You can see them a little better in your
25 packet. We have two deferral areas as alternatives.

1 Now, those aren't our decisions, but we're going to
2 take the information that you've given us so that we
3 can present that to the decision-makers in that
4 document so that they will choose a plan.

5 And the first one -- the corridor 1, we call it
6 in the document, that's out there in the
7 environmental impact statement, is the largest area.
8 And it occurs nearly 60 miles out from the coast.
9 And that's the, sort of the purple area that you see
10 on that map. It's also in your packet. Okay.

11 And then we have another corridor, you really
12 can't see too well on this map, you can see it's
13 kind of got lines through it. And it's in blue.
14 And that's alternative, that's corridor 2. And that
15 was a result of some information at the time that we
16 had in coordination with National Marine Fisheries
17 Service. And then, like I said, the proposed action
18 is the entire project ID area, which is the area in
19 green.

20 So at this time, that's where we want to open up
21 for any comments, we would like you guys to respond.
22 Clearly it's been made known that there's some
23 communication breakdown and we certainly want to
24 work on communicating better so that you're able to
25 get the information you need to comment. So that's

1 Lease Sale 193, Environmental Impact Statement.

2 MR. G. KINGIT: In other words, you gave them
3 more from 33 -- 33 to 40 something?

4 MR. BENNETT: I'm sorry, sir?

5 MR. G. KINGIT: You gained more since the last
6 time in 2000? 2002 to 2007? You'll gain more --
7 more land on the lease sale.

8 MR. SALYER: In the program area Jim was talking
9 about, it goes further up. The environmental impact
10 statement I'm referring to is just the green ID area
11 was done, the analysis. So for that next go-around
12 in the Chukchi, clearly there will have to be more
13 analysis done on that one when it comes to that
14 point in the process.

15 MR. FRANKSON: Are you open for comments now?

16 MR. SALYER: Yes, sir.

17 MR. FRANKSON: My name is Ernie Frankson. And
18 I'm a whaling captain here in Point Hope, member of
19 one of the two oldest family clans in the history of
20 North America. And the comment I would like to
21 give, and the information following up the comment,
22 is that I do not want to see oil drilling offshore.
23 And I'll tell you why. Because anywhere in -- in
24 that lease area that you drill, and if one of those
25 wells happens to break and some of the oil spills

002-002

1 out, there's no way you can go to that piece of ice
2 where all the ice flows up -- or all the oil flows
3 up, and it's carried to who knows to where, if a oil
4 spill happens.

5 And the reason I say that is because we have
6 seen what the oil spill in Anchorage has done. And
7 it hasn't been cleaned up. And there's no ice
8 there. And not only that, the people that worked
9 for cleaning up the place that worked there,
10 cleaning up the oil are now dying of cancer from
11 exposure from cleaning up the oil. There's -- some
12 are dying of cancer.

13 So we know what kind of things to expect in the
14 event that you have to clean up oil up here. And as
15 far as I'm concerned, there is no such plan for
16 cleaning oil in the arctic because of the ice. The
17 ice will migrate, as you know, recedes about 500
18 miles north of here, the polar cap recedes. And all
19 of that -- all that oil is going to remain under
20 that ice and it's going to be disbursed.

21 And then environmental hazards you have from
22 that are tremendous, judging from what we have seen
23 in Valdez oil spill, because this area here is --
24 feeds roughly one-fourth of the world in fish.
25 One-quarter of the world's fish that people eat

002-002

1 comes through here. Where the Arctic Ocean pours
2 out at the Atlantic and where it pours out into the
3 Pacific, one-quarter of the world's fish. And this
4 is the area that I feel that will have the greatest
5 impact, should a -- should a disaster occur.

002-002

6 And because you are here for the comments, I
7 would like for you to consider that there is no
8 drilling offshore for these leases, but drill
9 diagonally from land. You can drill and sell these
10 areas that you can reach from land by drilling
11 diagonally. That's the only safest thing I can say.

12 Because you're sitting here in Point hope, the
13 oldest continuously occupied settlement in North
14 America known today and what you do here, and if you
15 don't consider what we have to say, you become a
16 party as Department of the Interior and also Marine
17 Mammal Services, you have become a party to a
18 destruction of an oldest, oldest continuously known
19 people. You're looking at them. You're sitting
20 here at the oldest place in North America.

21 What risk is that, then? All the problems that
22 comes from oil when it is spilled from the cleanup,
23 they're all devastating. Exxon already showed us.
24 People are dying of cancer. They can't clean it.
25 It will never be the same again. And because

002-003

1 offshore drilling has been opposed by the elders
2 when I was living in Barrow and they wanted to know
3 why they're go offshore. Because someone gave them
4 consent to go offshore. The consent was already
5 given.

6 But the point is that you're taking comments and
7 I want to go on record as a whaling captain and as a
8 member of the oldest known community in North
9 America that's still occupied by saying I oppose any
10 offshore drilling, because of the impact of seismic
11 studies has on animals.

12 And recently, right off of Australia, a whale
13 was dead where the oil companies were doing seismic
14 work. So these are some of the effects that -- that
15 you are having to deal with. And I would like to
16 put those on record, because seismic study kills
17 animals. Because oil that's been spilled kills
18 animals and because the oil that was cleaned --
19 being cleaned up also kills the people that cleans
20 it up.

21 And here I have never seen a plan where there's
22 a plan to take oil away from the ocean. How are you
23 going to do that? That entire ocean is covered with
24 ice. And oil will seep right up to the top, it will
25 be carried and released. And the destruction,

002-004

1 they -- destruction everywhere.

2 Because of those reasons, because of the
3 one-quarter of the world's fish that you eat every
4 day when you go into restaurants or you're at home
5 having a sandwich, comes from here. These are some
6 of the things that I would like to see, no offshore
7 drilling, no pads offshore. If there is any
8 drilling, it should be diagonally done from the
9 shore.

10 And so that -- I just wanted to comment that, I
11 just want to know if you were open for our comment.

12 MR. SALYER: Thank you for your comment, sir.
13 Appreciate that.

14 Yes, sir?

15 MR. E. KINGIT: You have any wildlife out there
16 where you have the lease sale, any animals?

17 MR. SALYER: Yes.

18 MR. E. KINGIT: I am concerned about the -- Earl
19 Kingit, for the record.

20 I'm concerned about the walruses, the beluga,
21 all that.

22 MR. SALYER: Yes, sir.

23 MR. E. KINGIT: Once you apply oil out there,
24 how you going to take it out and where is it in a
25 map, or where are your staging areas, where are your

002-005

002-005

1 cleaning areas? We want to -- we would like to see
2 that. We asked for that in 2002 and 2005 to MMS.
3 And while you're in the wildlife thing, too, you
4 know, I love wildlife, too, because I depend on
5 wildlife and I'm glad you're a wildlife man, too.

6 Under the Department of the Interior's
7 direction, she's got trust responsibility to
8 endangered species, animals, we all know that. Got
9 trust responsibility. And the one that really will
10 be affected is the bowhead whale. Like what our, my
11 nephew over here said, we are the oldest and active
12 community in the Arctic.

13 Where does the Secretary of Interior stand on
14 the endangered species animals? Pretty quick the
15 polar bears will be listed on the endangered species
16 list. We heard in record that there's only 1500
17 left. We are concerned. We already got some
18 seismic operation going on right now. Those poor
19 animals out there in the ocean that we depend on,
20 are they going to come back? Are they going to
21 really show up next year, like we always expected
22 them for 20,000 years? We are concerned.

002-006

23 Department of the Interior, you all work for the
24 tribes of Point Hope. Work for them. The
25 Department of the Interior have a responsibility to

1 the tribe. So there's very few of us out here. So
2 I went out and picked up some flyers in which I'll
3 read, there's over 50 of them, we had such a short
4 time to collect more, but this flyer, reads: Dear
5 Mr. Gall, it concerns me that noise and pollution
6 from oil activity and Beaufort and Chukchi Sea
7 planning area of the Arctic OCS will harm water,
8 land, whales and other wildlife. Well, both
9 wildlife, that are very important. That are
10 important to sustain our culture.

11 People in the Prince William Sound which Ernie
12 commented on, were told they would not be a big
13 spill and there was -- the oil industry could clean
14 it up and it still hasn't been cleaned up. There
15 was a long-lasting harm to water, land and
16 subsistence food from Exxon spill. There were
17 long-lasting emotional trauma to individuals and
18 just to the communities of Exxon spill, cleanup and
19 litigation. Yet none of these long-lasting harms
20 are recognized or addressed in the draft of EIS.

21 Once again, yet, none of these long-lasting
22 harms are recognized and addressed in the draft EIS
23 for the five-year plan. Chukchi Sea Sale 193, other
24 lease sale we do not want (inaudible) to our ocean
25 and culture. I oppose oil and gas leasing in the

1 Beaufort and Chukchi Sea and we remove these areas
2 from your plan. Thank you. We're 50 strong here,
3 over 50. Thank you.

4 MR. SALYER: Thank you.

5 Yes, sir.

6 MR. SCHAEFER: For the record, my name is Jack
7 Schaefer. I am the grandson of Jimmy Killagook
8 (phonetic). My Inupiaq name is (in Inupiaq). My
9 grandfather caught 23 whales in his lifetime and
10 that is quite a few. And I was raised by my
11 grandparents and we had to eat. We were all poor,
12 all of us. You were considered rich if you had a
13 box of Sailor Boy crackers and tea and coffee and
14 sugar and canned milk. You were considered rich
15 during the time that he was alive.

16 Now things have changed a little bit from
17 Prudhoe Bay and we have infrastructure here, add a
18 bunch of jobs and they're going through a whole
19 bunch of cuts. And we do now have a very high
20 unemployment rate. And we are bound to eat our food
21 in the ocean and on the land because we have no
22 money.

23 As they have said, we are the oldest continued
24 people inhabiting here. We had a federally
25 recognized tribe, the Native Village of Point Hope.

1 It has a government-to-government relationship with
2 the United States government. And we've always been
3 very patriotic to the United States government. The
4 United States government has listened to us because
5 of what we believe. And we have been diplomatic
6 with them, indicating our concerns and we have been
7 listened to.

8 Things have changed during the Bush
9 Administration and dealing with the desires to catch
10 up and fill the pockets that have been empty as a
11 result of the scams that have taken place by major,
12 big companies who have stolen and lost their retired
13 benefits for the citizens of the United States in
14 the Lower 48, which considered -- a considerable
15 economic impact to them. As a massive type of rush
16 to try to save those people and prevent a revolution
17 from occurring, they created this energy crisis.

18 Now that administration has been changed as a
19 result of the control of congress and senate from
20 republicans to democrat, you can see on the face of
21 Bush that things have changed. He can no longer try
22 to push and create this scare tactic that there is a
23 very shortage of oil. OPEC has agreed that it will
24 not increase production in order to maintain and
25 lower the price of fuel.

1 They are the ones that control the supply of
2 oil, all these countries. By creating this illusion
3 of an oil shortage, that was how they were able to
4 get their way in pushing for all these things to
5 occur in a very quick time. That has changed.

6 Even the reports from credible people have
7 extended the oil existence for more than 120 years.
8 There is no oil crisis. It has been a thing to
9 recover for those citizens who have lost their money
10 from major oil companies that have misspent their
11 retirement funds, like Enron, for example.

12 Now that they have recovered from that and
13 things have changed and a loss of our citizens that
14 have had to go to war to try to protect this thing
15 have been overwhelming. And now we're seeing these
16 changes.

17 In regards to the environmental impact
18 statement, on October 23 and 24, there was a meeting
19 in Anchorage that involved the North Slope Borough,
20 the Alaska Eskimo Whaling Commission, the oil
21 companies, the federal government in relation to the
22 Chukchi Sea and what was going on. Tribes were not
23 invited to attend.

24 And so they were not able -- we were not able to
25 see what the reports have been given in relation to

1 the monitoring, nor have we been given any
2 information in regards to the seismic activities
3 that took place over a ten-year period, which was
4 referred to as 2D seismic activities. Now they're
5 doing a 3D seismic activities.

6 And all this time we had thought that the
7 impacts on those animals, ocean animals were from
8 the Red Dog Mine in 1989 when it reached a peak near
9 the end of that seismic activity. Just recently we
10 found out that the seismic activity had occurred and
11 so we were able to put pieces together and be able
12 to understand why there were gray whales and animals
13 washing up on the beach during that time period.
14 All this time we thought it was from Red Dog Mine.

15 To this day, despite the millions of dollars
16 that was spent and given to the North Slope Borough
17 Wildlife Management Department, we do not have any
18 documentation in regards to the results of those
19 impacts. For what reason, is very unclear. But
20 I'll say this, because that information has not been
21 provided to us, we are not able to adequately voice
22 and provide evidence to you about the impacts of oil
23 and gas activities, because it's been withheld from
24 us.

25 During that meeting in Anchorage on the 23, 24,

1 25, the oil companies had requested that NOAA
2 comply, along with what the Mineral Management
3 Service had already committed to, in preventing the
4 monitoring data to be none FOIA-ble, Freedom Of
5 Information Act requestible. We can't ask for that
6 information under the Freedom of Information Act
7 request, which is something that we have a right to
8 know.

9 How can we respond to an environmental impact
10 statement and respond to oil and gas activities when
11 we don't have access to that information? And we
12 are considered as uncredible people in reference to
13 what we're saying in dealing with the animals that
14 we have noticed because we are grassroots, we are a
15 small community. We don't have that college degree.
16 We don't have a salary that labeled us as a monitor
17 or a wildlife biologist to prove those impacts that
18 we have seen and that have been withheld. And so we
19 are unable to provide a clear response as to the
20 impacts.

21 And the industry is using that to their
22 advantage, as the United States has done before in
23 the past, in regards to the problem with the nuclear
24 legacy. You don't have any information, you don't
25 have any evidence, let's study it. Let's gather

002-007

1 this information. During that time we'll go ahead
2 and do this development. By the time you get that
3 information, there may or may not be a disaster.
4 And it might be too late.

5 And then having the government respond: We'll
6 try to accommodate you on this, so that no Tom, Dick
7 and Harry can be able to have access to that
8 information, using the excuse they might find out
9 where the location of those ships are. So what? We
10 don't -- what do we care about where the ships are?
11 What kind of excuse is that? We're trying to gather
12 information in relation to impacts on animals, not
13 just whales.

14 We have been told that the tribe cannot deal
15 with the government because there's an arrangement
16 with the Alaska Eskimo Whaling Commission, which is
17 only responsible for whales, not for seal, not for
18 fish, not for ducks, not for ugruks, not for marine
19 mammals. They are only responsible for whales.

20 And that has precluded us from having this
21 government-to-government relationship. And we have
22 been forced to go to court as a tribe to fight for
23 our people to ensure and to gather that information
24 and to provide it to you as an accurate response and
25 to show the truth about the impacts. Without that

1 information, it's very difficult for us to provide
2 that information as we seen in regards to the
3 seismic environmental assessment, which had a
4 finding of no significant impacts, because the oil
5 company said there's no data out there, even though
6 there were millions of dollars that were spent by
7 the North Slope -- through the North Slope Borough
8 for wildlife studies.

9 And so it's very difficult for us to provide you
10 with evidence. And we don't know how long it will
11 take us to gather that information through a
12 discovery process as we continue through the
13 litigation stages on the different stages of oil and
14 gas development. We just started on this, just on
15 the seismic, we're going to be getting into other
16 things as time goes on. These seismic things and
17 these agreements with the Whaling Commission is on a
18 seasonal basis every year.

19 So it makes it very difficult for us to get our
20 ruling by a federal judge in time. By the time a
21 judge re-rules on it, the seismic period will be
22 over. At two percent per year, that's how much they
23 will be covering, it will be a lot of years for them
24 to complete it. It took them ten years to cover
25 from the Canadian border all the way to Point Hope.

1 And we didn't even know it happened. We didn't even
2 know that there were five wells that were drilled
3 off of Cape Lisburne. They didn't have very many
4 public hearings, because we always said no.

5 Last time we made our strong comment in regards
6 to the Chukchi Sea Lease Sale was in 1995 in
7 Anchorage, referring to a code that we had passed,
8 which is the Offenses Against the Peace and Security
9 of the Inupiat of Point Hope, which is international
10 code. And that stalled and had stopped it for a
11 while. And then here you are again, back.

12 You do a five-year lease period and then you do
13 another five-year lease period. The oil companies
14 don't want to provide the monitoring data until the
15 next lease period. We've gone through two lease
16 periods over a ten-year period in a very short time.
17 The 2002 to 2007, and the 2007 to 2012, two lease
18 periods, bang, one right after another.

19 And we haven't received that data yet. There is
20 no communication between the oil companies. We have
21 not received any information in dealing with the
22 monitoring and the impacts. The monitoring
23 requirements said that you can only look at one side
24 of the book, not on the other. One oil company
25 wants to eliminate the monitoring all together,

1 wants to increase the decibel levels, wants to
2 eliminate the buffer zone because they say it costs
3 too much and it's a danger to their personnel to
4 fly.

5 And now they're going to use drones to do that.
6 Completely 180-degree turn from the Conflict
7 Avoidance Agreements that were signed that had these
8 mitigation measures, that company want to wipe them
9 out. And that's why we went to court. The judge
10 made a ruling today saying that it is moot, we'll
11 throw it out. By the time I make a decision here,
12 the seismic activities for this season will be over,
13 after my decision will be made, after they're done.

14 So what's the use? That is what has been
15 published today to the world. And it gives the
16 impression that we have lost our fight. We have
17 been in court for some time, several times since the
18 early 80s when we fought for the ocean, for title in
19 determining the boundary of Alaska. Had some lousy
20 attorneys. Lost those cases. Had cases that were
21 decided on and not published and not provided to,
22 from the Ninth Circuit court in San Francisco. And
23 then had our regional tribe doors closed as a result
24 of those expenses that were paid out of the pocket
25 of that tribe.

1 They closed the door. You misspent your money.
2 They didn't have any money to go to court. They had
3 to get it from somewhere. And now we're stuck with
4 a nonprofit law firm that does its own thing at its
5 own discretion and has not helped us in regards to
6 our concerns for endangered species. Specifically,
7 the right whale has not been included. It's an
8 endangered species. The Internet says that they
9 only go as far as Nome. They go all the way up
10 here.

11 The same things goes for the killer whale. We
12 don't eat them, but we respect them. There are
13 tribes in Alaska that really respect the killer
14 whale. They travel from Southeast Alaska, go all
15 the way up here and turn around and go back. But on
16 the Internet they say there isn't any. And we are
17 not credible. What we see with our eyes is not the
18 same was on paper and we can't prove that unless we
19 have photography. But that is something that we are
20 trying to tell you. There are only 550 killer
21 whales. If that isn't an endangered species, I
22 don't know what is.

23 You know, that -- these -- there's a discussion
24 about federal law, the Endangered Species Act, the
25 habitat, but the information is being controlled.

1 And we are unable to prove what is -- what is the
2 truth. And it might be too late for us to get it.

3 I am just hoping, as a government-to-government
4 relationship, that there will be people that will
5 blow the whistle, that there will be people that
6 will pass on the message and correct some of these
7 inadequacies and the lack of this
8 government-to-government thing. Because the tribe
9 is considerably handicapped because there's this
10 agreement and arrangement between the Minerals
11 Management Service and a nongoverning organization
12 that does not perform governmental functions and has
13 a semi-authorization to do that, but has veered away
14 from it's mission in protecting the whale.

15 MR. COWLES: Sir --

16 MR. SCHAEFER: This a comment I'm making. The
17 comment period was open by this -- the previous
18 person.

19 MR. COWLES: Might I suggest we take a break and
20 you could resume? I think the other thing I'm a
21 little concerned about is I'd like to make sure the
22 elders and parents who might need to go home would
23 have a chance --

24 MR. SCHAEFER: I'm almost done.

25 MR. COWLES: Okay. Thank you.

1 MR. SCHAEFER: I am almost done.

2 And by interrupting, you had disrupted my
3 thought. I might have to start over. Have you ever
4 thought of that.

5 This government-to-government relationship has
6 to stay within the tribe and the federal government.
7 We have a constitution. We have a
8 government-to-government relationship. We have not
9 benefited whatsoever. There has been an arrangement
10 in Canada where they will receive 85 percent of the
11 royalties from oil and gas development from the same
12 companies. And what do we have? Nothing. We are
13 highly unemployed. We survive on the animals. If
14 we lose the animals, we are gone, we are wiped out.
15 And the views of outsiders and others, it may be
16 considered classified as an ethnic cleansing. As
17 was stated by our whaling captain, we are the
18 oldest, continually occupied people in North America
19 here. By having information that's not Freedom of
20 Information Act obtainable has been a very big blow
21 to our tribe and our community to prove that there
22 are impacts.

23 There is no contingency plan. There is no
24 cleanup plan. There is no way to clean up an oil
25 spill up here. There is no infrastructure for

1 transportation of that, aside from tankers. And how
2 is that going to be done? And how is the
3 maintenance going to be done with that?

4 We have been opposing oil and gas development
5 for a very long time because there has been no
6 answers in dealing with how you clean up a mess and
7 the long-term affects of oil and gas pollution from
8 an accident or disaster.

9 And hopefully, with the extension of time, we
10 will be able to gather some of that information so
11 that we could prove that there are impacts. They're
12 saying there's no impacts from seismic activities.
13 There is some information in relation to that, it's
14 hard to have access to it.

15 The International Whaling Commission had
16 indicated they are concerned about seismic
17 activities, but didn't go beyond that point, saying
18 that they need further study. The oil and gas
19 activities offshore is far too soon. There are
20 other massive oil and gas deposits in Canada and the
21 Lower 48 that can continue to hold us aside from
22 those other countries.

23 We are the Last Frontier. We are the sanctuary
24 for animals and fish up here. There's very little
25 traffic up here. You can't imagine how relieved

1 those killer whales feel when they come up here with
2 all the openness and peacefulness. You know,
3 one-third of our fisheries is from up here and
4 passes through here, and that's not ever talked
5 about. The only people that had recognized that was
6 the U.S. Department of Defense in dealing with their
7 cleanup of the DEW Line sites. That's what forced
8 them to clean up the DEW Line sites, was because of
9 the impact on fisheries because of the PCBs that
10 were leaching into the ocean from those DEW Line
11 sites.

12 I strongly urge that you extend time. I
13 strongly urge that there is bonafide
14 government-to-government relationship with the
15 tribe, not with a nongoverning organization. A
16 nongoverning organization is not a tribe, it's not a
17 government.

18 MS. KINNEEVEAUK: And not only that, there's
19 communication issues. My name is Emma Kinneveauk,
20 for the record. I'm the EPA manager.

21 Like Jack had mentioned, there's communication
22 issues. And it's bad. I tried calling up north
23 about the EIS I received on October 23, and I
24 received a e-mail later on that afternoon about
25 these meetings they're having down in Anchorage.

1 And the lady I talked to at EAWC (phonetic) she got
2 upset with my questions. I told her we have a right
3 to know. We're being impacted directly. And she
4 just asked me, what does EPA Department have to say
5 about all this? I said we want to know. And she
6 hung up on me. That, to me, is uncalled for. And
7 if we can't communicate, we're not going to find out
8 what's important for us to hear to give you an
9 effective comments.

10 I want to know, and I want to see that Conflict
11 Avoidance Agreement made with the industry and AEWC.
12 I have a right to know. I'm being impacted
13 directly. My way of life -- everybody's way of life
14 around here, we all live off the land, we all live
15 off the ocean. We live -- we catch whales, you
16 know, ugruk, everything from the ocean.

17 And that was -- that was such a big
18 miscommunication. And that's uncalled for. And I'm
19 not going to work with anybody that has that feeling
20 against us. We are the tribe, like he said. You
21 guys need to have a government-to-government. We're
22 a federally recognized tribe.

23 And I appreciate you guys coming out here to get
24 comments and everything, but I agree with most of
25 the comments that were made. A lot's happened way

1 too fast.

2 And we just found out about what happened on the
3 other side of Cape Lisburne, or whatever. We didn't
4 even know about those seismic testing. I've never
5 heard of that and I've lived here most of my life.

6 MR. COWLES: Thank you very much. I appreciate
7 all of these comments that are being made for the
8 record. And I think we would like to take a break
9 so that the people can go to the bathroom, have some
10 coffee. And then we will resume in ten minutes.
11 Thank you.

12 (Thereupon, a brief recess was taken, after
13 which the following proceedings were had:)

14 MR. COWLES: Thank you once again for coming.
15 I'd like to resume the matters about the Outer
16 Continental Shelf Oil and Gas Program, proposed
17 program, Sale 193. Because it is getting late and I
18 know there are some people who have not had a chance
19 to speak who would like to and I want everybody to
20 have an opportunity and feel welcome to speak. I'd
21 like to ask you to, perhaps, try to limit your
22 testimony to maybe five minutes so that everybody
23 gets a chance. And then when we seem to have gone
24 through all those who would like to present, then
25 for those who would like to add a few things

1 compared to what they may have said previously, we
2 can certainly provide that opportunity.

3 The other thing at this time, because we do have
4 three things on the subject matter, the five-year
5 program, the DEIS of the five-year program and Sale
6 193, if you would be so kind as to mention not only
7 your name, but what you are presenting a testimony
8 on, that would be helpful to us. Otherwise we will
9 take your comment and consider it in relation to all
10 of the items we have brought to your attention
11 tonight.

12 So if there is anybody else who would like to
13 make testimony relative to these matters --

14 MR. SCHAEFER: Can I finish what I was saying
15 before we went on break? This is Jack Schaefer, for
16 the record, Vice President of the Native Village in
17 Point Hope.

18 In regards to the seismic activities that were
19 done during the ten-year period ending 1989, the
20 tribe was inactive, the State of Alaska and
21 congressmen and the senators had indicated that
22 there were no tribes in Alaska, the Native Village
23 of Point Hope was in limbo. They had not funding,
24 they had no contract with the BRA (phonetic). They
25 were inactive tribal government until NOAA said to

1 the AFN, we recognize federal tribes in Alaska.

2 Then we were able to get a contract and to have
3 a government-to-government relationship revised,
4 before then. After Alaska Native Claims Settlement
5 Act was passed, the regional corporation's nonprofit
6 took over the tribal actions as the nonprofit to
7 Alaska Native Claims Settlement Act. The tribes had
8 to fight for their recognition and to be recognized
9 by the federal government to perform services for
10 its people. And it took that long for that to
11 occur.

12 In the meantime, these things had occurred and
13 so the tribe was left out and were unable to make
14 comments. And this is before the executive orders
15 that were issued on the government-to-government
16 relationships that were issued by Clinton. I can't
17 remember the other one, Carter? No? There was a
18 few executive orders. We had a long, long struggle
19 to regain recognition because of our responsibility
20 to our people and to have this
21 government-to-government relationship that exists
22 and still exists today.

23 The United States has a responsibility to help
24 our people in Alaska for self-governments for the
25 United Nations Charter in 1946 and '48 under the

1 Contract of Free Association under the United
2 Nations on pacific policy. Alaska and Hawaii were
3 included in that. United States was responsible for
4 the indigenous peoples to become their own nation.
5 Instead they had military come up here and vote to
6 become a state and circumvented that process,
7 although that responsibility still exists today.

8 And so that was one of the reasons why we would
9 fought so hard to revive ourselves because of our
10 fears. In the meantime, the Inupiat community went
11 to court and had their doors shut because they had
12 no money to pay for their legal costs. And we are
13 in that boat right now. We're using a nonprofit law
14 firm, because we have no money. And it's a hard
15 struggle to try to protect our renewable resources
16 as a government.

17 And we don't have the resources to apply for
18 grants to do the biology studies and stuff like
19 that. We're still kind of young. And -- and -- and
20 being eligible and we've been circumvented and
21 precluded from applying for those, because the
22 municipalities, nonprofits and other entities have
23 been eligible for them.

24 The National Science Foundation only provides
25 grants to institutions and you municipalities.

1 Tribes are not eligible for National Science
2 Foundation funding. And so we have been prevented
3 from being able to participate and to train our
4 people to do this, to make it easier for you to make
5 clear decisions.

6 Instead there are those that have been delegated
7 to do this in our place. And we have given full
8 faith and credit to them. So we credit the North
9 Slope Borough for not providing that information and
10 withholding it. We don't know if they are
11 accountable for their work, you know.

12 There's so much information that's gathered.
13 This is a large area that we're covering, from
14 Canada all the way to Point Hope, Chukchi Sea and
15 the five-year plan. The animals go from here all
16 the way to Canada and back. We all eat the same
17 food. And so it's hard for us to provide you with
18 this adequate information because of those things
19 that have prevented it and the barriers that have
20 been created, and that we're just now starting to
21 overcome.

22 And to hear that we don't have representation
23 and that the Minerals Management Service only has
24 this arrangement with the nonprofit, nongoverning
25 organization, which is kind of strange. And that's

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1 a question that I have; is that true?

2 MR. COWLES: Sir, I don't know the answer to
3 that question exactly. I do know that the
4 Department of the Interior, particularly the
5 agencies in Anchorage, are trying to work together
6 to better address some of the matters and types of
7 things that you're talking about, in terms of how
8 our department can provide capacities to other
9 organizations to respond to the many requests we
10 make for information. And those sorts of
11 discussions within the Department of the Interior
12 agencies are underway. And I don't know much more
13 than that. But I think you will be hearing more
14 from the Department along those lines at some time.

15 Are there any other comments? Yes, sir?

16 MR. E. KINGIT: Earl Kingit, for the record.
17 I'd be requesting for a 45-day extension for the
18 comment period. The main reason I'm calling for 45
19 day comment period is because that October 23, 24
20 meeting you had with AWC and the North Slope Borough
21 Wildlife Department without the tribe, without the
22 main people that will be impacted. It is sad that
23 MMS is planning an organization that almost heard a
24 few years back.

25 When IWC says we are not going to hunt bowhead

1 whales anymore, who is the people that were
2 representing us? Alaska small whaling commission.
3 I have seen my people sad when they announce that we
4 might -- won't be able to hunt whales. I could see
5 my people sad when the oil companies can do the
6 seismic operation and do some exploration and the
7 ocean (inaudible) the bowhead whales.

8 It is sad to hear that the oil companies are
9 giving money to Alaska Eskimo Whaling Commission and
10 Point Hope Whale Association. For what? Are they
11 going to be bought out, or what? We are not aware
12 of what's going on at the community with the AWC,
13 like our EPA director said.

14 And when you shut down our vice president during
15 his comments, is very rude. Put that on record.
16 The Secretary of Interior ought to take a good
17 thought about that, the time you had stopped our
18 vice president of our tribe during his comment
19 period.

20 But I request on behalf of the bowhead whale,
21 the walrus, the belugas, the shrimps, the crabs and
22 all these species I named, the (inaudible). We have
23 our man here from the wildlife. He knows all the
24 activities that's going on in the wildlife or the
25 ocean. On behalf of those animals and behalf of the

1 20,000-year-old community, I request for a 45
2 recommendation -- extension. Thank you.

3 MR. COWLES: Thank you.

4 MS. FRANKSON HENRY: For the record, my name is
5 Aggie Frankson Henry, and I am a tribal member of
6 the Native Village of Point Hope. And I am a direct
7 descendant of my people. I've lived here all of my
8 life. I am a United States citizen. I am Inupiat
9 mother, a daughter, a sister, a friend. I'm a
10 hunter. I'm whaler. I'm a sewer. I'm a provider.
11 I would like to see this passed onto my -- my future
12 generation. I would like to see my grandchildren go
13 out whaling. I would like to see my children go out
14 hunting and gathering food for their families.

15 Like it says: In God we trust. That's what I
16 put my trust in, in God. Because he provides for me
17 from the ocean, from the land and from the sea. And
18 with the Minerals Management Service, the Chukchi
19 Sea Planning Area Oil and Gas Lease Sale 193 and
20 seismic surveying activities in the Chukchi Sea, to
21 the Secretary of Interior, I oppose this matter,
22 because it will affect us spiritually, mentally and
23 physically.

24 A lot of our elders and our community members
25 are hurting from cancer. Up today I wonder why

1 it's -- it's been in our community. We were
2 affected from the atomic bomb that was going to be
3 placed at Project Chariot. With our voice, we
4 stopped that activity. And with our voice today, I
5 oppose this project -- I mean gas -- oil and gas
6 Lease Sale 193.

7 I take pride in what I do as an Inupiat. My
8 Inupiaq name is (in Inupiaq). And these names were
9 given to me by my parents. I respect my culture. I
10 respect my elders. I respect my community. And God
11 has provided for us, the nutrition we need to
12 nourish our body, which is from the animals we use
13 as harvest to feed our community.

14 We not only feed our community, we feed our
15 neighbors. We have two clans, (given in Inupiaq).
16 Those are the only two clans I know of that exist
17 here in the North Slope Borough.

18 I respect our government. I represent our
19 people. We are a voice for today. And I pray that
20 the Secretary of Interior will hear our voice to
21 keep our heritage alive, to keep our culture alive
22 for subsistence, that will be a very big impact from
23 what I am hearing with -- with our landscape.

24 We live here in Alaska. Alaska is a very cold
25 place. We have permafrost. We are a rich culture.

1 And I hope that Minerals Management Services will
2 hear us today. And I hope that the Secretary of
3 Interior will come back again, like he did a few
4 years ago and was here for us. Not very many
5 Secretaries of Interiors come to Point Hope, but he
6 did before. And I thank him, that he will hear us
7 today as a voice.

8 Our Mayor, George Ahmaogak, is here with us
9 today, and I thank him for coming in to Point Hope.
10 He knows what impact it has for us. And we do need
11 to hear from you regarding these testimonies.
12 We oppose offshore drilling along the Chukchi Sea,
13 because as a child and as an adult, I've always
14 respected the ocean. I tell my children, never to
15 put their feet in the ocean, because that is where
16 our -- or throw any trash in the ocean, or anything,
17 to harm our ocean, to respect the animals, respect
18 our nature. And I hope my children and their
19 children will continue to live this lifestyle that
20 we've inherited as Inupiat. Thank you.

21 MR. COWLES: Thank you.

22 MR. SCHAEFER: I have a comment. My name is
23 Jack Schaefer, Vice President of Native Village of
24 Point Hope.

25 Apparently our understanding is that the

1 Conflict Avoidance Agreements are seasonal. With
2 that, we request that the next agreements be with
3 tribes. The existing agreements, seasonal
4 agreements, the explanation we were given was that
5 they wanted one agreement between the Alaska Eskimo
6 Whaling Commission and the oil companies and the
7 government. One agreement, for convenient purposes
8 so that they won't have to deal with five agreements
9 with each whaling community, each whaling
10 federally-recognized tribe to have one agreement.
11 And that was -- we were told that's why it was done
12 that way, one agreement.

13 Later on we found out that there are five
14 agreements for those very same communities, which
15 goes against the reasoning and the response in the
16 one agreement arrangement that we were told in the
17 last meeting that we had with ConocoPhillips and
18 Shell. There was no federal representation at that
19 time, but that was what we were told.

20 Later on we found out there were five
21 agreements. That goes against the one agreement
22 that was specified. So I request the next series of
23 agreements be done with federally-recognized tribes
24 and this not only deals with whales, it deals with
25 marine mammals and fish, our renewable resources.

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1 We can't afford to have irreparable damages.

2 And we can see that there will be irreparable
3 damages if there is an accident. So that is a
4 formal request. Because there is no accountability,
5 no reporting, as stated by our EPA officer.
6 Nothing.

7 We are a government. We don't have to -- we
8 don't have to go to a nongoverning organization and
9 to beg for information. They are supposed to honor
10 us and respect and respond to our requests. They
11 have not done that. And it's very hard to conceive
12 that this arrangement is done under the auspices of
13 the bowhead whale and taking that as the sole source
14 of food for us when there are all these other
15 animals that we depend on. It's illusionary. And
16 it shouldn't be that way.

17 There's a government-to-government
18 responsibility, not a government to a nongovernment
19 organization. Thank you.

20 MR. COWLES: Thank you.

21 MR. ATTUNGANE: (Speaking in Inupiaq).

22 MS. ROCK: His name is Ely Attungane. He
23 mentioned that he lived here in Point Hope all his
24 life and he's Eskimo and Inupiat, and we were like
25 flowers.

1 UNIDENTIFIED SPEAKER: Could you have her talk a
2 little bit louder, we're recording it. Could you
3 read it a little bit louder? We can understand him
4 but we need to hear --

5 MS. ROCK: They're recording it.

6 UNIDENTIFIED SPEAKER: She's recording it.
7 I can't understand you.

8 MS. ROCK: Okay.

9 Ely Attungane just mentioned that he lived here
10 in Point Hope all his life. And then that he's
11 Eskimo, like all the rest of us and we are like
12 flowers. And then like flowers we don't like to be
13 hurt. And our land, we have to keep our land clean.
14 And our animals are like having roads, that if --
15 we're like a flower. And then you -- we take care
16 of them, as we do like our land, our ocean.

17 And then here in Point Hope, that's how we
18 should be, that we should have no way to hurt our
19 land or the water. Because the sea is where all the
20 animals come. And that we have to take care of
21 them. And we don't want it to spoil or anything.

22 I hope I got it all right. That's what he
23 mentioned about being like flowers. That's how we
24 should treat our land and our people and our
25 animals.

1 MR. COWLES: Thank you.

2 MS. ROCK: That's Ely Attungane's testimony.

3 MR. COWLES: Yes, ma'am?

4 MS. SAGE: Daisy Sage, for the record.

5 I just -- this is all new to me, but I just
6 wanted to put in my two cents. I -- I really oppose
7 this oil drilling here. I hunt whales with my
8 sister's family. And I just wanted to let you all
9 know that I oppose to it, too.

10 And, you know, everybody asking for an
11 extension. I really would recommend that -- that
12 you put an extension, because it's -- it's just too
13 close. I mean, we need -- we need more time.
14 That's all I wanted to say. Thank you.

15 MR. OOMITTUK: For the record, Steve Oomittuk.
16 I would like to oppose the Lease Sale of 193. Like
17 everybody said, you know, we -- we lived here all
18 our lives, you know. We hunt the whale, everything
19 in the ocean, you know. That's the migrating route
20 of all the animals. You take those animals away
21 from us, that's our identity. That's who we are.

22 You know, without those animals, you know, what
23 are we going to do, you know? From the fish, to the
24 whale to the seal, walrus, beluga, everything that
25 goes through that current that's right out there,

1 right in the area.

2 The animals are our identity. It makes us who
3 we are. That's what we've always been all our
4 lives. If that goes away, we go away. You know,
5 we're nothing without the animals. It's what keeps
6 us going and it's what keeps us alive. Our dances,
7 our songs, our tradition's are all around the
8 animals.

9 Like they said, we are the oldest continuing
10 inhabitants in North America. We are an endangered
11 species also, along with the animals. The animals
12 go, we go with them. We don't -- we want to see our
13 kids -- our grandkids, their grandkids do the same
14 things we're doing.

15 We still hunt the whale. We still do all our
16 ceremonial songs and dances. We celebrate the born
17 of the ice. We do all these traditions. We are
18 Tikigaqmut people. We are still peak of the land,
19 sea and sky. We don't want to lose that.

20 We oppose the Lease Sale 193. We don't want
21 nothing to happen, you know. There's, like they
22 say, there's other places to look for oil or gas on
23 land, you know. We don't want to disturb that area.

24 MR. COWLES: Thank you.

25 MR. BRYANT: My name is Tony Bryant. I have a

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1 question. If 100 percent of the people in this room
2 were to say, yes, go ahead with this plan, what
3 would the outcome be? The plan would be going
4 ahead, or would there be a power-that-be up there in
5 DC, or somewhere saying, no, there's no plan?

6 We're all saying here as, from what I see, that
7 we all oppose it. And will the plan go forward with
8 or without our approval? Is this a seeking approval
9 here, or what -- what's -- that's a big question I
10 have. And it's a question we've been dancing with
11 all night, but can we get to that point right there?

12 MR. COWLES: I think the way I would answer your
13 question is that when we talked about these
14 processes of bringing all the information from many
15 different sources together, that will be taken into
16 consideration. And the Secretary of the Interior
17 makes these decisions in these cases. So I cannot
18 speculate on what the secretary would do.

19 MR. BRYANT: So our words aren't blow into the
20 wind, then?

21 MR. COWLES: No. They are not. We very much
22 appreciate your testimony and your words.

23 MS. KINNEEVEAUK: Emma Kinneeveauk, for the
24 record. You guys mentioned having meetings for
25 these -- Dorcas mentioned 2001, 2005, 2002,

1 whatever. This is a very small percentage of our
2 village, very small, not even close to ten percent
3 of everybody in town. You need to publicize your
4 meetings better. You're not getting a very good
5 outcome here.

6 I did not see not even one public notice about
7 your guys' meeting here. The reason why you have
8 such a small group here, it's not publicized well.
9 And I have worked, I've worked with public -- public
10 events where we had numerous outcomes, because it
11 was well publicized, you got the mail system, you've
12 got all the public areas to post up a sign. Use
13 them. Let people know so they could come in and
14 bring their other comments.

15 We're not the only people that oppose this. You
16 ask just about every household, they oppose it as
17 well, because our way of life is too important to us
18 before we think of money. At least that's how I
19 feel. There's no price you could pay for seeing my
20 grandparents catch and harvest how many whales. I
21 would never ask for no dollar amount to trade that
22 in. So you need to publicize your meetings better.

23 If you want to hear, if you want to hear the
24 true comments from the community, you've got to
25 include everybody. This is a small percentage. I'm

1 even stunned we have less than ten percent here and
2 I am even more stunned I didn't see not one public
3 notice.

4 MR. COWLES: There are some. But thank you for
5 that suggestion.

6 MS. ROCK: Excuse me. I do have a question.
7 I'd like to ask you who you contact before you go to
8 the meetings? I mean, like, if you're going to go
9 to Point Hope, who is your contact person? Who are
10 the ones that you ask? Those are the people that
11 should be posting up the meetings. Who did you -- I
12 want to know who?

13 MR. COWLES: Mr. Barros could probably address
14 that question.

15 MS. ROCK: Pardon?

16 MR. COWLES: Al Barros, our community liaison.

17 MS. ROCK: No. Who do you contact in Point Hope
18 about having the meeting?

19 MR. COWLES: He knows.

20 MR. BARROS: Yeah, I worked with the secretaries
21 here to get the information out, to send out flyers.
22 They couldn't open the flyer, I found out today.
23 They changed programs. They couldn't get it open.
24 I sent flyers out to -- to the Native Village and
25 then also, we send it to the AWC, and there are

1 announcements in the Sounder for two weeks in a row
2 about the meetings. And then we asked for them to
3 be broadcast on the CB today, or the VHS.

4 MS. ROCK: So you got ahold of the City of Point
5 Hope, the IRA.

6 The person to contact at IRA is the executive
7 director --

8 MS. KINNEEVEAUK: I know. I asked them.

9 They said city was going to --

10 MS. ROCK: -- they're supposed to post the
11 meeting, not just them. That's how I feel about it.
12 If it's like that, then City should have posted it
13 and notified everybody, the Native Village of Point
14 Hope executive director --

15 MS. KINNEEVEAUK: If they asked us to, we would
16 have.

17 MS. ROCK: Should have put up notices, then you
18 would have known.

19 I am just saying that because that's how strong
20 I feel about this, too. Dorcas Rock, for the
21 record.

22 I'm opposed to this lease and so forth because
23 of our hunting tradition. I'm a whaling captain's
24 wife. And we are either berry picking or we're out
25 hunting or my children, my grandchildren, everybody,

1 practically everybody I know here have been out
2 hunting, all the women. I see lot of women go down,
3 they go fishing, everything. And I am opposed to
4 that.

5 And I know that you have posted signs or
6 informed them about the meetings. So I'm not going
7 to blame you guys for, you know, not letting us
8 know, because I remember that -- that we had
9 mentioned that, I think, back in 2001, 2002, get a
10 hold of the Native Village of Point Hope, get a hold
11 of the, you know, the City of -- the mayor.

12 So I know that it's not somebody's fault that's
13 doing that, and I know you guys posted it. And then
14 if it does, then whoever is in charge of that should
15 have informed them on the radio and so forth about
16 that. And that's how it should be. Like the
17 Secretary of the Interior, he's powerful, well we're
18 powerful too, because we're Inupiat and we have our
19 voice heard.

20 I'm not trying to put anybody down. I am just
21 saying that. And I really appreciate you guys
22 coming here. And I hope a lot of you make the
23 comments that you should do. Because it's the
24 Secretary of the Interior that's -- that does sale
25 lease, not them. They're only here working. They

1 are only trying to help us. Thank you.

2 MS. KINNEEVEAUK: And if you guys notify us,
3 we're willing to help. It's just, you know, I
4 thought you guys had it covered. That's all I'm
5 saying from my end of the deal. We thought you guys
6 had that covered.

7 MR. COWLES: Thank you. Thank you.

8 It's 9:30, would you like to take another break?
9 Are there any other comments?

10 MS. KINNEEVEAUK: With all these requests for
11 extensions, are you guys going to come back?

12 MR. COWLES: We will consider that request.

13 MS. KINNEEVEAUK: Because that's -- that's,
14 again, we've heard it time and time again -- my name
15 is Emma Kinneeveauk, for the record. We've heard it
16 all evening, this is really -- we need -- we need
17 more time. And I got your guys' EIS, like a
18 mentioned earlier, on October 23rd, the same day I
19 found out about the meetings down in Anchorage. And
20 the same day I tried to call AWC for the Conflict
21 Avoidance Agreement, and that was too short of a
22 notice.

23 And by then I was just starting to familiarize
24 myself with the other EIS, the wrong one you sent
25 before.

1 MR. COWLES: We will -- we will consider that.
2 You are not the only individual that it took a while
3 to get to. So thank you for bringing that to our
4 attention.

5 MS. KINNEEVEAUK: You're welcome.

6 MR. COWLES: Well, if there are no other
7 comments --

8 Yes, ma'am?

9 MS. MILLER: My name is Pam Miller. I'm from
10 Fairbanks from the Northern Alaska Environmental
11 Center. I'm here to listen to the comments. And
12 there wasn't a hearing in Fairbanks. And since I
13 couldn't get to Anchorage, I came to the closest
14 community. And I'm pleased to be here.

15 This is the first meeting about the five-year
16 plan in this community. I believe the earlier
17 hearing was on the Chukchi Sea sale. It's all
18 complicated. The procedural steps in this are very
19 confusing. And I think the maps, especially about
20 what area you are planning to lease in the Chukchi
21 Sea is very confusing.

22 And I wish to request that the Chukchi Sea area
23 be excluded from the upcoming five-year plan. In
24 looking at the environmental impact statement for
25 the five-year plan, there's very little information

1 on the impact of climate change, both nationally as
2 part of our policy, as well as in the Alaska section
3 in Lease Sale 193 EIS, there's very little
4 information about climate change, the combination of
5 affects to the wildlife, to the communities along
6 the coast, to the changes in the environment and how
7 oil and gas development impacts would add to the
8 impacts that are already going on because of climate
9 change.

10 And to open up a huge new frontier area, to
11 creates a new source of greenhouse gas omissions
12 doesn't make sense in terms of our national energy
13 policy. I think we, in terms of the national energy
14 policy, can get far more oil -- or far more energy,
15 cleaner, quicker more safely through energy
16 efficiency, a few miles per gallon in our cars and
17 through renewable energy.

18 And it used to be that the MMS would say: We
19 can't consider renewable energy, this is only about
20 oil. But Congress gave MMS the responsibility for
21 renewable energy in the offshore. And there's not
22 one word in either of these documents about the
23 potential for renewable energy offshore.

24 Probably MMS will say: Well, our regulations
25 for that aren't done yet. Well, I say wait. Let's

1 wait and see until those regulations are done, and
2 we can look at all our national energy policy,
3 renewables and oil and gas at the same time.

4 There's no need, other than to meet the needs of
5 an oil company or two, for this lease sale to go
6 forward in this five-year plan. The MMS is relying
7 on wildlife data that's quite old, for the most
8 part. Back in the early -- late 1970s there was a
9 whole lot of studies and a whole ocean that were --
10 that looked at wildlife and the environment
11 together. None of that's being done out in the
12 Chukchi Sea recently.

13 And this is a huge program, it's complicated.
14 And people deserve to understand more about the
15 risks to the wildlife that they depend on from
16 climate change alone. And the document indicates:
17 Well, we don't have the capability of assessing the
18 combination. Well, then why add to the risk to the
19 wildlife?

20 I'll speak just a couple more minutes on the
21 whole five-year plan, because there's a protected
22 ocean in Alaska today, it's Bristol Bay. After the
23 Exxon Valdez oil spill, the governor came out, the
24 people came out and said: Why are we risking our
25 nation's biggest fisheries with the oil lease sale?

1 And the leases were sold, but they bought them back.
2 The federal government, the American people bought
3 those leases back, said we want to protect this
4 area.

5 President George Herbert Walker Bush made it a
6 protected area, moratoria area, by executive order.
7 Our current president extended that order until
8 2012. But they're saying we're going to study it
9 anyway and maybe the president will lift that order
10 because of our Governor Murkowski, who got 18
11 percent of the vote in the primary. I don't think
12 his recommendation to lease Bristol Bay is credible.

13 And I think we're pushing too far too fast in
14 Alaska. The risks of the combination of the
15 cumulative effect of leasing the whole, almost the
16 whole NPR-A already, how does that interact with the
17 ocean? The barges that are coming through there,
18 the increased shipping?

19 And I just want to make those comments now. And
20 I'll be taking a harder look and presenting some
21 comments in writing. But thank you for this
22 opportunity to comment.

23 MR. COWLES: Thank you.

24 MS. ROCK: So you're saying this is the first
25 sale lease of the Chukchi Sea?

002-011

1 MS. MILLER: It's the first lease sale in over
2 ten years. There were leases that were done right
3 before Exxon Valdez, I think it was about 1988.

4 MS. ROCK: It says right here: Two sales have
5 been held in the Chukchi Sea planning area.

6 MS. MILLER: Right. And then they had another
7 one in the early 1990s. And, but there hasn't been
8 one since then. And there wasn't industry
9 interests --

10 MS. ROCK: And that's what you've been fighting
11 all this time, Pam. You've been fighting it.

12 MS. MILLER: Right. And it's been successful.
13 And some of the interior secretaries have listened
14 to communities and to the recommendation of the
15 governor and sales have been dropped.

16 MR. COWLES: Thank you for your comments. Are
17 there any others?

18 Yes, sir.

19 MR. KOONOOK: For the record, my name is Henry
20 Koonook. I'm a hunter, I'm a whaler. And I also
21 strongly oppose the sale of 193 Chukchi Sea. I feel
22 that if the oil companies start coming in, start
23 setting up oil rigs out in the ocean, on the land,
24 on the beach, wherever they may be, it's going to
25 have a deepest effect on the migration routes of the

1 animals that we hunt.

2 We depend on the whale. We depend on the
3 beluga, we depend on the walrus, the ugruks and the
4 seals. In order to get the beluga whale, the
5 bowhead whale, there's a long process of work that's
6 involved, starts out with the seal hunt that we can
7 have rope, fuel for the stoves, skin for clothing,
8 mukluks, the ulu which, provides the (inaudible) the
9 skins that come in the fats and also food. This is
10 a lot of hard work for us but we live and love doing
11 it today. We've done it for thousands of years. I
12 would like to see my nephews continue this work, our
13 lifestyle. I would like to see my nephew's children
14 continue this lifestyle. I strongly oppose this.
15 Thank you.

16 MR. COWLES: Thank you, sir.

17 Well, if there are no other comments, we could
18 consider the meeting -- yes, sir?

19 MR. HENRY, JR.: My name is Jack Henry. And I
20 oppose oil and gas lease Sale 193, because I will be
21 a hunter. Thank you.

22 MR. COWLES: Thank you.

23 MS. KINNEEVEAUK: Emma Kinneeveauk, for the
24 record. I am very grateful you guys are here to
25 hear our comments. Don't get me wrong, I feel

1 strongly about our way of life, but I appreciate you
2 guys taking the time to come in and gather our
3 comments on how we feel about certain issues. And
4 clearly we all oppose. And I hope that you guys
5 plan on coming back again.

6 MR. COWLES: Thank you. We have been very
7 pleased to come and have felt privileged to spend
8 this time with you.

9 MS. KINNEEVEAUK: Thank you.

10 MR. COWLES: Thank you. If there are no other
11 comments, then I would recommend we call it a night
12 and adjourn the meeting. Thank you.

13 (Whereupon, the public hearing was
14 concluded.)

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REPORTER'S CERTIFICATE

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I, Britney E. Chonka, Court Reporter, hereby
certify:

That I am a Court Reporter for Alaska Stenotype
Reporters and Notary Public in and for the State of
Alaska at large. I certify Hereby that the forgoing
transcript is a true and correct transcript of said
proceedings taken before me at the time and place stated
in the caption therein.

I further certify that I am not of counsel to
either of the parties hereto or otherwise interested in
said cause.

In witness whereof, I hereunto set my hand and
affix my official seal this 12th day of December, 2006.

BRITNEY E. CHONKA, REPORTER

Notary Public - State of Alaska

MMS Responses to Point Hope Comments

Point Hope 002-001

The MMS has and will accept comments outside of the official 60-day comment period for the Sale 193 EIS. However, comments received outside the official 60-day comment period may not receive responses or be addressed in the final EIS due to the tight lease-sale schedule. Late comments will be considered by MMS and USDOJ decisionmakers. An official extension of the comment period for Lease Sale 193 has not been granted.

Point Hope 002-002

The MMS acknowledges that such health information on *Exxon Valdez* oil-spill-cleanup workers might be a valuable asset to human health research in Alaska, but we are unaware of any reports of elevated cancer rates for *Exxon Valdez* oil-spill workers or any research on this topic ever having been performed.

Point Hope 002-003

For environmental analysis purposes under the National Environmental Policy Act, there is a distinct difference between risk of an impact occurring and the consequences of that impact. The MMS acknowledges that serious and potentially significant consequences could result from an oil spill. That is why MMS takes managing the risk of spills—minimizing the chance that a spill would occur—very seriously. The MMS regulations, engineering review, inspections, and required mitigation are all intended to reduce the risk of a spill occurring and resulting in impacts. Required spill response and spill-response drills are intended to minimize the consequences if a spill were to occur.

See also response to comment **Point Hope 002-002**.

Point Hope 002-004

Before any offshore drilling is allowed, the company must provide and have approved an OSRP. The plan must provide means for cleaning up a worst-case discharge from a facility using both mechanical and nonmechanical methods. Mechanical methods involve using skimmers to physically pump the oil from the ocean's surface. Mechanical means are the preferred method of cleanup for open water and limited ice coverage. The other method used for cleaning up oil, especially in broken-ice coverage, is in situ burning (ISB). This involves corralling the oil into thick pools using either containment booms or the ice edge and lighting it on fire. ISB has the potential to remove upwards of 90% of the oil from the ocean surface and leaves a tarry mat that can be scooped up and disposed of at a proper waste facility.

In instances where spilled oil has been located but cannot be immediately accessed, buoys can be deployed and the oil can be tracked until recovery is possible. Methods like ground penetrating radar are proving very effective in locating oil under solid ice. Once the oil is located, the spill responders can drill holes through the ice and deploy skimmers to remove the oil or conduct an ISB. Ice in that instance helps in recovery, because it limits the oil's ability to spread and concentrates the oil into thick pools.

Point Hope 002-005

Staging areas for oil-spill-response equipment and response operations would be determined after a company decides where they propose to conduct their activities. As part of the OSRP, the company is required to conduct a trajectory analysis of where a hypothetical oil spill would go. From that analysis, the company would decide where they would need to stage their response equipment. In areas where there are especially sensitive environments or important areas, the company would most likely pre-stage equipment near that area so it can be rapidly deployed well in advance of the oil's arrival and limit impact. The MMS

coordinates closely with State and Federal wildlife agencies to ensure that proper attention is given to those areas.

Point Hope 002-006

The Secretary's stance on the status of the polar bear was made clear on Dec. 27, 2006, when he proposed that they be listed as "threatened" under the Endangered Species Act (ESA). The USDOJ, Fish and Wildlife Service (FWS) will spend the next year reviewing all the available evidence to determine whether the polar bear will indeed be listed and receive protection under the ESA. In the interim, MMS will continue to gather additional information on this issue and work closely with FWS to ensure that activities conducted under MMS auspices will not adversely impact polar bears.

Point Hope 002-007

The draft EIS was sent to the Native Village of Point Lay, PO Box 101, Point Lay, Alaska, 99759 and the Cully Corporation, General Delivery, Point Lay, Alaska, 99759. The draft EIS also was made available on the MMS webpage at <http://www.mms.gov/alaska>.

Point Hope 002-008

Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, requires Federal Agencies to consult with tribal governments on Federal matters that significantly or uniquely affect their communities. In January 2001, a USDOJ Alaska Regional Government-to-Government policy was signed by all the USDOJ Alaska Regional Directors, including MMS.

Since 1999, all MMS public meetings have been conducted under the auspices of Environmental Justice. The EJ-related concerns are taken back to MMS management and incorporated into environmental study planning and design, environmental impact evaluation, and development of mitigating measures.

The Inupiat People of the North Slope and the Northwest Arctic boroughs have made MMS aware of the potential burden of participating in too many planning and public meetings. Therefore, MMS has taken measures to more carefully plan the number and timing of meetings with regional tribal groups and local governments.

On September 14, 2005, MMS published a notice in the *Federal Register* requesting information for proposed Chukchi Sea Lease Sale 193 and providing a Notice of Intent to prepare an EIS for the proposed sale. The *Federal Register* notice stated that:

...the EIS analysis will focus on the potential environmental effects of the sale, exploration, development and production in the areas selected to be considered for leasing. This NOI also serves to announce the initiation of the scoping process for this EIS. Throughout the scoping process, Federal, State, Tribal, and local governments and other interested parties aid MMS in determining the significant issues, potential alternatives, mitigating measures and alternatives to be analyzed in the EIS and the possible need for additional information.... Scoping is intended to solicit input on the scope of the EIS—specifically the issues, alternatives, and mitigation measures....

Many of these issues were discussed in government-to-government consultation with the Inupiat Community of the Arctic Slope (ICAS) and tribal governments in Barrow, Wainwright, Point Lay, and Point Hope in a North Slope-wide teleconference on March 9, 2006, and the tribal governments of Barrow on February 2, 2006 and March 6, 2006; Wainwright on March 9, 2006; Point Lay on January 30, 2006; and Point Hope on January 23, 2006. Open public community meetings in Barrow with the North Slope Borough (with translation available where requested) were held on December 13, 2004, February 1, 2006, and March 6, 2006; with the North Slope Borough Planning and Wildlife Management Departments on February 2, 2006; in Wainwright on March 9, 2006; Point Lay on January 30, 2006; and Point Hope on

January 23, 2006. Outreach and information meetings with nongovernment organizations, including the Alaska Eskimo Whaling Commission (AEWC) occurred on December 13, 2004 and March 6, 2006; ICAS on February 2, 2006; the Alaska Beluga Whale Committee on December 6, 2005; and the Alaska Eskimo Walrus Commission on February 3, 2006. Each meeting included an overview of the activities planned in the area, information on the environmental review for each activity, and identified further opportunities for public participation in the EIS scoping and planning processes. Follow-up NEPA-related training was offered to the communities of Point Lay and Point Hope.

During public meetings and government-to-government meetings, MMS personnel discussed past lease sales, proposed Sales 202 and 193, and other OCS activities including the 5-year draft proposed program process and schedule, the Programmatic Environmental Assessment of potential seismic survey activity in the summer of 2006 in the Beaufort Sea and Chukchi seas, and the potential continuation of that activity in 2007. Inupiat translation was provided where needed. These presentations highlighted our desire to receive input on the resources, issues, alternatives, and mitigation measures to be included in the environmental analysis. We emphasized that the EIS is an information document that discloses the potential effects of the Proposed Action and alternatives, including potential mitigation measures to the decisionmakers, and that no decision regarding the Proposed Action had been made.

A summary list of concerns expressed at the government-to-government and Environmental Justice meetings is provided in Section III.B.6, Environmental Justice.

Point Hope 002-009

The MMS is aware of only two Conflict Avoidance Agreements (CAA's), one for Chukchi Sea activities and another for the Beaufort Sea, produced by interested parties for the 2006 open-water seismic-survey season. Because the AEWC, as the legal co-manager recognized by the National Marine Fisheries Service (NMFS), has traditionally negotiated CAA's for the Beaufort Sea whaling communities and their Whaling Captains Associations, NMFS and MMS assumed the AEWC would take a similar role in Chukchi Sea negotiations. This in no way implies that tribes cannot be part of the CAA process or participate in the annual open-water meetings where these agreements are normally formalized. The tribes need to coordinate with the AEWC and NMFS and request to participate in these meetings that normally occur in late April.

Additionally, MMS agrees that such agreements should be extended to include other co-managed resources such as beluga whales, seals, walrus, and polar bears. Stipulations 4 and 5 include language that acknowledges and encourages the involvement of the Alaska Beluga Whale Committee (ABWC), the newly recognized Ice Seal Committee (ISC), the Eskimo Walrus Commission (EWC), and the Nanuuq Commission (NC). Many of the co-management organizations are tribally-authorized Alaskan Native organizations.

Point Hope 002-010

The final decision whether to hold a lease sale is made by the Secretary of Interior.

Point Hope 002-011

Cumulative effects associated with the leasing of the National Petroleum Reserve-Alaska (NPR-A) and the interaction of NPR-A-related activities with the ocean environment is addressed and analyzed by significant resource throughout Section V of the EIS. An example can be found in Section V.C.10, Vegetation and Wetlands, which considers the onshore activities associated with offshore and onshore oil and gas production.

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5-YEAR OCS OIL AND GAS
PROPOSED LEASING PROGRAM
FOR 2007-2012
Barrow, Alaska

**Document
003**

NORTH SLOPE BOROUGH PUBLIC HEARING/MEETING
for the Draft Environmental Impact Statement
Taken November 16, 2006
Commencing at 7:00 p.m.
Volume I - Pages 1 - 127

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I-N-D-E-X

Minerals Management Service:

Cleveland Cowles, Regional Supervisor

James Bennett, Chief of Environmental Assessments

Albert Arros, Community Liaison

Michael Salyer, Wildlife Biologist, EIS Coordinator

Peter Johnson, Geophysicist, Resource Evaluation

Reported by Britney Chonka, CR

PUBLIC COMMENTS

Page 3

1 MR. COWLES: Well, good evening everyone, and
2 thank you for coming. My name is Cleve Cowles. And
3 I'm with the Minerals Management Service office in
4 Anchorage, the Department of the Interior Bureau,
5 your federal agency. And tonight we have a meeting.
6 On your handout on the title of the meeting, it's
7 about the new five-year OCS oil and gas proposed
8 leasing program, 2007, 2012. And the proposed Lease
9 Sale 193 in the Chukchi Sea.

10 Before we start the meeting, Lillian has been so
11 gracious as to offer to do a blessing. So, Lillian,
12 if you could lead us in a blessing tonight. Thank
13 you very much.

14 (Prayer was said in Inupiaq)

15 MR. COWLES: Thank you very much.

16 Again, as our purpose for our meeting is here on
17 the first panel, I would like to introduce to you
18 some people who are with us tonight to help on the,
19 explaining some of the material in the handout.

20 To my left here is Mr. Jim Bennett, he is from
21 the Minerals Management Service, Washington office.
22 He is the chief of the Branch of Environmental
23 Assessment.

24 Mr. Mike Salyer is with the Anchorage office
25 MMS. He works in the environmental section and is

1 the EIS coordinator for the Chukchi Sea lease sale.

2 Mr. Peter Johnson is with the resource
3 evaluation section office in Anchorage. His office
4 is involved with estimating the oil and gas
5 resources that may be available on the outer
6 continental shelf.

7 Mr. Al Barros in the back of the room is our
8 community liaison specialist. And I'm sure he would
9 want me to say that if you haven't signed in, please
10 do. There's handouts there. And we, again,
11 appreciate you coming.

12 We also have Britney Chonka, who is here to
13 serve as a transcriptionist to keep an accurate
14 record of the discussions and your testimony, your
15 comments, as we move forward.

16 Since we have several things to discuss, what we
17 thought -- and we certainly appreciate your
18 thoughts -- as we best would -- that we could go
19 over briefly, probably take 20 minutes to 25 minutes
20 or so -- oh, Arnold Brower.

21 Before I forget, we also have a translator. So
22 if you can't follow all the things I say, and you
23 would like a translation, Arnold Brower Jr. will
24 help us with translation tonight. And sorry I
25 forgot to mention that.

1 So am I okay up to this point?

2 MR. BROWER, JR.: Let me tell these folks about
3 what you just said.

4 (Interpreter translating.)

5 MR. COWLES: Also, I would like to give a
6 special thanks to Mrs. Maggie Ahmaogak, who is the
7 executive director of AWC. And I thought I saw
8 George here a little while ago. Oh. Okay.
9 Former mayor. So thank you for coming.

10 Is there anything else that I might introduce?
11 Arnold?

12 MR. BROWER, JR.: Yeah, George Edwardson, Aiken,
13 Gordon Brower, (inaudible).

14 If I didn't call your name, it's because it's on
15 purpose.

16 MR. COWLES. Okay. Well, thank you.

17 MS. ROCK: Elijah and Dorcas Rock here from
18 Point Hope.

19 MR. COWLES: I met Dorcas last night. Thank you
20 again for coming.

21 Okay. As we -- I'm going to talk for a couple
22 minutes and then Mr. Bennett and Mr. Salyer will
23 help me. And I am going to cover three of the first
24 panels in your handout fairly quickly here.

25 The first part of our program is about the

1 upcoming 2007 to 2012 five-year program. And the
2 program areas that are being considered for Alaska,
3 as a proposed program are shown in blue on that
4 first map and also over here. And they are Cook
5 Inlet in the Southcentral, North Aleutian Basin,
6 Chukchi Sea and Beaufort Sea areas.

7 And on the second panel, second page, the first
8 panel, again, what we're seeking here are comments
9 on this five-year OCS program and Sale 193, which,
10 Mike Salyer will talk about after Mr. Bennett has
11 talked about the five-year program.

12 On the bottom of the second page is a bar chart.
13 And we put this first so that you get a feel for the
14 big picture how the MMS, Department of the Interior
15 process for evaluating and proposing lease sales
16 works.

17 And the first place, to start on in explaining
18 this thing is that it's a nationwide program. And
19 because energy demand, the demand for energy in the
20 United States is increasing and our production,
21 domestic production is not keeping pace, the
22 Department of the Interior has the mission to
23 consider the resources on the federal Outer
24 Continental Shelf for providing opportunity to our
25 industry to explore and develop, if oil and gas is

1 found.

2 And so this whole chart shows how we move
3 through a process of deciding things like this
4 proposed program and more refined discussion or
5 analysis of potential lease sales and how we also
6 get public input and comment and suggestions for how
7 to do it and bring in as much involvement as
8 possible so that we have the best information that
9 we can bring in to make this process work well.
10 And, Arnold, should I break for you?

11 MR. BROWER, JR.: Thank you very much.

12 (Interpreter translating.)

13 MR. COWLES: Thank you.

14 Briefly on this process, there are schedules or
15 time steps that we work through and attempt to
16 follow a schedule, particularly for the first two
17 rows. The first row is the proposed program, which
18 is part of what we're talking about tonight. The
19 second row is the process that is followed under the
20 National Environmental Policy Act to do an
21 environmental impact statement related to -- and the
22 decision, related to a particular lease sale, such
23 as Sale 193.

24 The first row takes about two years and the
25 second row is two, two-and-a-half years of

1 government process and involvement, your involvement
2 to provide comments. And there may be parts along
3 the way where the Department of the Interior will
4 decide to maybe take a breather. So just because
5 the steps are there doesn't mean we always complete.

6 That's the part that the Department of the
7 Interior and MMS have some control over, as far as
8 timing. But after there is a lease sale, the last
9 block of the second row, then industry is awarded a
10 lease, if they have a bid. And it's up to them when
11 to start the next row. Because they have a business
12 decision as to whether or not they will explore any
13 particular lease.

14 And it's up to them, they have a period of time
15 in their lease that they submit a plan. And when
16 they do, we then will go through another review
17 process to help evaluate this and get more and more
18 focused on some of the issues and the decisions.
19 And so that third row can take from six months to a
20 year.

21 Then if there is commercially viable oil and gas
22 or oil or gas discovered, industry might come back
23 with a development plan. And that, again, is
24 another period of time that will transpire. The
25 whole thing, to get to production, can't say for

1 sure how long it takes. It could take anywhere from
2 eight-and-a-half, ten-and-a-half, twelve-and-a-half
3 years, probably, because of all the input phases and
4 all the analyses and environmental reviews. So it
5 takes a long time.

6 And the other thing about it is, is that, even
7 though you have these large program areas, it's
8 pretty likely that the amount of OCS that is
9 explored for development will be less than that.

10 It will, for example, the last Beaufort sale a
11 couple years ago, I think we talked about 195, was
12 roughly six percent of the area offered was leased
13 by the industry. And then some fraction of that
14 will probably be explored. Of course, if there is a
15 discovery, then industry might want to explore more.

16 But anyway, I think that was what I wanted to
17 explain about our process. And now Mr. Bennett will
18 talk more about the five-year program and where we
19 are in that process.

20 MR. BENNETT: Thanks, Cleve.

21 (Interpreter translating).

22 MR. COWLES: Yes, sir?

23 MR. OLEMAUN: This is a five-year plan, and
24 they're saying leasing encouraging development,
25 five-year plan up to development or five-year plan

1 with just exploration?

2 MR. COWLES: Times I was talking about in this
3 chart run through the point where you would start to
4 see oil and gas production, if there were
5 discoveries.

6 MR. OLEMAUN: Okay. Within the five years?

7 MR. COWLES: No. With -- the five-year program
8 will -- it has some lease sales in it, which Jim
9 will talk about.

10 And then if leases are issued later on in that
11 five-year program, then the activities could go past
12 that five years.

13 MR. EDWARDSON: Excuse me, I got a question
14 there. Okay. When you talk about -- right now
15 we're talking about just what you're proposing to
16 do. Exploration hasn't started. This is just a
17 beginning talk?

18 MR. COWLES: For the new five-year program 2007,
19 2012.

20 MR. EDWARDSON: Then why are the industry out
21 there doing seismic already? When you do seismic,
22 oil development process has started. It's not in
23 the talking stage. They're out there with more than
24 the one ship doing the seismic.
25 Seismic is a first step into production.

1 MR. COWLES: The work that they're doing, I
2 believe, is actually in relation to the Chukchi Sea
3 Sale 193, which was started under our previous
4 five-year program. And their processes are a little
5 bit different in terms of the permitting for
6 geophysical than the lease sale process, which is
7 what we're talking about in this proposed program.
8 I agree, it's associated with that, but again, the
9 second part of our presentation on -- on the Chukchi
10 Sea sale, I think, is what that activity is related
11 to.

12 So what we want to talk about tonight was
13 2007-2012 and Sale 193.

14 MR. EDWARDSON: But you understand what I was
15 saying that it has started?

16 MR. BENNETT: They're collecting information in
17 anticipation.

18 MS. AHMAOGAK: I think. I tend to want to
19 elaborate on his question that's what AWC has had
20 some concerns for Point Lay, I mean Point Lay,
21 Wainwright and Point Hope came out with that very
22 question that George Edwardson just raised, why the
23 industry was given permits before a lease sale had
24 happened.

25 And some of the -- a lot of unknowns because MMS

1 did not have the adequate monitoring studies that we
2 had wanted to have some questions answered and a lot
3 of unknowns being out there. And now seismic
4 operation and activities, and that's overwhelming,
5 three ships going at each other out there. And --
6 and here we're, have AEWG for our villages that are
7 in that area trying to iron out a lot of problems.
8 And I'm sure that MMS has always tried to come up
9 with answers that are never satisfactory for a lot
10 of us. And I don't think I like the idea of MMS not
11 adequately answering our people's questions when
12 asked by them.

13 MR. COWLES: Okay. Again, we will attempt to
14 answer the questions as best we can. Mr. Johnson is
15 the part of our group that deals with the
16 geophysical exploration.

17 So perhaps could you expand on what I said,
18 Peter.

19 (Interpreter translating.)

20 MR. JOHNSON: Yes. My understanding is that
21 seismic testing can be independent of a lease sale.
22 In other words, it's not tied directly to a specific
23 lease sale all the time. In the Beaufort there has
24 been a lot of seismic testing in the past that was
25 done prior to lease sales, surveys they would then

1 sell to other companies later on. So, I don't think
2 we're in the same specific time frame that you see
3 in the lease sale.

4 MR. EDWARDSON: On that comment that you made --
5 my name's George Edwardson again. On that comment
6 you made, if they found something then it would be,
7 but if they didn't find anything at all, the ocean
8 was dry of oil, would your comment be true?

9 MR. JOHNSON: Yeah, I guess I don't imply that
10 it's not related to leasing. Obviously it is
11 related to leasing, but it's not necessarily related
12 to a specific lease sale or even a specific
13 five-year plan. So yeah, obviously they're looking
14 for oil by doing seismic testing. And they would do
15 that -- I -- I guess you could say they would do
16 that when they have some anticipation that that land
17 might be leasable in the future.

18 MR. BROWER III: Thomas Brower, resident of
19 Barrow. Would it be appropriate for -- to prior to
20 this five-year program that's coming up previous
21 from your program, 2002-2007, if all information
22 that's gathered by MMS that is being researched out
23 there on marine mammals, migratory birds and all
24 this, would that be information that is missing
25 prior to this new five-year program that's coming

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1 up? Because there are, at least, from the last
2 meeting I attended in Anchorage, there were at least
3 40-plus contractors doing research through MMS, data
4 on our sea mammals, migratory birds and all that.

5 If that data were there, you would see probably
6 what the impact would be on our marine mammals. And
7 the proper comments could be done for this new lease
8 five-year program. That should be one of the
9 questions, why is this, all the research (inaudible)
10 for contractors that are doing the work for MMS not
11 being supplied to the public, but only for people
12 that are just asking for it?

13 MR. BENNETT: Jim Bennett, Minerals Management
14 Service. All of the information is collected,
15 scientific information is, or should be, used in the
16 environmental impact statements that we're putting
17 together or have put together for the five-year and
18 for Sale 193. So, I'm not exactly sure what
19 specific data you're referring to, but we -- we try
20 to use the best information in preparation of the
21 environmental impact statements.

22 MR. BROWER III: (Inaudible) receive comment
23 from the public (inaudible) that research be
24 collected and the public should be aware of it and
25 (inaudible) migratory birds, marine sea mammals,

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1 bowhead whales, walrus and all of this. (Inaudible)

2 MS. AHMAOGAK: Maggie Ahmaogak. He's alluding
3 to that MMS has a lot of federally funded studies
4 doing a lot of gathering and stuff. And for
5 gathering something like this to have a public
6 hearing on an EIS on a lease sale program, where is
7 all the information? We are blindly trying to
8 provide comments from the local residents that don't
9 have access to this data who can be making some
10 contributions that would be meaningful for MMS to
11 think of.

12 MR. COWLES: I think, Maggie, that Mr. Bennett
13 can address that relative to the five-year program
14 and how this information, how they will consider
15 your comments in relation to the five-year program.
16 And Mr. Salyer will talk about the Chukchi Sea and
17 the information that's related to that.

18 And the one thing about the five-year program
19 analysis and information is it's mainly a scheduling
20 thing. And the information that's analyzed there is
21 per their scheduling. And an EIS process for a
22 particular lease sale, such as Chukchi Sea 193,
23 brings a -- a different type of analysis relative to
24 the effects on the very local environment. And Mr.
25 Salyer will explain that.

003-002

1 But again, I think that what we're seeking here
2 is comments such as yours to help us improve this
3 analysis, because these are documents that are
4 subject to change, of further addressing of
5 comments. So thank you very much for pointing that
6 out.

7 (Interpreter translating.)

8 MR. BENNETT: Thank you. Where this information
9 comes together is in the preparation of the
10 environmental impact statement. And what we are
11 talking about and what we're seeking comment on
12 tonight is on two environmental impact statements.
13 One on the five-year program and one on the lease,
14 specific Lease Sale 193 in the Chukchi Sea.

15 And to just give you a little context for the
16 five-year program, under the Outer Continental Shelf
17 Lands Act, our agency is charged with putting
18 together a five-year program, in this case, the
19 years 2007 to 2012, for leasing offshore on the
20 Outer Continental Shelf. And the five-year plan is
21 to identify those areas which merit further
22 consideration for oil and gas leasing.

23 So for a sale to occur in -- on the Outer
24 Continental Shelf in the next five-year period, it
25 must be part of this five-year program. And only

1 those areas that are included in the program are
2 candidates for a sale.

3 The inclusion of an area in the five-year
4 program does not necessarily mean that leasing will
5 occur in that area. It means that that area will be
6 subject to a more fully -- a fuller and more focused
7 environmental analysis on a lease sale basis. And
8 that's what the EIS for Sale 193 addresses.

9 The EIS for -- for the five-year program, and I
10 saw a copy -- somebody has it right there. It's
11 pretty voluminous, but it -- we distributed it in
12 August. It's available on the Web. And we're
13 seeking comments. And the comment period closes
14 Wednesday of next week on the 22nd, I believe.

15 And the program is national. It has eleven
16 sales in the Gulf of the Mexico, one sale in the
17 Atlantic and nine sales in Alaska, including three
18 in the Chukchi Sea.

19 Comments that you can provide can be written,
20 they can be provided via the Web or included in the
21 testimony you provide tonight, which we'll keep a
22 complete record of and address in the final EIS.

23 On page 4 of your handout, the first slide shows
24 you a list of the sales that are currently proposed
25 in the five-year program. We held scoping meetings

1 in -- in the spring for -- to identify the issues
2 that we need to address in this five-year document.
3 And we have conducted -- this is the last one
4 tonight, of the 19 that were originally scheduled.
5 We didn't make it to Wainwright earlier in the week,
6 but we had 19 public hearings nationwide to collect
7 comments and testimony from everybody on the -- what
8 is contained in those documents.

9 The schedule that you have on the second panel
10 there identifies the -- these last -- the -- the
11 meetings we've had this past week. And all of the
12 comments that you provide, either via the Web or
13 written or in testimony tonight, will be addressed
14 in the preparation of the final EIS for the
15 five-year program.

16 And with that, I'm going turn it over to Mike
17 Salyer to address specifically the EIS that's being
18 prepared for Sale 193 in the Chukchi Sea.

19 (Interpreter translating.)

20 MR. SALYER: Thank you.

21 Again, my name is Mike Salyer. I work for
22 Minerals Management Service Department of the
23 Interior. I was hired as a wildlife biologist and
24 environmental impact statement coordinator.

25 And to pick up where Mr. Bennett left off. On

1 this flow chart within the five-year program we have
2 the individual lease sales. And for those we
3 conduct environmental impact statements as well.
4 And that would be the green portion of that flow
5 chart, which is where we're talking from now.

6 And that brings us to Lease Sale 193.

7 THE INTERPRETER: Could you make sure you say
8 the page --

9 MR. SALYER: Yes. I was just referencing back
10 to page 2, that flow chart that Mr. Cowles was
11 discussing earlier for a point of reference, the
12 individual lease sales for planning specific sale
13 would be that green flow chart. And that's sort of
14 the schedule for an environmental impact statement
15 for individual lease sale, in this case Lease Sale
16 193, chukchi Sea.

17 Now I am going to skip over to page 5 to several
18 slides concerning Lease Sale 193. The companies
19 were solicited a few years ago, I believe, March
20 '03. And you see some dates there. And I won't go
21 through all of those. And there really wasn't a lot
22 of interest at that time in the Chukchi Sea. In
23 February '05 there was some more interest that was
24 indicated from industry. So at that point in time,
25 a decision was made that we needed to conduct an

1 environmental impact statement for the Chukchi Sea
2 and identify the planning area.

3 A notice of intent was prepared for -- to
4 indicate we're doing an EIS in September of '05.
5 And in January of 2006, we identified planning ID
6 area. And that's what this map is over here. And
7 for this environmental impact statement -- and
8 there's a copy of this map in the back of your
9 packet -- it covers the green outlined area as the
10 project ID area, or the program area for the Chukchi
11 Sea Lease Sale 193. That would be the proposed
12 action.

13 Now, September of '05 we began the scoping
14 process and we came into the villages. And we came
15 to the communities. And what we did there is we,
16 you know, had the scoping meetings to get everyone's
17 input. And that's part of the process, that we
18 could hear everybody's concerns and -- and get the
19 information.

20 And what we do with that information in this
21 process is that we use that information in order to
22 develop our alternatives for the Chukchi Sea Lease
23 Sale 193. And that's what this map is here. We
24 have the purple area, which was an alternative in
25 the environmental impact statement that's out for

1 comment now on the draft. And it's Corridor 1.
2 It's roughly -- the outer edge of that, it's 60
3 miles out from the coast. And that all sort of
4 resulted --

5 MS. AHMAOGAK: How many miles?

6 MR. SALYER: Roughly 60 miles out.

7 MS. AHMAOGAK: 60.

8 MR. SALYER: 60, yes, ma'am.

9 That was sort of the result of that scoping
10 process that we had gone through. And that's one of
11 the deferrals that's in there for analysis and
12 alternatives.

13 Now, ultimately, it's not our decision. It will
14 be in the Secretary's hands to make the decision.
15 But we did the analysis on these different deferrals
16 and proposed action.

17 That -- the entire project there, program area,
18 is 34 million acres. And deferral 1 takes out about
19 9 million of those acres. And also the Polynya is
20 out, as you can see. That is also not included and
21 it's not included in the proposed project either.
22 So you can see that that's out.

23 Then we have a little bit smaller corridor 2,
24 which is also one of the alternatives as a deferral.
25 And it takes out not quite as much as that other

1 one, but, yet, it takes out roughly three and
2 three-quarter million acres. And you can see that
3 in the environmental impact statement.

4 The draft is out now. And the deadline on
5 comment on that is December 19th. Okay. December
6 19th for the draft comment period.

7 And mainly that's what we wanted to go over so
8 that we could discuss and take everyone's comment.
9 And at this time I would -- I'll be glad to clarify
10 anything you have, or we can begin talking about
11 having the public hearing comments as well.

12 So does anyone have any questions on that?

13 MS. AHMAOGAK: I have a question --

14 (Interpreter translating.)

15 MS. AHMAOGAK: I have a question. Maggie
16 Ahmaogak, AEWC. Regarding the Chukchi Sea side, the
17 193, when we did the scoping meetings, we -- AEWC
18 followed MMS to Wainwright and Point Hope.

19 At that time we -- the whaling captains
20 identified some -- deferral areas.

21 MR. SALYER: Yes, ma'am.

22 MS. AHMAOGAK: Where is that deferral? I don't
23 want to see any alternatives.

24 MR. SALYER: Okay. The deferrals were, we had
25 specific walrus deferral areas, which covered a

1 circle roughly this size here. There was another
2 one near Wainwright, there was one near Point Lay
3 and there was one near Point Hope. And then there
4 was also the Barrow Canyon deferral. And then there
5 was some Eider critical habitat deferrals.

6 And rather than have these little -- the
7 individual deferrals, we made sure we were able to
8 encompass all of them in that large deferral.

9 MS. AHMAOGAK: I'm trying to make a point here.

10 MR. SALYER: Yes, ma'am.

11 MS. AHMAOGAK: At the time I think MMS took the
12 map. And they were -- Albert, you guys were
13 supposed to make me a copy, everybody signed off.
14 And these areas were definitely requested, that they
15 would not leave them up as alternatives for the
16 Interior to take out.

17 You see what I'm saying, is that when -- once
18 those areas are properly defined by the whaling
19 captains, that's what we did with Kaktovik and
20 Barrow, these areas were already identified by those
21 whaling captains in those respective villages.

22 Now, I do not see anything, as such, that looks
23 like a deferral.

24 MR. SALYER: Okay. Maybe I am not being clear.
25 I apologize.

1 MS. AHMAOGAK: Yes, that's why I wanted it to be
2 made clear.

3 MR. SALYER: Yes, ma'am.

4 And -- and what we did is, in order to do what
5 you're saying, okay, that -- that's why we had these
6 deferrals here, because it -- it --

7 MS. AHMAOGAK: But you identified them as
8 alternatives, options.

9 MR. SALYER: They're deferrals. You don't want
10 them to be -- I -- I mean you want those -- I
11 apologize. I'm trying to understand.

12 MR. BENNETT: You would like to see those as the
13 proposed action for the --

14 MS. AHMAOGAK: You people are very different
15 from the people I traveled with to the scoping
16 meetings. There was Fred King, John Goll, Albert
17 Barros. And a lot of the whaling captains took the
18 map off the wall and signed off and made a deferral
19 area.

20 And I gave that map up hoping that they were
21 going give me a copy. And I have not seen it yet.
22 But I do not see anything marked up that would
23 identify those areas of deferral that they wanted.
24 We do not want another Cross Island happening.
25 No -- no deferrals happening for these villages.

1 MR. SUYDAN: Can I try, maybe, to explain a
2 little bit?

3 MS. AHMAOGAK: Okay.

4 MR. SUYDAN: My name is Robert Suydan. I'm with
5 the North Slope Borough. I think what Maggie is
6 asking, is that those deferral areas are outside of
7 the planning area, just like the Polynya zone is
8 outside of the planning area. Is it the -- the
9 whaling captain said: We don't even want that to be
10 considered for leasing. It should be outside of the
11 planning area and we don't see it.

12 MS. AHMAOGAK: That's correct.

13 MR. SALYER: Okay.

14 MR. G. BROWER: I wanted to add a little bit.
15 It looks like you're trying to explain that that
16 purple section there is, you decided to make a large
17 area out of it as the deferral as an option. But I
18 think you made it to the point where whoever is
19 going to make the decision, that's going to be
20 totally unacceptable, because that's too big. And
21 it's not -- and getting what the villages asked for
22 that was identified, all mixed up into one big thing
23 that may not even be acceptable.

24 MR. SALYER: Okay.

25 (Interpreter translating.)

003-003

1 MS. AHMAOGAK: Maggie Ahmaogak, AEWC. I like
2 the way that Gordon Brower came up with it. And
3 that's exactly what AWC would like to prevent from
4 happening. If I don't -- if we do not see the
5 requested areas that were specified -- specified by
6 the whaling captains from those villages, and if you
7 see that alternatives that you made out in that
8 purple, that is not what we call -- or what was
9 specified by the whaling captains as the deferral.

10 I am very scared and very concerned about the
11 way this is laid out.

12 MR. COWLES: Thank you for that very important
13 comment. And Mr. Salyer and our office will take
14 that back and consider it as part of our preparation
15 of the final EIS. That's a very important point.
16 We appreciate you clarifying that so that we can
17 address it.

18 MS. WILLIAMS: I'm Vera Williams. I'm just a
19 resident, but I work in all kinds of stuff in our
20 community. Whatever Ms. Ahmaogak stated about AWC
21 deferrals, if you're going to define on there, can
22 you color code it in a different color so we can
23 know exactly what whaling captains requested, so
24 that it would be color coded different within
25 whatever you're trying to do. Because the way it

003-004

003-005

1 is, it seems like it wasn't really considered. But
2 if you color code it and make it obviously known
3 that that whaling captains comments were taken
4 seriously, I would like to see it in a different
5 color and stating that is what the whaling captains
6 wanted.

003-005

7 MR. EDWARDSON: Excuse me, you say you're with
8 the animals, you're the animal biologist for MMS?

9 MR. SALYER: I'm the EIS coordinator. My
10 background is a wildlife biologist.

11 MR. EDWARDSON: Okay. Great.

12 You don't have to follow the Marine Mammal
13 Protection Act when you look at the maps you're
14 showing us. You don't have to follow the Migratory
15 Bird Treaties or the Endangered Species Act, because
16 if you did, you know, this area would not be
17 touched, if that was the case.

18 So as a marine biologist, you can ignore such
19 laws as Endangered Species Act, Migratory Bird
20 treaties and the Marine Mammal Protection Act. That
21 is what I'm hearing you and seeing what you have put
22 up, is MMS is exempt from these laws?

003-006

23 MR. SALYER: No, sir. We are in consultation
24 with the different agencies you're referring to.

25 MR. EDWARDSON: Then why is it our commission,

003-006

003-006

1 our whaling commission and the people up here have
2 to identify to you these animals' paths, and if we
3 don't mention it, then you waive the regulations
4 that protect these animals?

5 MR. SALYER: They're definitely not waived. We
6 have pretty serious consultation. And we try to
7 work with one another to the process to come to some
8 agreement with everybody at different stages of the
9 process included here.

10 MR. BROWER: I worked in the North Slope Borough
11 planning for many years and have made comments year
12 after year concerning migration of whales, calving,
13 feeding, endangered species, you know, in the event
14 something happens and catastrophic release of oil
15 happens. Why has MMS ignored all those comments for
16 years and years and keep continue to go when we make
17 comments, they're inconsistent with coastal
18 management policies and municipal code policies on
19 migration, and all of these things, you still push
20 on like we don't exist.

006-037

21 Are we still going to say something to you
22 that's just going to be chucked to the back side
23 somewhere where nobody's going to pay attention to
24 it? That's the kind of feeling I get every time we
25 make these comments and you come back and repeat

1 ourselves over and over. I think we're doing this
2 until we die, going until we deplete the Eskimos.

3 MR. SALYER: Thank you.

4 MR. BROWER III: I have a question.

5 MR. SALYER: Yes, sir?

6 MR. BROWER III: I was reading the, the draft
7 EIS came out here recently, when I was going through
8 there, and I was going through another previous
9 document that just put together on the EIS on the
10 western and central (inaudible). And one of them
11 talks about (inaudible) that is deterred by offshore
12 exploration, but yet the draft EIS doesn't say
13 anything about the probability of (inaudible)
14 environmental offshore drilling that (inaudible) the
15 pristine environment fish, marine mammal migratory
16 birds. Doesn't say nothing about what the property
17 or mitigation will be with incidental (inaudible)
18 exploratory drilling. It doesn't state not one
19 thing the previous year document from 2005 why
20 independent research, and there were a lot of
21 comments made when there was a draft EIS done for
22 western and central Gulf Mexico.

23 These were comments prepared by experts but yet
24 (inaudible) no found EIS in those areas, so. Why is
25 that? (Inaudible) this draft EIS or this new sale

003-007

1 lease and probability on the five-year plan if
2 anything happens when they say (inaudible) these
3 offshore activities.

4 MR. SALYER: Okay. Thank you.

5 MR. SUYDAN: Cleve -- again, my name's Robert
6 Suydan. All the public hearings I've always been to
7 before have been really structured and there's an
8 opportunity for everybody to give comments and very
9 formally. Are we going to do that tonight?

10 MR. COWLES: Yes. Yes.

11 What we wanted to do, since we presented in
12 consideration of the fact that we are back again.
13 And we have three different items, basically, that
14 we're talking about tonight. We felt that by giving
15 this presentation, we would give an overview of the
16 scope of what we're talking about tonight. And then
17 provide a chance for you to seek clarification, for
18 example, with Mr. Salyer and what he just went over
19 or Mr. Bennett or myself.

20 So we want to do that, but we also do want you
21 to feel that we will later or right now, if you
22 wish, provide opportunity for formal testimony.

23 So one of the ways that we would appreciate your
24 consideration tonight for that purpose would be if
25 you're going to provide a comment or testimony on

1 any of these items would be to let us know which
2 item it is and that will help us to provide response
3 and to bring it under consideration.

4 And if that doesn't -- if your comment is more
5 general, then we will use that comment in
6 consideration of all of the items that we have on
7 our agenda tonight.

8 So --

9 MR. BENNETT: You might want to just note that
10 we are recording all of the comments that have been
11 going now. They are being recorded, whether it's
12 presented as formal testimony or not. And they will
13 be dealt with as comments on the EISes.

14 MR. SALYER: Before we go into the hearing, I
15 can clarify real briefly on the heavy metals issue,
16 it was addressed in Draft 193 in the water quality
17 section. So it might not -- I think your comment's
18 a very valid comment, and perhaps it wasn't
19 addressed to the degree of which you would like to
20 see it addressed.

21 Speaking to the Gulf of the Mexico, I know one
22 of the challenges we come up with in putting the
23 information in the environmental impact statement is
24 there isn't a lot of data in some of the disciplines
25 to draw from. So we recognize there should be some

1 more study in that area. And that's another
2 process.

3 In the Gulf -- I'm from down there. And there's
4 just a multitude of information that's readily
5 available. And I know they get really detailed on
6 the heavy metals in the Gulf of Mexico.

7 Our folks working on it in the Chukchi Sea, they
8 went to the information that they could find and
9 tried to extract what they could and conduct the
10 analysis. I am trying to clarify a little bit for
11 your sake, sir.

12 MR. BROWER III: I would just like to see that
13 on the, properly on this next round on the comments
14 on -- before the final EIS comes out to see at least
15 how it's going to be addressed to the direct chain
16 from the microscopic to marine mammals.

17 MR. SALYER: Okay. Thank you.

18 MS. WILLIAMS: Vera Williams, for the record --
19 (Interpreter translating.)

20 MS. WILLIAMS: Vera Williams, for the record.
21 On page 4 your proposed OCS lease sale '04 and '05
22 is listed for West -- for the Gulf Mexico, was there
23 any damages during all these hurricanes we had last
24 year? How bad of a structure -- did any of those
25 structures have, comparing -- because we have to

003-008

003-009

1 compare our storms to something.

2 I know we have ice that comes when Mother
3 Nature's magnitude of strength, I'm just wondering
4 how bad were the -- the -- whatever the oilfield in
5 the ocean, the Gulf of Mexico, was there any oil
6 spills? Because we don't hear about them in the
7 news. And I am just curious to see if there was any
8 damage during such storms with the hurricanes down
9 there.

10 MR. BENNETT: Very good question. The
11 information that we collected to date on that is,
12 yes, there was a lot of structural damage offshore.
13 But all of the offshore operations were evacuated
14 before the storms, Katrina and Rita, hit. And
15 although there was quite a bit of structural damage
16 offshore, there were no oil spills and there was no
17 loss of life.

18 There was a significant oil spill, but it was
19 from storage facilities up in Mississippi River, not
20 from the Outer Continental Shelf.

21 MS. WILLIAMS: I was just curious, because I
22 don't hear about such things and I have been meaning
23 to ask.

24 (Interpreter translating.)

25 MR. BROWER: I wanted to make a quick comment,

003-009

1 and it had to do with some time ago for a moratoria
2 on areas. You could -- you could see that there was
3 areas with a moratoria on leasing in parts of the
4 United States and some parts of it, I think, near
5 Bristol Bay, and areas were -- where there is other
6 types of activities, I think, to be protected.

7 And I think I had wrote a letter concerning that
8 there should be a similar type moratoria in the
9 Arctic, because of -- for one thing, there's a very
10 dramatic ice regime up here the -- in the endangered
11 species that inhabit up here, polar bears. And you
12 see that in the newspaper and the Discovery Channel
13 from time to time about the polar bears suffering
14 because of ice depletion and stuff like that,
15 habitat loss, and lots of new data surrounding
16 whales, they're calving, they calve on the way and
17 they feed and do all this. Why do you proceed and
18 seem to ignore things like that when there's, you
19 know, when there's request and seems like they're
20 logical enough to make reasonable decisions like
21 that when you provide information?

22 MR. COWLES: On the moratoria, we have not
23 ignored moratoria. There have been two types of
24 moratoria on OCS areas nationwide. Congressional
25 moratoria and executive.

003-010

1 In Alaska there's one area for which there have
2 been both types. And this is the North Aleutian
3 Basin area. And I don't have the dates right off
4 the top of my head, but recently, the congressional
5 moratoria was lifted for that planning area, but
6 there is still a presidential moratoria.

7 MR. BENNETT: Withdrawal.

8 MR. COWLES: Withdrawal. Okay.

9 And that has to be addressed before the
10 secretary of interior would include that in his
11 final program. So we have it out for discussion and
12 comment in our proposed program, but the -- as far
13 as I know, the presidential moratorium remains in
14 place.

15 MR. BROWER: Just one follow-up to that, and I
16 think I kind of didn't say this part of it, is I was
17 involved in a, I think in 2000 or 2001 joint
18 evaluation on the North Star spill response plans
19 when North Star was going through. And that joint
20 evaluation had seen so much inadequacies on oil
21 spill response tactics, capabilities with mechanical
22 barges, special barges to be out there.

23 And we had whaling captains on the barges. And
24 I was on one particular barge with one whaling
25 captain where the captain of the boat was in fear,

1 he was in fear because we were being enveloped by
2 ice all around us. He was afraid he would not be
3 able to get out of this and had to abandon the
4 drill.

5 That's what you're talking about, there is no,
6 to date, no technology involved in having an
7 effective cleanup on these kinds of things, yet you
8 go forward. That should be told directly to the
9 president of the United States.

10 MR. COWLES: Thank you for that comment. MMS
11 has a pollution prevention program that encompasses
12 more than oil spill response. They are a very
13 fundamental reviews that are part of our regulations
14 of industry, should it get to the stage of
15 submitting a development and production plan or an
16 exploration plan.

17 There are a lot of regulations and requirements
18 on the companies in terms of how they design their
19 programs to minimize risk so that we don't get to
20 the oil spill response stage.

21 A couple of aspects of these many different
22 regulations, for example, include review of the
23 engineering design, third-party verifications of the
24 plans and the rigs that have been, perhaps,
25 constructed for a particular activity. There are

1 requirements for a redundant well control systems,
2 there's emergency plans for a number of different
3 types of events in order to make sure that the
4 industry is prepared for a variety of possible
5 emergencies, including shallow gas possibilities,
6 hydrogen sulfide. There's several different
7 emergency plans that are required.

8 There's shallow hazard surveys before a company
9 goes into a -- a site to explore. And even,
10 perhaps, most importantly, we have on-site
11 inspections during operations to make sure that the
12 various safety systems are in place and the
13 procedures are being done in accordance with these
14 regulations.

15 So there's a whole host of requirements that MMS
16 enforces. I'm not an expert in that area, but I
17 just want to mention that the thrust is to minimize
18 the chance that there would be a spill.

19 MR. BROWER: I would just like to say one
20 comment about your comment about minimizing the
21 risk. You all know what happened 1912 with Titanic.
22 They said God, himself, can't sink this ship, and
23 it's at the bottom of the sea. You can't put
24 everything on prevention. You have to put something
25 towards a capability to pick up oil, should it go

1 into the Arctic environment. They have to be a
2 mechanical means to cleanup the Arctic environment
3 for those whales.

4 MR. BENNETT: Thank you for that comment. I
5 think that we've been going for roughly an hour.
6 And I would suggest that we take about a ten-minute
7 break and come back and continue, either for
8 clarifications or for testimony.

9 There's been a request for a podium.

10 MR. COWLES: We would set up a place for people
11 to make their formal presentation, there's a podium
12 that somebody has requested.

13 MR. EDWARDSON: I've got a little one. I wanted
14 to ask the biologist 1987, there was an
15 international conference on birds of the world -- I
16 mean the fish of the world under the Bering Sea.
17 And in there they identified the world's fisheries
18 as three segments. One segment was the Pacific Rim,
19 which the people, population growing so big, had
20 fished it out.

21 The second portion was the New England Banks all
22 the way over to Canada, the Northern Europe and the
23 people there have fished that out. Now the final
24 and last fisheries left on this planet is, you know,
25 the Bering Sea fisheries.

1 When the salmon leaves the fresh water rivers
2 where they're hatched, they disappear. And where
3 they go, their nursery is that -- the whole area
4 where you're proposing to do your drilling with.
5 That's where the salmon goes.

6 Now, if you have one accident there, you have
7 wiped out the world's fishery. That's going to be
8 on your heads. One accident, you destroy the
9 left -- last of the world's fisheries. I just
10 wanted to point that out to you.

11 MS. ROSA: Cheryl Rosa, Department of Wildlife
12 Management. Many of us in the north have watched in
13 horror, essentially, as more and more information
14 about BP's negligent maintenance of the on-land
15 Pipeline that's been basically revealed.

16 Does the MMS have any say in who they sell to,
17 these leases to? And do you look at an
18 environmental record? I mean, is there any type, do
19 you guys have any type of say in this? Because
20 offshore, it strikes me that they can't take care of
21 their onshore stuff, offshore is going to be a
22 hundred times worse.

23 MR. BENNETT: Lessees have to demonstrate that
24 they have the capability to operate withing the
25 parameters of environmental safety, as we define it

003-038

1 for them.

2 MS. AHMAOGAK: Before permitting?

3 MR. BENNETT: Before permitting, yes.

4 MS. AHMAOGAK: Why do you let them -- why do you
5 permit when they don't have it before --

6 MR. BENNETT: I can't speak to the onshore
7 situation. I'm not familiar with that with regard
8 to BP. It's not on our regulations.

9 MS. ROSA: I just want to register my personal
10 concern with the lack of ability to maintain and to
11 be able to see what is under water. I'm incredibly
12 disappointed with what I've been hearing for the
13 on-land and I know that this doesn't have much to do
14 with you guys, but it is a large concern for me.

15 MR. COWLES: Thank you. Well, why don't we take
16 a little break. It's 8:30. According to my watch.
17 So ten minutes.

18 (Thereupon, a brief recess was taken, after
19 which the following proceedings were had:)

20 MR. COWLES: We would like to open this meeting
21 now for testimony or other testimony about these
22 matters. And Maggie Ahmaogak has come forward.
23 Thank you. Maggie.

24 MS. AHMAOGAK: Okay. My name is Maggie Ahmaogak
25 I'm the executive director to the Alaska Eskimo

1 Whaling Commission for the record.

2 And my testimony is on behalf of the Alaska
3 Eskimo Whaling Commission for the hearing of the
4 United States Minerals Management on the draft
5 environmental impact statement for the Outer
6 Continental Shelf oil and gas leasing program 2007
7 to 2012.

8 Good evening. I'm the executive director of the
9 Alaska Eskimo Whaling Commission and am testifying
10 today on behalf of the AEWC. I will speak on the
11 following three very important points. I raised
12 these issues before the MMS in my testimony last
13 spring when I followed MMS to the scoping meetings
14 in the whole North Slope.

15 First, the level of activity MMS is planning to
16 permit up here will overwhelm us. This is too much
17 activity going on at one time. There is no way to
18 mitigate for multiple seismic operations, except to
19 shut them down until the bowhead hunt is over. And
20 there is no way at all to mitigate for multiple
21 drilling operations with icebreakers. Do you have a
22 plan for this, and where is this plan?

23 Second, MMS must start right now to address
24 long-term cumulative impacts from the activities up
25 here. We have been demanding this of MMS for many

003-011

003-012

1 years and now we must insist.

2 And finally, we will not tolerate your continued
3 use of the significance thresholds that you have in
4 this document, especially when it comes to food for
5 our people and protection of our culture.

003-013

6 On the level of the activity, we have many
7 affidavits from our whaling captains testifying to
8 the damage to their hunting from the high levels of
9 activity during the 1980s and early 1990s. Just as
10 happened then, we will not be able to have
11 successful hunts. This happened in 1980. There was
12 no success. Whales will be lost and our hunters
13 will be put at serious risk.

14 During that time, hunters lost equipment and
15 boats and some almost lost their lives because they
16 had to travel so far out in the ocean. This kind of
17 situation is also likely to lead to increases in our
18 struck and lost. If that happens, the IWC could
19 reduce our bowhead quota because of the reduced
20 efficiency in our hunt.

21 You have put in a 25-mile deferral area for the
22 Chukchi coast, and we are glad to see this. It
23 should help to spare our Chukchi villages, some of
24 the more serious impacts that our Beaufort Sea
25 villages have suffered.

003-014

1 But where are the protections for our Beaufort
2 Sea villages? Where is the deferral area for Cross
3 Island that we have been asking for years? How do
4 you plan to manage upstream impacts to the bowheads
5 when they migrate in the fall?

6 In your EIS you repeat over and over that
7 consultation and mitigation will take care of
8 everything later. How well do you mitigate the
9 impacts from those activities? We live here. We
10 depend on our subsistence resources being available
11 to us. You cannot ignore these facts.

12 When you plan your lease sales and your permits,
13 you have to account for our reliance on the
14 availability of our subsistence resources and make
15 your plans accordingly. We can only take our
16 subsistence resources when they migrate past our
17 villages. If your activities drive them away, there
18 is no second chance for us to -- for an entire year.

19 One of the most important planning tools that
20 you have, MMS, is the exclusion areas around our
21 villages from leasing under your five-year plan. We
22 showed you back in November of 2001 the areas that
23 we needed protected from the industrial activities
24 Nuiqsut identified 94 blocks, Kaktovik identified
25 173 blocks, Barrow identified 588 blocks. That

1 should have been deferred from Lease Sale 186 and
2 subsequent sales.

3 The deferral areas identified by the communities
4 are the areas that must be left free from industrial
5 noise during the fall bowhead migration and
6 subsistence hunts if the communities are to have an
7 opportunity for a safe and successful hunt to meet
8 their subsistence need for bowhead whales.

9 We have requested that for the 2007, 2012
10 five-year plan the deferral areas we first requested
11 in November of 2001 be established as exclusions
12 from this new program area. I can't even find a
13 discussion of this in your draft EIS. Is this how
14 little our concerns and our communities mean to your
15 agency?

16 Now, turning to cumulative effects. For this
17 five-year plan, MMS, we have asked you to coordinate
18 development activities with BLM, the State of Alaska
19 and to work with us to manage cumulative impacts
20 from all of the onshore and offshore activities
21 happening at the same time. Again, there is no
22 mention of this in your draft EIS.

23 In 2003, the National Research Council said that
24 the mitigation of cumulative impacts must rest on a
25 coordinated and comprehensive research plan that

1 incorporates traditional knowledge and independent
2 peer review. Without this coordination, MMS is
3 violating its legal responsibility for analyzing and
4 addressing the cumulative environmental impacts
5 caused by its offshore leases and permits.

6 Not only that, but the Department of the
7 Interior's own internal regulations require MMS and
8 BLM to integrate their analysis of environmental
9 impacts from North Slope oil and gas development.
10 You are required to do this, MMS, and you'll need to
11 make this integrated analysis public. And then you
12 need to work with the AEWC and the North Slope
13 Borough to come up with a way to manage the impacts
14 to our marine, coastal and human environments.

15 And the impacts are here. We now have 40 to 50
16 kilometer area around Prudhoe Bay that has been
17 abandoned by seals and where no bowheads are seen.
18 We want to know why this is there and how you are
19 going to keep this same kind of impact from
20 happening around offshore production sites.

21 And finally, significance thresholds. In spite
22 of our objection MMS, you continue to state that you
23 do not consider adverse impacts to subsistence uses
24 to be significant unless one or more important
25 subsistence resources become unavailable,

003-015

1 undesirable for use or available only in greatly
2 reduced numbers for a period of one to two years.

3 What you are saying here is that we should be
4 able to go without food or experience severe food
5 shortages for up to two years before you would
6 consider the situation to be significant. MMS also
7 does not consider adverse impacts to our social and
8 cultural practices to be significant unless there is
9 a chronic disruption of our culture for a period of
10 two to five years with a tendency toward the
11 displacement of existing social patterns.

12 People would starve and our community would have
13 fallen apart by the time you, MMS, declares there is
14 a chronic disruption of our culture for a period of
15 two to five years. And still, this will not be
16 significant. What is your justification for this?
17 Who has given you the authority to make these kind
18 of judgment calls? This could mean life and death
19 for our people, who depend on subsistence food for a
20 living.

21 Congress has not given you this authority, the
22 standard Congress has set for the activities you
23 permit is no unmitigable adverse impact to the
24 availability of our subsistence resources. With
25 your plan to allow activities that would make our

003-016

1 food resources unavailable one to two years, it is
2 clear that MMS does not consider itself bound by
3 this federal law.

4 We have tried to work with your agency in good
5 faith for many years now. But we still are not
6 being listened to. So maybe it's time I went to
7 Washington DC and talked to your bosses. And maybe,
8 just maybe Congress will listen. Thank you.

9 (Interpreter translating.)

10 MR. COWLES: Thank you, sir.

11 MR. OLEMAUN: We must have the same thoughts,
12 because Maggie just mentioned what I was going to --
13 what I have here, but I do want to present it to
14 you. My name is George Olemaun. I'm with the North
15 Slope Borough, I'm the CAO. I represent the mayor,
16 Edward Itta.

17 We are not welcome for coming again and again
18 and again. But we'll still be here, don't forget
19 that. But for most -- and I hope to see you again,
20 too, Mr. Bennett. Well, could you tell us who
21 your -- what your -- I mean, what -- who you -- are
22 you the boss of the people that come here? Are you
23 the one that --

24 MR. BENNETT: No. I'm with the Minerals
25 Management Service in Washington. I'm the chief of

1 the Branch of Environmental Assessment. Cleve is
2 the regional offices, I think --

3 MR. COWLES: I'm the acting regional supervisor
4 for the Office of Leasing Environment in Anchorage
5 and Mr. Salyer and --

6 MR. OLEMAUN: Yeah, and I just wanted to clarify
7 what his position was. And I understand this is
8 your first time here; is that correct?

9 MR. BENNETT: No, this is my second trip to
10 Barrow. I was here a couple years ago for an IT --

11 MR. OLEMAUN: Well, so many of you all look the
12 same now.

13 MR. BENNETT: Appreciate being here.

14 MR. OLEMAUN: For more than 30 years North Slope
15 Borough leaders have taken a consistent stand in
16 opposition to offshore leasing exploration and
17 development. That opposition has been based
18 primarily on two factors, that the noise associated
19 with industrial operations can deflect migrating
20 bowhead whales and other important subsistence
21 resources beyond the range of safe harvest by local
22 at hunters. And two, because of a lack of
23 demonstrated capability to respond -- to respond to
24 and clean up a significant oil spill in Arctic
25 marine environment.

1 I'm going to make a few brief comments here
2 tonight but will submit detailed written comments on
3 both the EIS, draft EIS 2007, 2012 OCS leasing and
4 the draft EIS for Chukchi Sea Lease Sale 193.

5 The proposal for three Chukchi Sea lease sales,
6 is an overly-aggressive schedule, it's an
7 overly-aggressive schedule, given the remoteness of
8 the planning area, lack of comprehensible biological
9 and other key resource and environmental data and
10 absence of inactive leases.

11 A three-sale within a five-year leasing program
12 would not allow for the adequate acquisition and
13 analysis of relevant scientific information. In the
14 leasing of our waters, we support the exclusion of
15 key subsistence information from leasing. MMS
16 maintains that consideration of area deferrals is
17 appropriately left to the review of individual lease
18 sales and should not be undertaken within the
19 five-year program.

20 Several exclusions are considered in the draft
21 EIS including a 25-mile costal buffer in the Chukchi
22 Sea, identified as Alternative 5, and ultimately
23 adopted into the proposed program. The distinction
24 between such inclusions and area deferrals is lost
25 on us. If an area is accepted as preserving of

1 heightened protection, it is best to apply that
2 protection as early in the planning process and as
3 much certainty as possible.

4 It is unclear how the proposed 25-mile Chukchi
5 costal buffer compares to the exclusion of
6 near-shore tracts, the Chukchi Polynya and the
7 tracts near Barrow under the current five-year
8 program. We will support adoption of whichever area
9 is larger.

10 We also believe the areas of the Beaufort Sea
11 are equally deserving of heightened protection at
12 the five-year program stage the same factors that
13 justify excluding a coastal buffer zone in Chukchi
14 Sea apply in the Beaufort Sea as well. Comparable
15 exclusion zones should be adopted. At an absolute
16 minimum, areas that have been repeatedly deferred
17 from off-sea Beaufort Sea sales from more than a
18 decade -- for more than a decade certainly can be
19 excluded now without controversy.

20 The area encompassing the Barrow Spring Lead,
21 that's the open water system in the Eastern Beaufort
22 Sea, have long been recognized by MMS as critical
23 subsistence use areas and areas of high biological
24 sensitivity.

25 In addition, the area north and east of Cross

1 Island are the recognized as being critical to the
2 subsistence whaling success of the community of
3 Nuiqsut and should be excluded from leasing as well.

4 The discussion of oil spill risk and effects is
5 inadequate -- it is inadequate. MMS wrongly mixes
6 conclusions that the likelihood of major spills is
7 low and that impacts would there be minimal. The
8 facts are that the major oil spills are predicted to
9 occur in each Arctic planning area and that major
10 spills would produce significant effects to
11 subsistence and could produce population level
12 equals -- effects to vulnerable species.

13 MMS often describes the effects of large spill
14 simply as being greater or longer term than small
15 spills. Instead the EIS must be specific in
16 describing the impacts of large spills. DEIS does
17 not comply with an EPA requirement that a discussion
18 of mitigation measures be included in analyses. MMS
19 repeatedly concludes in a variety of contexts,
20 however, that such measures will reduce impacts to
21 acceptable levels. MMS cannot have it both ways.

22 Mitigation measures must be identified and
23 discussed in sufficient detail to allow for a
24 assessment of their usefulness.

25 Section 18 A 1 of the OCS Lands Act provides

1 that in addition to examining oil and gas resources,
2 the Secretary is required to consider the value of
3 other OCS resources and the potential impact that
4 OCS oil and gas activities could have on these
5 resources on the marine coastal and human
6 environments.

7 MMS has never done an adequate job of
8 identifying the full range of impacts on our local
9 Inupiat people that have already occurred or are
10 foreseeable in the future as a result of OCS leasing
11 and activities.

12 A draft EIS does not acknowledge that the
13 cultural and subsistence activities of Alaska
14 Natives could be affected by both routine
15 development activities and oil spills and that
16 Alaska Natives may be disproportionately affected by
17 OCS activities because of our reliance on
18 subsistence resources and harvest practices.

19 It just seems that nothing has been done with
20 this information. It certainly has not been the
21 basis for a decision to halt leasing in our Arctic
22 planning areas on -- thereby curtail ongoing impacts
23 or reduce the threat of future ones.

24 MMS should commit to the adoption of Health
25 Impact Assessment as the state-of-the-art

1 methodology for developing information in all future
2 sale-specific environmental documents regarding how
3 the OCS leasing program may affect the health of
4 people. HIA will assist MMS in satisfying NEPA, CEQ
5 and other state statutory and regulatory
6 requirements to comprehensively analyze the effects
7 of its actions on our North Slope residents and
8 others affected by OCS leasing and operation.

9 HRA has been enthusiastically endorsed by the
10 Federal Centers for Disease Control and Prevention
11 and the World Health Organization. The Borough is
12 eager to collaborate with MMS in applying the HIA
13 process with the future MMS planning efforts.

14 MMS has used inappropriate significance
15 thresholds for subsistence and sociocultural system
16 effects. It is irrational and simply insulting to
17 maintain the loss of one or more major food
18 resources not significant unless the disruption
19 occurs for one year or more. We join the AWC in
20 asking the criteria be revised to more accurately
21 reflect the experiences of the people who would be
22 affected.

23 A cumulative effects analysis presented in the
24 DEIS is inadequate. As noted earlier, MMS has not
25 met its obligation to fully assess potential impacts

003-017

003-018

003-018

1 to human health. MMS has also not offered any real
2 description or analysis of a host of ongoing and
3 reasonably unforeseeable actions and conditions to
4 that will occur during the suggested 40-year life
5 span of program activities.

6 These include upper-end scenarios for oil and
7 gas development of the South, Southeast and
8 Northwest NPR-A planning areas, including specifics
9 to restrict overall footprints, roads, pipelines,
10 port and coastal staging facilities and marine
11 transport.

12 Of particular concern are a potential for
13 expanding onshore development or stimulate offshore
14 development [as spoken]. The potential for offshore
15 operations in support of onshore development to
16 impact marine resources and harvests, the potential
17 for onshore pipelines and other infrastructure
18 associated with offshore development to impact
19 onshore resources, particularly the Teshekpuk
20 Caribou Herd and Western Caribou Herd. [as spoken]

21 Construction and operation of an Alaska gas
22 pipeline and the expansion of the Delong Mountain
23 Portsite or Red Dog Mine, coal and mineral
24 development within and outside the NPR-A, increasing
25 onshore and offshore industrialization and

1 commercialization of the Eastern Russian Arctic,
2 increasing oil and gas development in the Canadian
3 Arctic, long-term multiple offshore open water and
4 winter seismic operations.

5 With respect to the proposed Chukchi Sea Sale
6 193, the Borough position has not changed since we
7 submitted scoping comments last year. We still have
8 much to learn about the biology and processes of the
9 Beaufort Sea. We know far less about the Chukchi
10 Sea. We must make responsible decisions with our --
11 regarding leasing until significantly more baseline
12 data is obtained in the region. Thank you.

13 And I do have a copy for you.

14 (Interpreter translating.)

15 MR. G. BROWER: My name's Gordon Brower, for the
16 record. I just like to state a little bit about
17 myself. I've been in my dad's whaling crew since I
18 was a little kid. I've taken turn many times for
19 many years as co-captain with my younger brother and
20 my older brothers.

21 And I've also had the privilege to serve on the
22 Federal Subsistence Advisory Council representing
23 Barrow and also had a good privilege to -- over the
24 planning department for quite a while and making
25 comments for the administrator of the director of

1 planning on lease sales, such as these.

2 Now, that's just a little bit of my background.
3 And I'd like to make a few comments. Some of the
4 things that -- that have interested me and bothered
5 me over time. Some of them deal with coastal impact
6 assistance programs, grants that we're often
7 fighting for, and how it's allocated by the State.
8 There needs to be some reformulation of how those
9 monies are distributed with targeting the real
10 impact zone. We have a real hard time fighting for
11 these funds from the State.

12 And I see that in today, the State of Alaska,
13 having altered the Coastal Management Program,
14 limiting the -- the scope to the three-mile boundary
15 and your -- seems to be up to 100 miles offshore,
16 seems to me that doesn't impact the State.

17 And I would like to say that -- that these kinds
18 of impacts are for the indigenous people. They have
19 a claim to that water out there. The regional
20 government here, the ICAS, needs to be involved
21 heavily in coastal impact assistance, because that
22 is not State water. State water stops at three
23 miles. They need to be reformulating these things
24 for the impacted tribal organizations.

25 Currently there's villages that don't have

1 infrastructure for, should you -- should you strike
2 oil out there, there are no boat docks capable of
3 handling larger ships and coming ashore. Those kind
4 of funding should go to the regional tribal
5 organizations from OCS.

6 And another thing, I was -- I had the privilege
7 of being a staff member to the ICC for the elders
8 conference in July for the planning partner with
9 staff. And Arnold Brower Senior had introduced a
10 resolution to the elders, which was passed
11 unanimously by Greenland, by Russia, by Canada, that
12 in -- had statements to the effect that each
13 neighboring country should not engage in oil
14 proliferation of the Arctic Ocean until there is
15 proven technology to clean up oil so that the
16 neighboring countries wouldn't be affected by oil
17 pollution in the Arctic. I think some of that has
18 consequences to ICC to what you're doing out here.

19 I've made a few little notes. This is my --
20 these are my notes. I don't have -- I was just in a
21 hurry and found out, so I wrote on a little
22 three-by-three sticky thing here. So these are my
23 notes here, I go off of.

24 UNIDENTIFIED SPEAKER: Are you going to turn
25 that in?

1 MR. G. BROWER: I might turn it in.

2 MR. COWLES: Please do.

3 MR. G. BROWER: But I don't know, if I turn that
4 in, I think that it'll get lost, it will just go out
5 that way. Maybe I better save them for myself.

6 Anyway, United States and other countries who
7 the oil -- who the oil industry sells the oil to
8 will receive low prices, namingly, probably Lower
9 48. I think I have heard that a lot of the oil from
10 the North Slope gets sold to Japan, to other
11 countries that -- the United States have friends.
12 And I think that's not right. You know, that's --
13 should be for domestic oil supply. And I think
14 that's, something has to be written into the lease,
15 that this oil should be used for the country.

16 And they all receive lower prices, but not the
17 Arctic. In 2006 the fuel prices in Barrow, which is
18 the lowest cost in all of the villages in the North
19 Slope was \$4.55 a gallon, the last time I went to
20 the pump, a gallon of fuel. I've heard many times
21 in other villages of \$6 a gallon.

22 I got to turn the page.

23 We have provided new compelling evidence that
24 the risk of an oil spill is increasing and the risk
25 should not be taken lightly. The people of the

1 Arctic will not receive meaningful benefits with the
2 selling of the Arctic Ocean. I am saying that I
3 don't think North Slope Borough would be receiving
4 anything in terms of taxation, property taxes. You
5 need to look at this situation, and I think our
6 regional IRA, such as ICAS needs to be looking at
7 this. And that should be a taxable place for the
8 IRA.

9 What do you do with our comments, as I stated
10 before, when we have commented before on baby
11 whales, endangered species, risk of oil spills and
12 the lack of options for cleaning the Arctic
13 environment, if and when industry spills? I'm
14 saying "if" and now it's "when."

15 I've been -- like I said, I've been involved in
16 the offshore trials for North Star. Right now North
17 Star is pumping 80,000 barrels per day with a system
18 that doesn't work for offshore cleanup, should it
19 spill in broken ice. I've -- I was on board those
20 boats, those captains trying to do a mock drill to
21 pick up oil in that environment were scared for
22 their lives. That -- that -- that drill was stopped
23 short.

24 If North Star suddenly had a problem, such as
25 what happened to GC 2, what do we do then? You

1 know, 200,000 gallons on the ground and somebody had
2 to smell it in order to see it. No mechanical
3 technology picked it up, except the nose of an
4 individual person. That's the technology you're --
5 you have and what the industry is lacking or
6 unwilling to go to best available technologies, an
7 individual by smell found the -- that leak. I think
8 that's totally unacceptable.

9 Under the land of the Eskimo is oil and gas, yet
10 we have to import our fuels. Home heating, motor
11 gas, all imported, back to the Arctic and we get a
12 double cost added in the villages, three and four
13 times the cost. How do you guys fix that, when
14 we're the ones that have the oil right underneath of
15 us? Seems to me our gas prices should be \$.99 a
16 gallon.

17 This is a shameful situation. The government
18 has taken the Eskimos' lands away and have raped the
19 Eskimos from oil and gas and minerals, which are
20 rightful -- which are rightful owners of the
21 Inupiats aboriginal people.

22 Wherever you go in the Arctic, on land or sea,
23 the Eskimos were here first. 1971, the Eskimos did
24 not want the land claims. We were forced into the
25 deal and had to deal with it. ICA is the regional

1 IRA to -- need to tax the OCS. The Eskimos live off
2 of the ocean. I think our aboriginal title should
3 be 80 miles offshore everywhere.

4 And reclaim our rights, 90 percent of the
5 villages are hurting for jobs. I often like to
6 state these things because I deal with onshore
7 impacts and development. There's constant
8 displacement. There's constant movement westerly,
9 and it's going to reach Barrow very soon.

10 And North Slope Borough is the only one, the
11 only agency leading this mitigation effort. The
12 State and others have ignored it for many years,
13 like we don't exist. The North Slope Borough is the
14 only one who has started a mitigation program to
15 offset the cost of displacing subsistence resources,
16 to offset the cost of going out further to hunt
17 elsewhere. So that cost would not be added onto
18 everyday normal life of people trying to subsist off
19 the land.

20 It is a subsistence economy using modern tools
21 to survive. We use the fuels that are made far away
22 in far away lands from oil produced over our lands.
23 I don't think we can move forward like that anymore.
24 It's -- it's -- I think it's just totally wrong.

25 I think we're probably the minority of the

1 minority of the minority. If you believe the -- the
2 black man is a minority and they have 20 million
3 people. What are the Eskimos?

4 MMS, you have no -- I'd like to say this, you
5 know, clearly, MMS, you have no backbone to even
6 stand up to industry. When our whales are
7 threatened, this is alluding to Conoco's lawsuit on
8 this 120 decibel situation for offshore seismic.
9 How we can trust you -- how can we trust you to keep
10 a log of what -- what the heck we say, when we have
11 introduced mitigation through the Marine Mammals and
12 through those programmatic EAs on the seismic and
13 then go and look -- and not even really say too much
14 about this lawsuit surrounding seismic when it comes
15 to protecting baby whales?

16 Record my words. Let me see them. Let me see
17 them said in your report, in your EIS, as I have
18 said them. I would really like to see that. Seems
19 to me, in the EIS, a lot of the meaningful comments,
20 they don't get on there, either they don't apply to
21 Lease Sale 193 or -- or your 2007 to 2012. I'm
22 saying these comments for both of them, for 2007 to
23 2012, because they're going to be the same thing.
24 You're going to just keep doing it and keep doing
25 it.

003-019

1 For many years, the North Slope Borough talked
2 about pipeline corrosion. Only when the pipes go to
3 hell did anyone do anything about it. The North
4 Slope Borough saw this at least ten years before the
5 large spill on the lands in the Arctic. We had made
6 repeated statements to the State of Alaska and to
7 others concerning corrosion of pipelines, aging
8 infrastructure. And yet, they just let it go until
9 a big hole happens and the pipeline is leaking at
10 every -- every turn. Is that what we're going to be
11 expecting to see off -- out there?

12 MMS, I state to you that industry nor MMS has
13 the technology to clean up oil in the Arctic marine
14 environment. Should industry have a blowout or
15 spill in the Arctic Ocean, what are we going to do
16 then? I mean, I endorse wholeheartedly what AEWC
17 has said concerning IWC efficiency rates. But what
18 if the spill happens? Maybe the only means of
19 protecting the whale at that point would be IWC to
20 discontinue the quota all together, as the only
21 means to protect the whales in a chronic polluted
22 environment.

23 I hear industry saying they have plans to drill
24 for 2007, 2008. I say prove you can clean up a mess
25 first, before you sell it all, industry should be

1 and MMS should be heading it, to prove they have
2 technology to clean up a mess. Right now it doesn't
3 exist. I -- I like to repeat this over and over,
4 because I was involved in offshore trials with real
5 equipment in a contingency plan approved by the
6 State of Alaska. And to drill them and to test
7 them. And they have been failures to that end.

8 The Arctic ice regimes are dynamic and the
9 change to -- global climate change that's going on,
10 I think, you know, those are things that a lot of
11 people are putting a lot of words into. Something
12 that may be cyclical, that may just be revolving,
13 and I've heard about it before, that it may be
14 something cyclical.

15 Don't you dare depend on global warming for any
16 part of dealing with known ice dynamics in the
17 Arctic. Our culture, our animals, we depend on all
18 of this. We depend on them. Our culture depends on
19 them.

20 If it takes the Inupiat to partner with a
21 wildlife conservationist, I am very -- sometimes
22 very happy. What happened in the northeast planning
23 area, the northeast corner? Where the wildlife
24 conservationists of all people take lead in saying
25 that that area should not be leased, inadequate

1 analysis had taken place. We should be the people,
2 the North Slope Borough should be the people taking
3 the industry and MMS to court. I think the wildlife
4 conservationists, you know, they have my heart. And
5 I think the people of the Arctic should be friends
6 with those people. We need to embrace them.

7 There is a long-standing disregard that MMS has
8 to the comments of the Arctic people of the North
9 Slope Borough. The North Slope Borough has
10 commented over many years concerning inconsistency
11 of the proposed leases over time. And we have a
12 stack of them in our offices, saying this project is
13 inconsistent, this is inconsistent. We provide new
14 information. What do you do with them? You don't
15 do nothing with them. We say it's more than
16 migration, there's baby whales being born, there's
17 mother whales with calves in them, what does the
18 seismic do to the mother whale with the fetus inside
19 them, to the baby whales, to the feeding areas? All
20 of these things are being ignored.

21 And I think -- lastly, I think it seems we
22 repeat ourselves so often, that maybe MMS is waiting
23 for all of us to die off, so we can't say
24 anything -- so we won't repeat ourselves, until
25 everybody dies off, so there's no more voice.

1 Thank you.

2 MR. COWLES: Thank you.

3 We've gone another hour. And I -- I would
4 propose a break after Mr. Brower summarizes. And I
5 also would encourage that if there are any elders or
6 parents who need to get home with their families
7 after the break, if you would feel like, again,
8 coming forwards, please do. And then we will
9 continue. So --

10 (Interpreter translating.)

11 MR. COWLES: Again, I'd recommend we take
12 another break, because we've gone another hour. And
13 if there would be any elders or parents who need to
14 get home, we'll hopefully start with your testimony.

15 (Thereupon, a brief recess was taken, after
16 which the following proceedings were had:)

17 MR. BENNETT: If we could get started again,
18 again. Cleve asked if there's folks that have a
19 need to get home early, if they have testimony and
20 would like to do so now is the time to step forward.
21 Not seeing anyone specific, we'll start over.

22 If you could make sure and state your name and
23 affiliation, please.

24 MR. AIKEN: Thank you. I have a pretty lengthy
25 prepared comment. I'll try to make it as short as

1 possible, but it's pretty hard to make these kinds
2 of comments short, especially when it deals with
3 offshore. My comments are only a part of what needs
4 to be said, though. There's so much to be said that
5 there's not enough time to say everything you need
6 to say.

7 But, for the record, my name is Johnny Aiken.
8 I'm the director of the North Slope Borough Planning
9 Department. I would like to welcome you, MMS staff,
10 to Barrow and especially Jim, Jim Bennett from MMS
11 headquarters in Virginia. I heard you're a good man
12 and you -- you listen.

13 MR. BENNETT: Thank you.

14 MR. AIKEN: It's always important for us and
15 highly educational for decision-makers to visit us
16 here in our Inupiat homeland. Thank you for coming,
17 Mr. Bennett, and thank you for the opportunity to
18 comment on these very important matters.

19 Also I want to thank the Borough residents that
20 have taken their personal time today to come and
21 speak with us about the very important topics of
22 this offshore oil and gas five-year leasing program
23 and Chukchi Sale 193. Many of us have been
24 testifying at meetings like this for many years.
25 And, to be honest, it's not clear to us that MMS has

1 adjusted its actions at all in response to our
2 comments. It should be an indication to you of how
3 strongly we feel about these issues, that we just
4 keep coming and testifying.

5 MMS knows that the NSB, the North Slope Borough,
6 adamantly opposes offshore development in the
7 Beaufort Sea and especially the Chukchi Sea. We are
8 still learning much about the Beaufort Sea, even
9 after years of study at great expense. Far less is
10 known about the Chukchi Sea.

11 The Beaufort Sea presents great challenges with
12 respect to both routine industry operations and oil
13 spill response. The Chukchi Sea presents far
14 greater challenges. There's no justification for
15 even considering renewed leasing in the Chukchi Sea
16 until significant baseline data is gathered and
17 until there is a demonstrated oil spill response
18 capability first developed for the Beaufort Sea.

19 The North Slope Borough is opposed to offshore
20 development because we believe that the risk of an
21 offshore oil spill to the Inupiat subsistence way of
22 life is simply too great to be tolerated. And
23 because the noise associated with the industry
24 operations can change the distribution of marine
25 wildlife and our critical subsistence harvests.

1 For years our comments on both oil spill
2 contingency plans and offshore leasing -- offshore
3 leasing exploration and development proposals have
4 described the potentially severe environmental
5 consequences of an offshore oil spill and the lack
6 of resources and technical capability to stop,
7 recover and clean up an oil spill in our challenging
8 offshore environment.

9 Recently I was at an Alaska Eskimo Whaling
10 Commission meeting in Anchorage listening to an oil
11 company representative who was presenting a proposal
12 for offshore drilling in the Mikkelsen Bay area,
13 somewhere out there. The oil company representative
14 said they would prove to MMS that it will have the
15 capability to clean up an oil spill in the Arctic
16 waters before they develop this area. This was
17 pretty interesting to me. We would really like to
18 see this proof if -- if the oil company produces it.
19 If it's there, we would like to see it.

20 The North Star ice-breaking barge spill response
21 systems, as Gordon alluded to earlier, was presented
22 to the North Slope Borough as a state-of-the-art
23 technology when the North Star offshore project was
24 approved by MMS and other agencies. Yet the North
25 Star offshore oil spill response system failed badly

1 in demonstrations that didn't even come close to the
2 severity of Arctic conditions that we commonly
3 experience.

4 A joint federal and state report was issued in
5 2001 that confirmed that neither BP nor any of its
6 contractors had an effective oil response system in
7 place to respond to an oil spill in broken ice
8 conditions at North Star.

9 We are still waiting for the best available
10 technology to be implemented at North Star. This
11 best technology was promised to us when the North
12 Star offshore development project was approved by
13 federal and state agencies.

14 Now the draft EIS talks about a new North Star
15 system involving smaller tugboats and other vessels
16 as a great advancement in spill response capability
17 that has been proven. It's been tested and proven.
18 It hasn't been tested and proven.

19 We know for a fact that no oil -- major oil
20 spill anywhere is fully cleaned up without
21 significant environmental impact, even in places
22 that are not ice-infested or dark, cold and remote
23 like the Beaufort and Chukchi Seas.

24 Development in the offshore environment should
25 not be conducted until there is proven oil spill

1 response system for the Arctic. We will not support
2 development of offshore -- offshore resources on the
3 promise that a system will be developed. This time
4 we will require proof first.

5 In other areas of the United States and Canada,
6 offshore oil exploration and development moratoria
7 have been implemented in recognition of the
8 sensitivity and vulnerability of their environments
9 and competing uses in the intolerable risks posed by
10 marine oil spills. We do not understand why there
11 are not offshore development moratoria for the
12 Beaufort and Chukchi Sea.

13 our resources and critical subsistence uses are
14 as important and sensitive as the resources and uses
15 in the areas now closed to leasing and our region
16 certainly presents challenges to effective oil spill
17 response far greater than anywhere else in the
18 country.

19 It hardly seems fair, for years our comments and
20 concerns over the risk of oil spills have been --
21 have gone ignored. This year, however, with an oil
22 spill on the tundra, the state and federal agencies
23 are finally taking note of our long-standing
24 concerns. And that's GC-2.

25 It's very unfortunate that the largest oil spill

1 to ever occur on the North Slope had to occur before
2 our concerns about oil spill prevention, detection
3 and response were taken seriously.

4 The North Slope Borough would like to work
5 cooperatively with the state and federal agencies to
6 look at ways to improve oil spill prevention for
7 onshore oil developments first, before industry is
8 encouraged to development in the more challenging
9 offshore environment. The North Slope Borough will
10 continue to oppose development of new offshore oil
11 development.

12 Today I ask MMS to explain the oil spill
13 prevention response measures that they have in place
14 for offshore exploration and development and how
15 those oil spill prevention and response measures
16 will ensure that no oil spill -- no oil is spilled
17 into our seas, and fully and rapidly cleaned up, if
18 it does. I want to know what actual tests have been
19 performed or planned to demonstrate prevention and
20 response systems.

21 It is the North Slope Borough's duty to serve as
22 a trustee for the environment and protect the --
23 prevent future way of life for the people of the
24 North Slope who rely on resources in this
25 environment for their survival.

003-020

1 We must not allow unreasonable risks to our
2 subsistence way of life and we appeal to MMS to
3 support North Slope residents on this important
4 issue. At a minimum, MMS must adopt the standard
5 for subsistence impact employed by the National
6 Marine Fisheries Service and abandon the weak
7 standard now used in lease stipulation 5, that says
8 only that exploration and development and production
9 operations shall be conducted in a manner that
10 prevents unreasonable conflicts between the oil and
11 gas industry and subsistence activities including,
12 but not limited to, bowhead whale subsistence
13 hunting.

14 MMS should not consider any conflicts with
15 subsistence reasonable. I challenge any of the MMS
16 staff here to -- here to visit any of our families
17 in their homes and especially the elders that shared
18 their traditional subsistence food we eat every day
19 and explain where the line is between reasonable and
20 unreasonable conflicts.

21 The standards used in NMFS in the regulations
22 allowing the incidental take of marine mammals
23 requires that there be no unmitigable adverse impact
24 to subsistence. MMS must adopt the stronger
25 standard and apply it in all lease sales.

1 Related to this issue are the different
2 significance thresholds that MMS uses in its
3 environmental reviews for determining how to
4 describe the expected levels of impacts to different
5 resources and uses. MMS has decided that an impact
6 to subsistence harvest patterns is only significant
7 if one or more important resources would become
8 unavailable, undesirable for use or available only
9 in greatly reduced numbers for a period of one to
10 two years. That -- that one there is pretty unfair.
11 And Maggie talked about it.

12 The threshold for significant impact to
13 sociocultural systems is chronic disruption that
14 occurs for a period of two to five years with a
15 tendency toward the displacement of existing social
16 patterns. Use of these standards is insulting and
17 shows a clear lack of understanding of our
18 traditional cultural and nutritional needs.

19 We are willing to work with MMS to establish
20 criteria that more accurately reflects the way we
21 live and the seriousness of impacts that can occur
22 if leasing in our waters continues. MMS must also
23 meet its statutory and regulatory obligations to
24 assess the full range of impacts of its activities
25 on human health. We are ready to work with you to

1 undertake this essential assessment.

2 We also request that the federal government
3 follow up on a concern I just received from one of
4 the AEWC commission members from Nuiqsut, Archie
5 Ahkiviana, who has testified that he has observed
6 fish and seals disappearing from the area along the
7 North Star Pipeline route.

8 This concludes my comments. And I ask that you
9 listen to our comments and respond to them. And we
10 really would like to see them in the environmental
11 impact statement. Thank you for your time.

12 THE INTERPRETER: I'll try to summarize Johnny's
13 comments, his comments on Sale 193.

14 (Interpreting translating.)

15 MR. COWLES: Thank you.

16 Ma'am, have you been waiting to testify?

17 Before the next testimonies, could I just see a
18 hand of how many people are planning to testify, get
19 a sense of -- okay. As this is complete, if you'd
20 like to move forward, let's just go from your right
21 to the left side of the room and -- and use that as
22 a order. Unless there's somebody that has to
23 absolutely move quickly.

24 Okay. Thank you.

25 MS. WILLIAMS: Hi, I'm Vera Williams.

003-021

1 THE INTERPRETER: Let me do this, I suspect my
2 translations, if it mirrors something that has
3 already been said, you know, I could just allow,
4 unless it's something completely different and I
5 won't, try not to -- I'll just comment briefly on
6 each comment.

7 MR. COWLES: Thank you, Arnold.

8 Arnold has said that what he will do is he will
9 only translate for the new items that haven't been
10 covered previously, if that's all right with the
11 people here. Okay. Thank you.

12 MS. WILLIAMS: My name is Vera Williams. I'm a
13 resident of Barrow, Alaska. I'm a mother. I have
14 five children. I have kids going to college, kids
15 in high school. And I have even a grandchild.
16 And -- and MMS, I wrote -- I want to -- I'm going
17 to -- I wrote these notes. It's going to go in a
18 circle, in my little notes here. I wasn't like
19 Gordon with all the sticky notes, but I'll just say
20 what I want to say.

21 MMS and EPA plans, stipulations, and knowing
22 plans when you perform, conduct your business with
23 MMS, I know you should be thinking about people,
24 their safety, the ocean's safety. And there is
25 stipulations that are incorporated into whatever

1 documents. And I want to just talk about EPA
2 things, the booms that they use for cleanup, you
3 know, we -- it's really risking the Inupiats.

4 There's ice flows that are all around.
5 Sometimes we have no ice flows, but when the ice
6 flows comes and there's a spill, and with the
7 currents that are out there in the ocean, they just
8 don't go in one direction, but they go in different
9 directions. And if you have ice coming in this
10 direction, this direction and there's a boom, you're
11 going to have problems with trying to collect oil
12 for a cleanup.

13 Talking about the risks there is, securing
14 funding for disaster assistance, such as bonding for
15 the oil companies that you're going to issue these
16 lease sales to. I mean, I know that everything
17 won't happen overnight but these are things that I'd
18 like you to think about.

19 We are very particular people. We have picky
20 food. We have different diets, very different diets
21 than the Lower 48. And years ago I testified and
22 this -- through the grapevine, I was told that on
23 this particular section that I'm going to address
24 about our disaster assistance for food to replace
25 our food. I was told that we'd get like ten pounds

1 of beef. And ten pounds of beef won't even satisfy
2 me for a day or two, having the size of a family of
3 seven. And, you know, even a hundred pounds, a
4 thousand pounds, my hunger is still going to be
5 there because I'm going to want to crave my food
6 that I eat out from the ocean, out from the land
7 that we have in the Arctic. Those are things
8 that -- that are in me that I want other people to
9 hear. My hunger for my foods, how you are -- how
10 are you going to protect me? I mean, I'm one person
11 here. There's a lot of people out there that are
12 not here. I am just one voice that you are hearing.

13 The ocean has waves and currents, two different
14 ones, directions, so the oil spill will spread
15 vastly with lots of layers of currents. And if such
16 thing happens, you're not -- it won't just affect
17 Barrow area on Lease Sale 193, if you're going to
18 have that, you're going to affect Russia, Canada,
19 Greenland. The currents are going, they're flowing.
20 So that's the magnitude of the disaster that's going
21 to happen, if it does happen.

22 Oil sticks. It's sticky, sticky oil, just like
23 seal oil, whale oil. We know the dangers of oil if
24 it hits our beach. We love to walk the beach. Can
25 you imagine me walking the beach with oil sticking

1 on the bottom of my feet as I walk the beach I love
2 to walk?

3 You know, the dangers well, we'll have to live
4 here where the disaster will land. Our beach zones,
5 our ocean being contaminated. Earlier talked about
6 fuel, fuel prices. The other day I was in a meeting
7 that was with a lot of villagers from our North
8 Slope region. One of the villages on Anaktuvuk Pass
9 said that their gas was over 6 to \$7 a gallon. And
10 he stated, really seriously he just stated we're
11 walking. We can't afford the oil. We can't afford
12 the gas to put in our vehicles. We don't have money
13 such to put it into our vehicles. That was just the
14 other day.

15 Prudhoe Bay, the oil spill this spring under the
16 snow just creeping, who or how can you, MMS, protect
17 me, an Inupiat? Yikes, this is daring, a task, the
18 ocean, think about the ocean, the animals. The
19 ocean has animals and they are sea mammals, and
20 that's what you protect.

21 Today on TV channel a statement was just
22 goofingly just stated today and it just said, I was
23 just flipping the channels and I stopped and the guy
24 said polar bears are dying, period. He just stated
25 that to another person, just conversing, he just

1 said: Polar bears are dying. And, you know, that's
2 the Lower 48 and we are here today. And people are
3 talking about the Arctic. It's not a joke. Climate
4 is changing. Everything is changing.

5 Subsidizing the field, can MMS tell the
6 President, the President of the United States to use
7 his presidential powers to see our concerns? U.S.
8 blamed for contaminants, Canada, Greenland, Russian
9 waters. This can have a very vast effect if such a
10 oil spill was to happen. Can you hear me? The
11 taste that I would taste of our -- our food if it
12 was to change, the ache, the aches we are to bear as
13 Natives living here. I'm saying this because in the
14 future, they will not know what we've been through,
15 if it's not written. The consequences of the
16 disaster, MMS does protect polar bears, but you
17 don't protect me.

18 Make and prove to me you will address these
19 concerns. Can I request a copy of my past comments?
20 That were stated years ago when my uncle was alive?
21 Are they written? Can you prove to me you do review
22 and write our comments? Do you print comments from
23 the Lower 48, like the Gulf of Mexico? Does MMS
24 treat us equally? I don't know. That's a question
25 I'm asking you to prove to me.

003-022

003-023

1 Hundreds of miles out there, how are, or is the
2 oil to travel out the routes, the aftermath in the
3 years to come, devastation is coming just by even a
4 thought of oil going back and forth. Is it going to
5 be with submarines or is it going to be with big
6 drill rigs coming pumping right from the ocean way
7 out there 200 miles? Is it going to affect our way
8 of life, our hunting? Is all our food going to run
9 away because of all this noise, the routes? We
10 don't see big ships here, but the routes that
11 they're going to take.

12 I'm looking to the future for you to think about
13 how are you going to take all that oil away, hundred
14 miles from here? I don't want to think, but who is
15 to speak for the many that are not here? So gather
16 my concerns and use them to fix your EIS forms.
17 Thank you. And I'd like to see one day my name
18 written somewhere that I had commented. To me, that
19 will prove to me you do hear people, but I haven't
20 seen any documents that has people's names with
21 their written comments.

22 And what do you do with them? Do you read them
23 first and then just set them aside and then go on
24 with your project? How do you hear our concerns?
25 And how do you analyze them? What do you

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1 prioritize? What is your priority? Are we your
2 priority or is your project more of a priority when
3 you put them into a scale of measuring the magnitude
4 of things to happen? Thank you.

5 MR. COWLES: Thank you.

6 (Interpreter translating)

7 MR. N. OLEMAUN JR: Drowned a whale couple days
8 ago in Southeast, they were tracking and whales
9 could only stay under water 15 to 30 minutes. They
10 had to track them more than 30 minutes to drown the
11 whale. And we don't know what happened when the
12 seismic testing was done here in Barrow in front,
13 from Chukchi Sea to Beaufort sea. Oh, my name's
14 Nathaniel Olemaun Junior. I'm a whaling captain.
15 And mayor of City of Barrow.

16 When they did the seismic testing this summer,
17 there was 27 ships, barges, icebreakers, out from
18 Chukchi Sea to Kaktovik. And we testify in the past
19 about the ice condition, that two icebreakers
20 supposed to help them with their seismic testing,
21 keeping the ice away, but when the ice came in in
22 force, we had nine ships in front of Barrow that
23 took shelter. Two of them were icebreakers that's
24 supposed to protect the seismic ship, continue with
25 your jobs out there. To have a trailing off

1 Beaufort is very dangerous. We talk of evil, ice
2 climbing over land, they -- they even testified to
3 it killing a family over a thousand years ago. And
4 the beach wasn't where it was right now, it was
5 probably two miles out. It came ashore to the bluff
6 two miles and killed a family.

7 Our testimonies you do not take like you
8 demonstrated to what the AEWFC executive director
9 said. I was one of the captains that identified
10 feeding area outside of Barrow where our whaling is
11 held. It's not up there. What's up there is what
12 you put.

13 Like from your October 18th for immediate
14 release, news release. Today is November 16th. At
15 City of Barrow we just received these couple days
16 ago. That's -- gave us 25 days of your deadline to
17 have a testimony by November 19th and the other one
18 November 22nd, EIS to be received by November 14th.
19 When the first deadline appeared, we just received
20 notice that you had sent out the EIS. Only thing
21 this does is remind us that you're going to have a
22 hearing tonight right now.

23 It gives us five days before your next deadline
24 on the 19th and 8 days before our deadline for
25 comments and we don't even have your thick EIS book

1 that you release. Supposed to come to a municipal
2 government. That's how enclosed you are from
3 public.

4 Since I don't have anything prepared, I'll use
5 your October 18th press release, but I like to say
6 MMS come up here for public hearing and don't
7 seriously take our input into their plans nor their
8 future plans as stated earlier. MMS decides to
9 proceed with the area-wide sale because of broad
10 interest from the oil industry in the area, that's
11 your marching order. And you want to come here and
12 listen to us? We gave you past testimony. It don't
13 appear in your presentation. But we're not going to
14 stop there.

15 And it indicates Secretary of Interior select
16 final alternative. We gave you alternative, but you
17 gave it to somebody in White House to sell it,
18 alternative to tell you guys, well, we made a buffer
19 zone on the other side of the sale and just a small
20 one on this side. That's not the alternative we
21 gave you. As whaling captains, we know better. And
22 we don't go drown whales doing research. We don't
23 tell the seismic people, oh, you could kill one
24 whale under incidental.

25 I just came off a hearing because the last whale

1 I got fall under the category of IWC's recollection
2 and AWC has to enforce it. I might have been fined
3 up to 50,000. Lost my whaling right, not only
4 myself but my crew up to five years.

5 You don't give that stipulation to the seismic
6 people or when you put a sale out. If you kill a
7 whale or a walrus, polar bear that's an endangered
8 species, you will be fined. No, you don't do that.
9 You give them incidental license. How many times
10 they going use that?

11 And you give them stipulations to consider
12 before the sale with the input from many interested
13 people. We gave you input. We're more than
14 interested. Beaufort Sea is our garden, we keep
15 saying that. We have rights to hunt for the
16 endangered species because it's our culture, it's
17 our tradition. Even though you state that, you
18 didn't take it into consideration.

19 And you say these stipulations are to protect
20 the resources, including Steller Eiders and minimize
21 interference with subsistence whaling and our
22 subsistence activities. Minimize, that means that
23 the lease sale holder, the seismic people have more
24 rights than we do. You're not going to protect us.
25 You're going to tell them minimize hurting, but you

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1 have a right to have one unintentional killing of
2 any endangered species. Is that minimizing? I
3 don't know.

4 You remove deferrals for critical habitat and to
5 protect subsistence hunting areas from potential
6 impact of development. You never have moved
7 deferrals we suggested. Only thing you did was send
8 out 27 ships, even icebreakers from Canada. Is that
9 minimizing? And here as a municipality, we weren't
10 told they were going to use the airport and send up
11 supply ships to land in our municipal reserve.

12 We talk about the noise issues, chopper, two
13 choppers, maybe three, making four trips every day,
14 that's 12 trips. And the supply ship landing with
15 no permission in the municipal reserve right in
16 front of Barrow. We removed the boat ramp they were
17 using. We told them that's for subsistence boat use
18 only. It's not for landing for supplies. They
19 laughed at us until they found out we were serious
20 and they couldn't land. Then they had to come to
21 the municipality, to City of Barrow and negotiate.

22 They think the permit you guys give them gave
23 them a right to interfere with the local
24 municipality, the local subsistence hunters. Their
25 rights are taken away. Here's your permit. That's

1 exactly what you are doing.

2 And here we testify, we fight. We are -- we
3 have to follow IWC ruling, like I have just stated
4 earlier, I almost lost my right to be a whaling
5 captain or my crew to be whalers anymore. You guys
6 don't have any rules to follow. You make up your
7 own rules and put it in your press release and your
8 EIS and giving us deadline.

9 I don't know of any subsistence hunter that has
10 a deadline when he goes out to hunt. We don't know
11 of any deadlines. But I am getting sick and tired
12 of late communications, short time notice. I don't
13 even have a prepared statement other than what you
14 have given me to use against you. You release it to
15 benefit yourself, but it can't be used against you
16 because we know it's not, it's infringing on our
17 rights as Inupiat and under ICC, which has a
18 relationship with United Nations.

19 You can't even try to have a lease sale in
20 Northwest Passage because you're going to have
21 nations against you, Canada, Greenland, Denmark,
22 Finland, Norway, whoever proclaim they own Northwest
23 Passage, but you do it here in front of us from
24 Kaktovik all the way down to Point Hope where we're
25 trying to continue living our subsistence way of

1 life.

2 Our employment is very poor. It's always been
3 very poor. That don't stop us from doing
4 subsistence hunting, because with no job you have to
5 live off land and like the ducking, they tried to
6 make our community stop hunting ducks in summertime
7 because it was after the closage of duck season in
8 Southern Alaska or Lower 48. So the whole village
9 went out duck hunting and tried to convince the
10 police officer to be arrested. Too bad we can't
11 pull up the whales and demonstrate and say, here,
12 take me, but we already have a law on that.

13 We go by quota system. We go by whatever rules
14 they tell us to follow. And we negotiate to make it
15 work up here. That's what you need to do, negotiate
16 with us to make it work together. Thank you.

17 MR. COWLES: Thank you.

18 (Interpreter translating.)

19 MR. EDWARDSON: My name is George Edwardson.
20 And I live here in Barrow. Lived here all my life.
21 And I don't represent anybody, just me and my
22 family.

23 And when you look at this community or the eight
24 North Slope communities, 84 out of every 100 is my
25 relative in the North Slope. Three out of every

1 four around the NANA region, that's my family.
2 Education-wise, I'm a geologist, got a degree in
3 mining and petroleum technology. You tell me a
4 resource, I can go find it, develop it, finance it,
5 take it out. That's my education. I'm also
6 probably the only certified gas field operator in
7 Alaska. These are my educations in your system.

8 To start off with, we're looking at the Arctic
9 Ocean. And when you look at the Arctic Ocean in the
10 eyes of the world, it's classified as a historical
11 sea. That's the definition the world gives my ocean
12 I feed myself off of.

13 And under that definition, I'm the only one that
14 live here that can make rules and what can happen in
15 that ocean. The United States says they take care
16 of us, therefore they can talk about, you know, what
17 they want to do in the Arctic Ocean. This is
18 written in international law. These are rules you
19 have to follow.

20 And you hear our big fear about oil spills.
21 Okay. Let's take a look at that oil, that crude
22 oil. When you put it in the water, about 80 percent
23 of it goes into solution, you know, the gasolines,
24 methanes, the lighter ends of the crude oil goes
25 into solution. And when we talk about cleaning it

1 up, or you talk about cleaning it up, you're only
2 taking off what you could take -- see from the top,
3 even though you do not have the capability of
4 cleaning it.

5 1968 I worked for Pan American Petroleum. I was
6 in charge of the first cleanup boat that ever came
7 to the state of Alaska. I had to change it so it
8 could stay afloat in our ocean, in our waters. That
9 technology that was used in 1968, we're in 2006, it
10 has not changed. The ability to clean it up, what I
11 modified in 1968, it has not changed today. It's
12 over 40 years later. And you don't even have any
13 way of cleaning. I mean, these are plain facts.

14 And then you look at the ocean where you're
15 proposing to drill, over in the Chukchi side. Do
16 you know where the first oil spill is going to land
17 on land? No, you don't. But the older people can
18 tell me. They already showed me. All the wood that
19 comes washing in the ocean from Siberia, down the
20 western side of Alaska, eastern side of Siberia, all
21 the way down to Japan, they hit -- they start at the
22 point, 11 miles up and continues going back to the
23 west. So you have a major spill, this town will be
24 polluted. You can't clean it, because you don't
25 have the capability.

1 And from as far as I can see, United States has
2 not gone to the United Nations to ask permission if
3 they could go out there.

4 You listen us people that live here in the
5 Arctic. This is our home, always have been our
6 home. We watched your first boat come over, you
7 know, with what's his name, Columbus. We were
8 already here living off our ocean. We looked at the
9 wood, we could tell you where that piece of wood
10 came from.

11 Now, you go to the coast and look at those big
12 driftwoods, rotten on the outside because they've
13 been sitting there for over 100 years. If you cut
14 them open, the sap in that tree will start flowing.
15 That is protected because of the cold. You can make
16 a big pollution in the warmer waters where the
17 lighter ends of the crude oil can vaporize and leave
18 the ocean. Up here in the Arctic Ocean you can't,
19 it won't vaporize. Water temperatures from 24 to 29
20 degrees, it stays there year round. So whatever
21 pollutants you put in my ocean will stay in
22 solution. And that's a real killer. That's a
23 killer of our low end of our food chain. Ten to 15
24 years later, then it's going to hit me because the
25 animals will disappear. These are plain facts of

1 life, okay.

2 You went to your schools, you graduated. I went
3 to the same schools, I graduated with a B-plus
4 average, so I know where you're -- what your
5 education is. I know what level it is, because I
6 went there. And when you look at the ocean,
7 especially the Chukchi side, when the salmon is
8 hatched in any river, it doesn't matter if it's in
9 Alaska or Canada, when that salmon hits the ocean,
10 the so-called free world, your world, does not know
11 where that salmon go. I do, because when we're
12 hunting, sometimes we detour up to ten miles around
13 that school of fish, juvenile salmons that we can't
14 take our boat through. We know that.

15 And, as I mentioned earlier, you can break the
16 world's fisheries into three sections, the great
17 new -- over between the Eastern United States,
18 Canada and over on the European side, that fishery
19 is gone. It's been fished out. That's one-third of
20 the world's fishery. The other third of the world's
21 fishery is the Pacific Rim, population got so big,
22 they're running out of fish.

23 Now you are in the last third of the world's
24 fisheries. You destroy that fishery, then the world
25 has no more fish to eat. And you're going to take

1 the responsibility, because you are authorizing them
2 to go drill out there. And it's no if or -- it's no
3 accident about having a spill. You guaranteed us
4 two-and-a-half spills in the 50-years plus of your
5 development. Two major spills, and that solution
6 with the crude oil in it goes around, every ten
7 years it comes back to me in the rotation. And it
8 doesn't leave.

9 And then the other half, two-and-a-half spills,
10 you're going to kill everything that's in the ocean,
11 without a doubt. Because the lighter ends of the
12 crude oil cannot vaporize and disappear like they do
13 in the tropics. You can't -- you -- replace, you
14 know the food I need, I need the animals up here
15 because my body does not have a capability of making
16 the fat that allows me to live here. So I have to
17 borrow that fat from the animals that are here so I
18 can stay. Without it, I have to migrate south. And
19 you see the world you put us in?

20 (Interpreter translating.)

21 MR. COWLES: By my last show of hands, I think
22 we have a couple more people. If you show your
23 hands again, I can get a rough estimate.

24 Maybe we should take a break, then because it's
25 been another hour, it's a little bit after 11:00,

1 so --

2 MR. SUYDAN: Why don't we keep going.

3 MR. COWLES: Okay.

4 Yes, sir.

5 MR. TUKLE: For the record, my name is Frederick
6 Tukle Senior. What I wanted to talk about tonight
7 on the level of activity, (indiscernable). But I
8 wanted to elaborate a little bit on the statement
9 right here. We have many affidavits from our
10 whaling captains testifying to the damage to their
11 hunting from the high levels of activity during the
12 1980s and early 1990s. Just as happened then, we
13 will not be able to have successful hunts. Whales
14 will be lost and our hunters will be put at serious
15 risk. During that time hunters lost equipment and
16 boats and some almost lost their lives because they
17 had to travel so far out to the ocean.

18 This statement right here, when Maggie
19 elaborated on the Nuiqsut whalers, I'm one of those
20 Nuiqsut whalers that was whaling during that time at
21 Cross Islands. And then -- that there was three
22 whaling captains that time, that -- that -- we were
23 out there in 1989.

24 We first became aware that seismic operations
25 were being done in Canada. How we came to find that

1 out was we started seeing different kinds of ducks
2 and geese that we never seen before around the Cross
3 Island area. And then this was where we Nuiqsut
4 whalers became aware in 1989 that the birds were
5 already being affected from the seismic operations
6 and in the Canada area.

7 The sequence of events that I'm about to talk
8 about may not have happened in the order that
9 they -- that that I'm going to talk about. Right
10 about that time we ran into the seismic ship that
11 was actually conducting these seismic activities in
12 the Flaxman Islands area near Camden Bay.

13 And for a several-week period just while we were
14 whaling, we could not -- for the record, I was
15 whaling with Thomas Napageak, the past AWC
16 commissioner, Patrick Tukle and also Captain Donald
17 Tukle. And one of my first experiences was, with
18 this seismic ship was when we ran into -- we
19 actually ran into the ship while it was conducting
20 these explosions. And that was when we realized,
21 for this reason for a three-week period we wasn't
22 even able to spot -- I think we spotted one whale in
23 a three-week period.

24 I witnessed some things that happened that you
25 guys need to be aware about. And then one of these

1 incidents was when -- I'm going to talk about -- I'm
2 going to be alluding to the behavior of the whales.
3 And then my first contact I ever had with a whale
4 after we ran into the ship and this was near Narwhal
5 Island, I had witnessed a whale that was very
6 agitated. I come to realize these -- the whales
7 that we were running into were very angry. And when
8 Thomas Napageak engaged this whale right in front of
9 me about, say, from this wall to where Ben Hopson,
10 our past mayor's desk is, the whale had attacked his
11 boat right in front of us. And then what, we
12 couldn't understand why these whales were very
13 agitated and angry.

14 But another incident that I want to point out is
15 I'm glad some people testified regarding my uncle
16 Archie Ahkiviana. When we realized we couldn't spot
17 any whales, we went direct north that, during one of
18 these hunts and we finally spotted a whale 31 miles
19 direct north of Cross Island. I started
20 witnessing -- I stared realizing that we were
21 encountering whales that were very angry. And how I
22 got to know this was these -- as we began to engage
23 these whales, that they were quickly turning on us
24 and trying to get us. And then -- and then this
25 happened every single time we encountered these

1 bowhead whales.

2 Archie Ahkiviana, at that time, caught his first
3 whale 30 miles direct north of Cross Island. And as
4 we were towing the whale back to Cross Island that
5 time, I would say this was in very close to -- might
6 be 1990. As we were towing the whale, we knew we
7 were in dangerous waters. We were going direct
8 north to where our elders always tell us not to go.

9 And so anyways, while we were towing this whale
10 18 miles north of Cross Island, we got caught in
11 50-mile-an-hour winds. We seen this wind coming
12 from the west direction. And then when this wind
13 hit us, automatic -- our tow line -- that -- that we
14 were using snapped. This was when the Patrick Tukle
15 boat from the wind when we had -- we were forced to
16 stop. And all the boats that had stopped that they
17 were blown back from these winds. And then that was
18 when I witnessed the first mayday call of our Tukle
19 boat.

20 There were three boats that time that took in
21 water. One was Archie Ahkiviana boat, another one
22 was the Frank Long boat and other was the Patrick
23 Tukle boat. It was the Tukle boat that was last.

24 When we realized that we were not able to save
25 this whale, we abandoned it. I can't tell you how

1 much that hurt to be helpless like that. We
2 suddenly realized our lives were in danger, we had
3 to -- we had to quickly go save my uncles and then
4 my relatives and get -- we were lucky to have saved
5 them that time.

6 As time went by during this whaling period my
7 captain, my whaling captain, Donald Tukle, died in a
8 whaling accident. I realized Nuiqsut whalers were
9 becoming desperate, absolutely desperate, so we
10 could be able to bring food home to our families.
11 Almost like you guys going out there and hunting
12 with your families.

13 The other thing I kind of want to bring out to
14 you guys is when I listen to my whaling captain give
15 a mayday call that he was going down, what led up to
16 this accident I realize was his desperation to catch
17 a whale. It happened at about 1:30 in the
18 afternoon, very close to this late 19 -- not exactly
19 sure what year it was. But to be able to listen to
20 your captain, and on a mayday call that we have gone
21 down. I realize all of this is related to the
22 seismic activities that's being conducted. He was
23 transporting supplies from the west dock area and
24 his boat, in the process, was shattered on --
25 underneath of the boat going, traveling through thin

1 ice to, traveling from west dock to Cross Island.

2 When the oil companies and North Slope Borough
3 search and rescue responded, the chopper that was
4 used, the North Slope Borough chopper that was used
5 to attempt a rescue that time, the blades were too
6 big. And as they went down to try to retrieve my
7 captain and my shipmates, that wind from the blades
8 kept blowing them away. And they wasn't able to
9 pull them out.

10 Then the Era chopper at that time responded,
11 because it was a smaller chopper, that they were
12 able to rescue two of the -- two of my -- my
13 shipmates, one Robert Lagpy (phonetic) Senior and
14 one Roger Anakuva (phonetic) of Nuiqsut.

15 I realized after a while that -- that these
16 boats that are staged in the Prudhoe Bay area, there
17 was an attempt to use these oil response boats to
18 rescue him. And then through this -- this thin ice
19 that that was formed, there was not able to launch
20 these boats that are supposed to be used for oil
21 response.

22 I testified on this one time before. These are
23 the same boats that are there today. I have to
24 wonder if these boats were not able to save my
25 captain, what makes you think that these boats are

1 going to be able to respond to a major oil spill?

2 This activity drove us to be desperate. And
3 then I realized what I am looking at was whales
4 ready to hurt us the moment we engaged them. But
5 I'll tell you how my captain was actually rescued.
6 One of these pilots in this chopper, he -- when they
7 were able to finally reach my captain, he attempted
8 to pull him into the chopper. And my whaling
9 captain is telling him: Pull. Pull with everything
10 you got. But he wasn't able to hold him. As they
11 were going up in the air, he fell. And they went
12 down again and they had to tie a rope around him.
13 And then they had to tie this same rope to that
14 little landing deal these choppers have. And that's
15 how they took him to land.

16 When I think about this, and I'm looking at you
17 guys sitting here, telling these Barrow people that
18 that -- that the impact will be minimum, I -- I
19 think I could honestly call you a liar. You're
20 lying to my people. And -- and I -- I first time
21 became aware of this meeting happening, and then I
22 knew to come here and share with you little bit of
23 what I got to see that time.

24 I, too, have watched Nuiqsut residents, elders
25 testified over a 20-year period until they died,

1 until we are -- we are sitting there burying them,
2 giving testimonies to meetings like this. I often
3 talk to Barrow leaders and tell them that you guys
4 are going to continue to keep coming this way, the
5 same way you did Nuiqsut residents. And when they
6 die trying to protect our lives, and then you're
7 sitting here and I'm seeing the exact same thing
8 happening that happened with us in Nuiqsut.

9 I'm very angry that you guys are sitting here.
10 And I consider you a direct threat to my elders, to
11 our children, to everything that we live for. And I
12 don't appreciate some of the comments you've made
13 and then how you guys quickly get around to what
14 we're trying to do. When I think about this, I have
15 to think about human rights issues. And in my eyes,
16 this has become a human rights issue.

17 The fact that you're sitting here, I consider
18 you a grave threat, even as I'm making my comments
19 to the people of Barrow, to the Eskimos, to
20 everybody Eskimo that lives here, when I think of
21 what if you were in my shoes and you go out hunting
22 with me, with your family and come back and have to
23 bury them, it's almost as though I'm going to my
24 storehouse out there, to my garden for -- and I'll
25 give you an example of what I am living right now.

1 Right now I am not working. Right now I am totally
2 dependent on Inupiat Eskimo food.

3 And I -- and I got to look at this for a while
4 since that time and when I listen to my elders
5 saying, I'm hungry, I wish I had Eskimo food, and I
6 watch some of them get skinny in Nuiqsut. When I
7 look at some of these documentaries of starving
8 people around the world and they have this certain
9 look in their eyes, and they are dying, I couldn't
10 see the difference between who my elders are,
11 hungry, and looking in the eyes of these starving
12 people, like people in Africa.

13 I am glad to have shared with you guys a little
14 bit of my life. I -- I think I'm speaking a little
15 bit as Inupiat Eskimo and as Nuiqsut whaler and in
16 the last few years had the opportunity to whale in
17 Barrow. You can't tell me you're going to minimize
18 these effects. I will not accept that.

19 And in closing, I just would like to say I stand
20 by every testimony that everyone stood right here
21 and I stand by them, and I carry these experiences
22 of the seismic operations.

23 One last thing I am very concerned about is
24 these (inaudible) that are -- that are starting to
25 accumulate across the -- the oceans from here to

1 Canada -- during this time of my whaling in Nuiqsut
2 I got to watch the -- the flare by Endicott. We
3 were transporting our whale meat and our -- the
4 muktuk, the whale blubber to Endicott. It was
5 during this time the water was like glass. There
6 was absolutely no wind. We got within a three
7 mile -- from starting three miles out of Endicott,
8 we start seeing these blue dots of gas. So we
9 marked it on our GPS. And then when we got to a
10 two-mile period, we noticed these drops of gas were
11 something like that.

12 And when we got to within one mile of Endicott,
13 the whole entire area within a one-mile radius was
14 covered with gas, directly from this flare pit.

15 I have to wonder how far you guys are going to
16 go. And I do consider your sitting here a grave
17 threat to my Barrow people. That's all I have to
18 say.

19 MR. COWLES: Thank you, sir.

20 MR. SHEARD: My name is Whit Sheard and I live
21 in Palmer, Alaska.

22 I'll wait until you guys are done.

23 All right. I work for Pacific Environment, a
24 nongovernmental organization. We work a lot in the
25 Russian Far East. As I said, I live in Palmer. I'm

1 the Alaska program director. And I'd like to
2 comment on the proposed program, the proposed
3 program EIS and the Chukchi lease sale EIS.

4 You know, sitting here and listening to folks
5 talking, I kind of wonder how you can come and say
6 that you've got, you know, an EIS that looks at
7 alternatives to a proposed program. It's obviously
8 a done deal. Every single alternative offered in
9 this environmental impact statement assumes they'll
10 be leasing in the Chukchi and Beaufort Sea.

11 It's very disturbing to me. It's -- coming in
12 here and saying we're, you know, zoning most of the
13 Arctic Ocean for oil and gas development, and if you
14 want whale deferrals, well, you need to come in and
15 pick those little areas out of this, basically,
16 uniform zoning. I think that's insulting.

17 I think the program, the proposed program, in
18 many ways, is shortsighted. I have a hard time
19 believing that it's the policy of the United States
20 to go to a place most impacted by global warming, by
21 greenhouse gas emissions and our use of fossil fuels
22 to extract more fossil fuels in order to perpetuate
23 that cycle. It's ironic, but it's not funny.

24 In terms of environmental justice, the Alaska
25 portion of this program is off the charts in terms

1 of disproportionate impact to minority communities.
2 I was flipping through the EIS and I saw that the
3 Alaska region has maybe three to ten percent of the
4 oil that the Gulf of the Mexico region has. And, to
5 me, I don't know why there was no attempt in this
6 program to figure out how we can reduce our
7 consumption by three to ten percent or replace it
8 with alternative means of energy that are available
9 and avoid all of the impacts to subsistence cultures
10 altogether.

11 I think that you looked to countries, like
12 Norway, who have been dealing with this for a little
13 while. I think some of the engineers get excited
14 that there's technology out there that can be used
15 in these cold-water climates. I think we've heard
16 from folks in the community and from scientists that
17 we can't clean up spills in broken ice conditions,
18 yet the program says there will be, I think three
19 major spills, two-and-a-half, three major spills
20 across the Beaufort and Chukchi.

21 So we're going to have spills and we can't clean
22 them up. I think we're a little -- getting a little
23 ahead of ourselves. And I had the good fortune,
24 someone called me earlier this year and asked if I
25 could go to Norway and meet with some of the folks

1 at their pollution prevention agency. And we sat
2 down and they showed us their new program for
3 development in the Barents Sea. And it was a
4 comprehensive zoning program.

5 It had areas for fisheries that were off limits
6 to oil and gas development because of the impacts of
7 seismic and the impacts of the pollution. If we
8 were going to do that, you know, in Alaska, that
9 would be pretty much right where the North Aleutian
10 Basin sale is planned. That's cod alley. That's
11 the heart of the fisheries right there. You can
12 pretty much follow the life cycle of the red king
13 crab right through that area. It makes no sense to
14 me.

15 And I can't see going ahead with anything like
16 this without having taken a comprehensive look at
17 zoning and put biologically important places off
18 limits, putting cultural and subsistence areas off
19 limits. You don't plan for all oil gas development
20 based on where industry interest is and turn around
21 and ask people to comment on whether that conflicts
22 with what they want to do. You bring everybody to
23 be table beforehand.

24 That being said, you know, the environmental
25 impact statement itself is supposed to look at a

1 wide range of alternatives. As I said, every single
2 alternative includes the Beaufort and Chukchi.
3 There's one alternative that would defer the small
4 buffer there on the coastline. And I suppose that's
5 to be applauded, but to me a real plan would look at
6 alternative areas in producing that oil and gas from
7 different places.

8 You know, in terms of environmental justice, it
9 seems to me like the majority populations along the
10 East and West Coast have the political power to keep
11 this development and its pollution off their shores,
12 and that the folks up here are not afforded that
13 same level of respect or that same level of power.

14 Been coming to a lot of these meetings over the
15 last couple years and folks have been saying the
16 same thing: Too much, too soon, too fast. And,
17 quite frankly, I don't see it slowing down. And
18 that's probably why, you know, we're here at this
19 meeting commenting on three different things.

20 The conclusions in the EIS are startling in some
21 spots. And I guess I should praise you at some
22 point for having been honest occasionally. And I'd
23 like to read a couple of the quotes from the
24 environmental impact statement.

25 In terms of subsistence, the document says:

1 Significant cumulative effects on subsistence
2 resources are possible and likely. It also says
3 that during the 2007 to 2012 leasing program, the
4 cumulative impact of one or more important
5 subsistence resources becoming unavailable,
6 undesirable for use or greatly reduced numbers for a
7 periods of one or two years for one or more Alaskan
8 coastal community is very likely. Somebody's going
9 to use lose their subsistence rights for at least
10 one or two years.

11 Number 3: Oil spill events could have moderate
12 to major cumulative effects for this region.

13 Well, we've heard that over and over again.

14 Number 4: Because of rapid and long-term
15 impacts from climate change on long-standing
16 traditional hunting and gathering practices that
17 promote health and cultural identity,
18 subsistence-based communities could experience
19 significant cultural stresses, in addition to major
20 impacts on population, employment and local
21 infrastructure.

22 If present rates of climate change continue,
23 rapid and long-term impacts on subsistence
24 resources, subsistence harvest practices and the
25 traditional diet could be expected.

1 So what I'm hearing is that there's going to be
2 an exponential impact on subsistence, not only is
3 there going to go direct impact from pollution, but
4 as the stresses from climate changes in this region
5 continue, it's going to have a profound effect,
6 increasing that level of impact.

7 And, you know, after making all those
8 statements, you come to the last paragraph of that
9 section of the EIS, which is on subsistence resource
10 impacts, which has listed those five significant
11 impacts and says all of these are major impacts.
12 And then the final conclusion is that the effects of
13 OCS activities on subsistence, quote, could vary
14 greatly, but are expected to be small.

15 I don't understand the connection between
16 finding again and again that there's going to be
17 spills, that they can't be cleaned up, that
18 subsistence is going to be impacted, some
19 communities are going to lose their rights, and
20 these are small impacts.

21 And I think what it really comes down to for me
22 is in terms of environmental justice, in terms of
23 treating folks up here with respect for their
24 traditional use and access and with the same rights
25 as, you know, the rest of the country, MMS says, you

003-029

003-030

1 know, there are going to be, in subsistence-based
2 indigenous communities, we expect them to experience
3 disproportionate, highly adverse environmental
4 health effects.

5 And my question is, when you go back to DC
6 can -- can you take the message back there that this
7 is a small percent of the resources available to us
8 in terms of fossil fuel development, yet the impacts
9 are nearly catastrophic for cultures and communities
10 here if what happens is what you're saying is going
11 to happen, until you get to the final conclusion
12 when, somehow, you determine that it's not going to
13 happen.

14 So my comments are: Go back to the drawing
15 board on this plan. Figure out, if you substituted
16 the California Coast for the Alaska Coast, how many
17 resources would we lose? An environment impact
18 statement, you're supposed to be able to look at
19 different alternatives and look at the tradeoffs.
20 Now, if you look at the impacts to California, you
21 can list a bunch of economic impacts and things like
22 that, but it would show that basically that what
23 you're doing with your program is, you're deciding
24 specifically to go somewhere where the impacts will
25 occur on a minority population and they will be

1 substantial and they will be disproportionate.

2 Without any kind of analysis like that, you
3 can't really expect the decision-maker or the public
4 to learn of all the environmental tradeoffs as well
5 as the social tradeoffs.

6 So, you know, look at a program that takes the
7 Arctic out of there. Look at a program that takes
8 Bristol Bay out of there. Tell me if those
9 resources can be replaced or taken somewhere else
10 and tell me if the impacts on these communities can
11 be avoided altogether, because without that
12 analysis, the document is basically just a blueprint
13 for, you know, spin the wheel which subsistence
14 community is going to lose.

15 So in comments on Sale 193 obviously, I think
16 the cart is before the horse. Obviously maybe
17 that's why the Chukchi is included in every single
18 alternative offered to the Secretary, is because
19 we're already going forward and getting ready to
20 lease areas in there. I don't think you can do that
21 under the National Environmental Policy Act and I
22 don't think opening the Arctic offshore areas which,
23 you know, in the Chukchi there's no active leases.
24 This is a major undertaking. And I think the,
25 undertaken too lightly.

1 Thank you.

2 MR. COWLES: Thank you.

3 MR. SUYDAN: Good evening, my name is Robert
4 Suydan. I'm a wildlife biologist with the North
5 Slope Borough Department of Wildlife Management.
6 I've lived in Barrow for, going on 17 years and
7 spent a couple years up here before that. And I'd
8 like to thank MMS for being here to listen people.

9 And, as many people have said tonight, that, you
10 know, we feel like we say these things over and over
11 and over again and they don't get heard. And I'm
12 not optimistic that this situation will be
13 different, but hopefully if people keep saying it
14 often enough, that MMS will actually hear and
15 respond to the concerns that the people are
16 expressing.

17 Personally, I'm in favor of the no-action
18 alternative. I don't think MMS should open up the
19 Chukchi or the Beaufort Sea any more than they
20 already have to oil and gas. And I feel that way
21 for a couple of different reasons. One, as many
22 people have said, that industry and agencies don't
23 have the ability to clean up oil that's spilled in
24 the Arctic Ocean. It's not possible to do. Another
25 important consideration is there are huge data gaps.

003-031

1 There are huge unknowns in the Chukchi Sea,
2 especially, but also the Beaufort, on simple things
3 like what's the basic distribution and abundance and
4 habitat use of the resources that are out there that
5 are important, not only for the nation, but
6 important for the subsistence users?

7 We don't have that basic information. And that
8 basic information is incredibly important for making
9 reasonable assessments of what the impacts might be
10 from oil and gas activities on the offshore areas,
11 but also coming up with reasonable mitigation
12 measures. So that's why I am in support of the
13 no-action alternative.

14 However, I know that that's not realistic. The
15 administration and Washington DC wants oil and gas
16 development to go ahead, to go ahead very quickly
17 and without regard, in my opinion, to many of the
18 environmental aspects of development.

19 So -- so knowing that the no-action alternative
20 is not really an option, it's not realistic, I think
21 that there needs to be huge areas in the Chukchi and
22 Beaufort Sea that need to be withdrawn from the
23 leasing. These areas include deferral areas around
24 Kaktovik, around the Barter Island, Kaktovik, around
25 Cross Island for the Nuiqsut whalers, around Barrow

1 and around each of the villages on the Chukchi Sea
2 coast for all of their subsistence activities that
3 go on.

4 The Secretary has proposed a 25-mile withdrawal
5 or deferral zone. I am not sure what the right term
6 is. But the Secretary has proposed this zone to not
7 be leased. And I think that's a step in the right
8 direction, but it's not enough. You know, the
9 biological opinion that came out 15 or 20 years ago
10 suggested it be more like 30 or 40 miles in order to
11 protect bowhead whales. And perhaps going out 60
12 miles is actually even better to protect those
13 resources. Let oil development, if it's going to
14 happen, go out there. You know, try to balance
15 these important subsistence resources with
16 development.

17 Jim, I want to thank you for coming up here.
18 And earlier you made a statement that the most
19 current and the best science was used to develop the
20 draft EIS for the five-year plan. And I don't want
21 to be insulting, but I also need to be honest, and
22 say that the draft EIS for the five-year program has
23 some major problems. Because you said that the best
24 science should be used, but, unfortunately, that's
25 not what has happened.

1 The specifics -- we'll provide many specifics to
2 MMS in writing about some of those problems. But,
3 essentially, the draft EIS is incomplete and
4 inadequate. Some of the most important studies that
5 have been done in the last 10 or 15 years are
6 completely missing from the EIS. And some of those
7 studies are actually ones that MMS has even funded.
8 And I just don't understand why that has occurred,
9 because MMS has used some of those studies and used
10 some those references in previous EISes or in
11 previous EAs. So there's some major -- major gaps,
12 major inadequacies.

13 Some of the specifics, Western Geophysical and
14 BP did studies on the effects of seismic on bowheads
15 whales. And all of that information is not in this
16 EIS. Also BP has done a tremendous job of
17 monitoring impacts from North Star production island
18 and the noise that they're producing and deflecting
19 bowhead whales. That information isn't in this
20 drafts EIS.

21 Somebody mentioned polar bears earlier, polar
22 bears drowning. Again, a study that MMS did, and
23 that information I haven't been able to find in the
24 EIS. I'm not sure if it's there.

25 The critical habitat for spectacled Eiders in

003-032

1 the Chukchi Sea is mislabeled, is misidentified as a
2 wintering area. The birds don't winter anywhere
3 near that spot. In the marine mammal section for
4 the Arctic subregion, belugas were left out for some
5 reason. Gray whales were left out for some reason.
6 Huge data gaps that just -- I just can't fathom.

7 There are statements made in the EIS that are
8 made without supportive data. One such statement is
9 sounds effects on whales, industrial sounds, are
10 only short-term. There are no data to say
11 whether -- what the duration of the effects from
12 sound on whales are at all, that repeatedly there
13 are statements made in there without supportive
14 data.

15 References aren't provided, or often the
16 references refer back to a previous EIS or previous
17 EA. And to me that shows that MMS is under intense
18 pressure to get this stuff out quickly and doesn't
19 have a time to do an adequate job in developing an
20 EIS. And my guess is that's because there's a lot
21 of pressure from Back East to make sure that these
22 things get out quickly.

23 But it means -- by getting out quickly it means
24 they are not done thoroughly or adequately. It
25 means that the decision-makers, the Secretary, the

003-032

003-033

1 decision-makers and the public can't adequately
2 assess what the impacts might be and can't
3 adequately make comments or make decisions about
4 what should happen in the Chukchi and Beaufort Sea.
5 This is a flaw that really needs to be corrected in
6 this draft EIS, that the -- the specific and the
7 original scientific studies that have occurred to
8 assess impacts need to be referenced and so that
9 people can go back to the original documents and not
10 go back to previous EISes.

11 Finally, the comm -- the cumulative case is also
12 lacking or the assessments of the cumulative case.
13 Many people have talked about it tonight. And just
14 to sum -- some specific examples of how it's lacking
15 is that many of the activities, the human activities
16 that are occurring in the Beaufort and Chukchi
17 weren't even listed as being part of the cumulative
18 case. Oil and gas activity in Canada wasn't
19 included.

20 The seismic work -- the seismic work that
21 occurred in 2006 and that's proposed for 2007 wasn't
22 included. The increasing scientific activity to
23 assess climate changes in the Arctic, that wasn't
24 included. The coal mine that is likely to be
25 developed down near Ledyard Bay, down near Cape

003-034

003-034

1 Lisburne wasn't included either. International
2 shipping seemed to have been missed as well. All of
3 these things are ongoing or very foreseeable as to
4 be human activities here in the Arctic.

5 So, in summarizing my feeling about the draft
6 EIS is that it is inadequate, it's flawed and it's
7 not suitable for making realistic decisions, you
8 know, whether it's by the Secretary or whether it's
9 for the public to make comments to MMS, that the --
10 it really needs to be reworked.

11 Last spring the mayor of the North Slope Borough
12 Mayor Edward Itta, at an open water meeting said the
13 activity that's going out in the Chukchi Sea and the
14 Beaufort Sea is happening, it's too much, it's too
15 soon, it's too fast. And as another example of
16 that, as we're standing here tonight, we have two
17 EISes, the five-year EIS, Lease Sale 193, we have
18 the five-year program, these are big documents.
19 They're not easy to -- to review.

20 You guys just came back from Point Hope and
21 Point Lay and have been to other villages. I'm sure
22 those people didn't even have copies of the EISes.
23 It's like, how can a small community review all of
24 these documents that you're producing? And these
25 are just some of them, there's going to be another

1 EIS that you haven't mentioned tonight that will be
2 out sometime probably in January or February or
3 March to permit seismic work in the Chukchi or the
4 Beaufort for 2007. So there's yet another document
5 that's going to be big that we're going to have to
6 review as well.

7 We'll also have to review the monitoring plans
8 for each of the companies that are going to be doing
9 work out there. You're basically overwhelming us.
10 Okay? It's not fair to the people up here. There
11 aren't enough people. There's not enough time to
12 review all the things that you're putting out. And
13 then when you throw on BLM and what they are doing
14 onshore or what the State might be doing onshore,
15 near shore, it's just overwhelming.

16 So my suggestions to MMS is that we need to slow
17 down. This is probably to the federal government,
18 to the administration, we need to slow down. Too
19 much is happening too quickly. And we need to slow
20 down because we need to fill the huge data gaps. We
21 need to understand what's happening in the Chukchi
22 Sea for the wildlife resources, you know, the
23 resources that the people up here depend on. We
24 need to understand what the possession impacts are
25 going to be and we need to understand how the

1 habitat's used and how we can mitigate the impacts
2 if we're going to go forward and develop this area.
3 Okay? We need fill those data gaps.

4 We also, the government needs to require that
5 the companies figure out how to clean up spilled oil
6 out here, you know. A ship could dump oil
7 accidentally, you know, or exploratory well.
8 There's lots of ways that oil could be spilled and
9 companies need to be able to clean it up.

10 Until those things happen, MMS needs to limit
11 the amount of activity that's going on out there.
12 Again, I would prefer that there was no oil and gas
13 activity, but knowing that that's not realistic, we
14 need to limit the amount of activity so that we
15 don't have these profound effects that we may never
16 be able to recover from. And not just effects to
17 whales or the birds, but especially effects to the
18 people. We're talking about a unique culture up
19 here that is threatened with all of this activity.
20 And to lose that would just be horrible. I mean
21 there's -- the words -- I can't come up with words
22 that are strong enough for the loss that that would
23 give.

24 So again, I guess in closing, I just plead that
25 you actually listen to people this time. You know,

1 people come -- we go to lots of public meetings and
2 public hearings and we give lots of testimony, but
3 you need to listen to people.

4 I was at a workshop just a couple weeks ago on
5 Chukchi monitoring. And about a hundred people in
6 the room trying to give MMS some recommendations on
7 what needs -- what study needs to occur in the
8 Chukchi Sea. And as I looked around the room, I
9 noticed I was the only person in the room from the
10 Chukchi Sea planning area or from adjacent to it.
11 Where were the people from the North Slope? Where
12 were the people -- why weren't people from the North
13 Slope brought down to help provide guidance and help
14 tell MMS what were the important things to look at
15 and to study?

16 And so I ask you again, please listen to the
17 people up here. It's incredibly important for lots
18 and lots of different reasons. So thanks again for
19 being here tonight. And again, I hope you do -- do
20 listens. Thanks.

21 MR. COWLES: Thank you, Robert.

22 MR. GEORGE: Good evening. I'll be brief. I
23 think you've heard a lot of good comments and it's
24 really interesting information. And I don't have a
25 whole lot to add, frankly, I think it's been

003-035

1 emphasized that this is a calving area -- I'm losing
2 my voice -- that, I think that was mentioned the
3 bowheads do calve along the coast. And probably a
4 major portion of the calving does take place within
5 the -- within the proposed lease area.

6 And the other thing I'm not sure was mentioned
7 that the migratory route is constricted here, so if
8 there's an accident that occurs, for instance, along
9 the Chukchi coast, you have the potential to
10 intercept a large portion of the bowhead population.

11 Then we heard another -- I want to, if I could,
12 get something clarified from this -- this document.
13 And in it is a section on marine, relative marine
14 productivity. And in it the Beaufort Chukchi ranked
15 last of the eight -- or the seven areas that are
16 being considered for leasing. And this is in terms
17 of fixed carbon per unit area per year.

18 And my -- I have -- my concern is that to
19 someone who doesn't really understand the biology of
20 the area, they would look at this and say, well,
21 nothing happens here, we go ahead and lease it
22 without any environmental consequences. So my first
23 question is how is this table used? And then I have
24 a comment about how the calculations were done. But
25 how is this table used to -- to make decisions

003-036

1 about oil and gas --

2 MR. BENNETT: This information is required as
3 part of up the OCS Lands Act and is provided to the
4 Secretary in making his decision and the
5 recommendation that we provide to him.

6 MR. GEORGE: Okay. And how is the information
7 used? Is it used in the sense that I've just
8 suggested, that an area that ranks low in primary
9 productivity would, therefore, be an area that you
10 might be more likely to lease because it's less
11 productive?

12 MR. BENNETT: How -- that's one factor in -- in
13 how the Secretary arrives at his decision. I can't
14 answer your question with regard to specifically how
15 that particular set of information is used.

16 MR. GEORGE: Okay. Well, I've looked into this
17 some. And I think we will submit comments and I
18 won't go into this, but we will provide an analysis
19 that we've done looking at the Arctic seas. And I
20 think what you'll find is that comparing what's
21 going on oceanographically with the Arctic oceans or
22 seas, with temperate oceans, is probably like
23 comparing apples and oranges.

24 One, the Arctic seas are highly seasonable --
25 highly seasonal, rather, and protect -- production

003-036

1 is actually on -- on a scale equal to some of the
2 more highly productive temperate oceans, but on a
3 shorter time period. So if you did consider using
4 the units that are used here the fixed carbon per
5 cubic meter, if they are extrapolated out to an
6 entire year, they would, you know, they would
7 actually be rated quite high.

8 And the other thing that's unique here is
9 that -- is that this area here in the Bering Strait
10 is one of the most biologically productive areas in
11 the world apparently in terms of fixed carbon. And
12 this is all affected up the coast. So it
13 complicates the, the map. In other words, down here
14 there's -- this hugely productive region, which does
15 rank high in that table, and it gets -- it gets
16 transported north. And here it -- the recent work
17 that's been done by the NSF group, it looks like
18 there's a -- there's an eddy here and a lot of that
19 production is then, like the thousands that are
20 transported north eddy out and they're available for
21 feeding and that's why the highest densities in the
22 MMS surveys for bowheads occur in here.

23 Anyway, and I'm going into a lot of detail, but
24 it -- it just makes it very difficult to interpret
25 that table. And I hope that that table's not being

1 used to say, well, you know, this is a nonproductive
2 area and therefore would not be an area that there
3 would be large consequences if, in fact, it was
4 leased.

5 So thanks for your time. Thanks for coming up.
6 And you've heard a lot tonight. I think I'll end my
7 comments there. Thank you.

8 MR. BENNETT: Can I just -- just to the last two
9 speakers, we would appreciate a specific comment
10 that you had mentioned that you think we need to
11 address and a specifically with regard to the marine
12 productivity calculation, we would very much
13 appreciate your thoughts on.

14 MR. GEORGE: Yeah, I'll send it. By the way, my
15 name is Craig George.

16 MR. COWLES: Anybody else that would like to
17 comment? Okay.

18 I would like to express our thanks to all of
19 you. We know the special effort that you take to
20 come and present these ideas and comments and
21 thoughts as time has progressed over the years. And
22 it's been to our benefit. And we think this is very
23 important to these documents and the decisions that
24 MMS and the Department of the Interior make. So
25 thank you once again for comments.

(Whereupon, the hearing was concluded.)

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1 REPORTER'S CERTIFICATE

2

3

4 I, Britney E. Chonka, Court Reporter, hereby
5 certify:

6 That I am a Court Reporter for Alaska Stenotype
7 Reporters and Notary Public in and for the State of
8 Alaska at large. I certify Hereby that the forgoing
9 transcript is a true and correct transcript of said
10 proceedings taken before me at the time and place stated
11 in the caption therein.

12 I further certify that I am not of counsel to
13 either of the parties hereto or otherwise interested in
14 said cause.

15 In witness whereof, I hereunto set my hand and
16 affix my official seal this 12th day of December, 2006.

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BRITNEY E. CHONKA, REPORTER

21

Notary Public - State of Alaska

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MMS Responses to Barrow Comments

Barrow 003-001

Our analysis of potential impacts to marine mammals and birds is based on the best available science at the time the NEPA documents are written. New research is initiated all the time and generally takes considerable time to complete. As the results of new research become available, these results will be incorporated into our analyses.

Barrow 003-002

See the response to comment **Barrow 003-001**.

Barrow 003-003

The Corridor I (Alternative III) deferral was the result of scoping meetings held on the North Slope in January and February 2006. Information from the scoping meetings was coupled with information on threatened and endangered species, and the outcome was the Corridor I (Alternative III) deferral. Corridor I was developed to address concerns related to bowhead whale subsistence hunting, subsistence walrus hunting, Steller's eider critical habitat, and Barrow Canyon.

Barrow 003-004

See the response to comment **Barrow 003-003**.

Barrow 003-005

The MMS will try to contrast the colors defining the deferrals more effectively in the final EIS.

Barrow 003-006

The Endangered Species Act (ESA) of 1973, as amended, establishes protection and conservation of threatened and endangered species and the ecosystems on which they depend. The ESA is administered by FWS and NMFS. Section 7 of the Act governs interagency cooperation and consultation. The MMS formally consults with NMFS and FWS to ensure that activities on the OCS under MMS jurisdiction do not jeopardize the continued existence of a threatened or endangered species and/or result in adverse modification or destruction of their critical habitat.

The Alaska Region, working with FWS, issues protocols to eliminate or minimize impacts associated with oil- and gas-leasing activities. Often times these protocols are adopted as stipulations on individual lease sales.

Congress enacted the Marine Mammal Protection Act (MMPA) in 1972 (16 U.S.C. 1361-1407). The MMPA prohibits (with some exceptions): (1) "Taking" of marine mammals in U.S. waters and by any person under U.S. jurisdiction on the high seas and (2) Importing marine mammals and marine mammal products into the U.S.

The MMS coordinates with NMFS and FWS to ensure that MMS and offshore operators comply with the MMPA, and to identify mitigation and monitoring requirements for permits or approvals for activities like seismic surveys and platform removals. Often, misunderstanding of terminology such as "taking" can be confusing. A good source to better understand MMPA terminology and the process by which MMS coordinates with NMFS and FWS can be found at <http://www.mms.gov/eppd/compliance/mmpa/responsibility.htm>.

Barrow 003-007

The MMS agrees that there is not as much scientific data for the Alaska Outer Continental Shelf (OCS) relating to oil and gas activities as there is for the Gulf of Mexico OCS. The Gulf of Mexico has a longer and more dynamic history of oil and gas exploration, development, and operations activities when compared to the Alaska OCS; and, correspondingly, more information has been generated in the Gulf of Mexico on the environmental effects of oil and gas activities. The MMS has used all available scientific information to define the existing environment and assess possible impacts to the environment and local populations resulting from oil and gas operations within the Chukchi Sea area. The MMS continues to monitor and analyze the effects of existing activities on the North Slope for use in future assessments and decisionmaking. The comment has been sent to our Environmental Studies Section to help MMS to assess, plan, and monitor any oil and gas development operations in the future.

Barrow 003-008

See the response to comment **Barrow 003-007**. The MMS has used all available scientific information to define the existing environment and in assessing possible impacts to the environment and local populations resulting from oil and gas operations within the Chukchi Sea area. The comment has been sent to our Studies section to help the MMS to assess, plan, and monitor any oil and gas development operations in the future.

Barrow 003-009

Yes, there were oil spills as a result of hurricanes Katrina and Rita from OCS platforms. There were 124 reported spills from OCS operations, accounting for approximately 17,652 barrels of oil. These were two of the most destructive storms in U.S. history and industry preparations for them must be seen as a success. The majority of the spills were small in size and none was directly attributable to releases from wells, because the subsurface safety valves that MMS requires operated correctly when the wells were ordered shut in ahead of the storm. The spills were primarily from oil stored at the facilities or from oil remaining in damaged pipeline segments.

Barrow 003-010

The Congress, through the OCS Lands Act, directs the Department of the Interior to consider all OCS areas that are not under Congressional Moratoria as potential for leasing. The Congress has not excluded the Arctic planning areas from leasing though moratoria at this time. The Department of the Interior and MMS consider all comments from stakeholders in developing each 5-Year leasing program. Decisions on which planning areas are included in the 5-Year leasing plans are based on a balance of our mandates under the OCS Lands Act, comments from the coastal States and other stakeholders, and environmental considerations.

Barrow 003-011

Section II.B.4 outlines the plan for mitigating multiple seismic-survey activities, including the use of icebreakers. Mitigation measures for potential impacts to subsistence whaling from exploration-drilling activities are similar to mitigation for seismic surveys, including periods minimizing or halting vessel traffic, monitoring the bowhead migration, and coordinating with the subsistence-whaling community. The plan includes monitoring. Mitigation measures will be adjusted should new data warrant.

Barrow 003-012

See the response to comment **Point Lay 001-008** on ways to mitigate for everyday life changes.

The MMS acknowledges cumulative sociocultural impacts on the North Slope and that Inupiat culture has undergone significant change. The influx of money (from wage employment) has added many benefits and

raised the standard of living, but these influences also have given rise to an array of social problems, including increased alcoholism. The processes that give rise to these problems are many, varied, and complex, and go well beyond the direct and indirect effects of the cumulative impacting factors that result from onshore and offshore petroleum development.

Any realistic analysis of cumulative effects on the North Slope needs to consider both onshore and offshore effects. The most obvious cumulative effects have occurred and continue to occur onshore as oil and gas activities expand outward from Prudhoe Bay/Deadhorse. Most of the stress factors mentioned by local stakeholders can normally be associated with onshore impacts.

Limited monitoring data prevent quantitative assessment of cumulative subsistence-resource damage; resource displacement; changes in hunter access to resources; increased competition; contamination levels in subsistence resources; harvest reductions; or increased effort, risk, and cost to hunters. Limited data also limit our assessment of the effectiveness of mitigation measures. Any monitoring regime would incorporate traditional Inupiat knowledge of subsistence resources and practices. Development already has caused increased regulation of subsistence hunting, reduced access to hunting and fishing areas, altered habitat, and intensified competition from nonsubsistence hunters for fish and wildlife (Haynes and Pedersen, 1989; Pedersen et al., 2000). The MMS acknowledges that these trends constitute a reason for monitoring subsistence resources and harvests.

Many other events have combined with the area's oil development to bring rapid social change to the area including ANCSA and ANILCA legislation, the formation of the NSB, the AEWC, and other local and regional institutions. It is important to note the difficulty in disaggregating the cumulative effects of oil development in the region from these other relatively recent processes of extreme local social change.

The MMS agrees that mitigation both on and offshore play an important role in preventing significant impacts to subsistence resources, sociocultural systems, and environmental justice, and that they should be monitored and enforced. Through such processes as inspections, MMS does monitor and enforce the mitigations over which it has statutory authority

Barrow 003-013

The EIS defines "significant" effects on subsistence-harvest patterns as: One or more important subsistence resources would become unavailable, undesirable for use, or available only in greatly reduced numbers for a period of 1-2 years. The analyses for Sales 186, 195, 202, and 193 use the lower threshold of 1 year and interpret this to mean unavailable, undesirable for use, or available only in greatly reduced numbers for one harvest season.

In evaluating the potential adverse effects from OCS activities, we look at the magnitude and duration of disruption. We use the five categories shown below, ranging from very low to very high, with "significant" effects equated to conditions described in the high category definition:

- Very Low – Subsistence resources could be periodically affected with no apparent effects on subsistence harvests.
- Low - Subsistence resources would be affected for a period of 1 year, but no resource would be unavailable, undesirable for use or greatly reduced in number.
- Moderate - One or more important subsistence resource would become unavailable, undesirable for use, or available only in greatly reduced numbers for a period not exceeding 1 year.
- High - One or more important subsistence resource would become unavailable, undesirable for use, or available only in greatly reduce numbers for a period of 1-2 years.
- Very High - One or more important subsistence resource would become unavailable, undesirable for use, or available only in greatly reduced numbers for a period of 2 or more years.

For subsistence resources, as the categories move from very low to very high, the time frame of disruption increases (from periodic to 2 or more years), but the magnitude of the effect stays relatively constant (one

or more important subsistence resource would become unavailable, undesirable, or available only in greatly reduced numbers). The categories have some overlap but have enough differences to allow the analyst to accurately describe the myriad potential effects in a single category.

In reporting the conclusion of our analysis of the potential adverse effects from OCS activities, we shift from this five-category scale to a single standard to provide a clear boundary that when crossed, signals significant effects. In part, the high category was selected to maintain continuity between our assessment of subsistence and sociocultural effects and the Environmental Justice significance threshold of disproportionately high adverse effects embedded in our assessment of human health and environmental effects of a proposed action on low income, minority populations under Executive Order 12898.

These thresholds were developed over time and reflect many years of comments and refinements to establish a reasonable threshold definition. We define the thresholds to be flexible so they can be applied to diverse resources of the different Alaska OCS Region planning areas. We carefully and rigorously apply these criteria to circumstances within each planning area.

The threshold for subsistence-harvest effects reflects what we have learned regarding the importance of subsistence resources. Using the threshold, a significant effect occurs if a single important resource becomes unavailable or undesirable for use or available only in greatly reduced numbers for 1 year. Please note that the use of “or” instead of “and” means that any one of the three conditions individually will result in a significant effect. This approach results in a fairly broad threshold. For example, the significance threshold would be met if OCS oil and gas activities resulted in one important resource becoming undesirable for use for a period of 1 year, regardless of how available the resource was. In the Beaufort Sea multiple-sale EIS (USDOI, MMS, 2003a), the analyses for Sales 186, 195, and 202 all used the lower threshold of 1 year (not 1-2 years) and interpreted this to mean unavailable, undesirable for use, or available only in greatly reduced numbers for one harvest season.

The absence of a significant effect does not equate to “no effect.” As shown in the five-category scale, and in the numerous analyses that we have undertaken, effects from activities can be adverse and noticeable before they reach the significance threshold. Furthermore, in the cumulative effects analysis, we analyze the combined effects of projected activities with other actions, because we know that effects that individually do not reach our significance threshold can exceed that significance threshold when considered collectively.

In May 2006, MMS Regional Director John Goll sent a letter addressing this concern to the AEW and the Mayor of the North Slope Borough. The letter’s intent was to explain and clarify our derivation and use of effects threshold levels for subsistence-harvest patterns and sociocultural systems. The letter explained how MMS evaluates subsistence and sociocultural impacts in our NEPA documents, how “significant” levels of impacts are determined for these resource categories, our understanding of AEW, NSB, and local community concerns with regard to significant impacts, and an invitation to the AEW and the NSB to assist us in making our significance threshold levels more “appropriate and more accurate.”

As the letter concluded, we look forward to your assistance in providing “Any literature, peer reviewed documents or other authoritative information that can help validate and substantiate the standards you suggest would be useful in our further evaluation of these thresholds.”

The MMS waits your response on this matter and looks forward to continuing this critical information exchange with you.

Barrow 003-014

The Secretary of the Interior has directed MMS to identify deferral alternatives at the individual lease-sale level and not at the 5-year program level. As a result, deferrals associated with the Beaufort Sea will be identified through consultation and coordination during the Arctic Multiple-Sale EIS process to begin in spring 2009.

Barrow 003-015

The MMS is unaware of any research findings that have shown that “a 40 to 50 kilometer area around Prudhoe Bay has been abandoned by seals.” In fact, peer-reviewed research has found the contrary. For example, as stated in the draft EIS at page IV-222:

Moulton et al. (2005) reported that during spring surveys, there was no evidence that construction, drilling, and production activities at BPXA’s Northstar oil development affected local ringed seal distribution and abundance. Drilling and production sounds from Northstar likely were audible to ringed seals, at least intermittently, out to ~1.5 km in water and ~5km in air (Blackwell, Greene, and Richardson, 2004). These results suggest that any negative effects on seals from individual developments are likely to be minor and very localized. Likewise, Richardson and Williams (2004) concluded that there was little effect from the low-to-moderate level, low-frequency industrial sounds emanating from the Northstar facility on ringed seals during the open-water period, and that the overall effects of the construction and operation of the facility were minor, short term, and localized, with no consequences to the seal populations as a whole.

Barrow 003-016

See the response to comment **Barrow 003-013** on significance thresholds.

Barrow 003-017

Regarding assessing impacts to human health, since the fall of 2006, MMS has pursued such an effort in cooperation with the Tribes, the NSB, and the Alaska Inter-Tribal Council. This has led to substantial additions to the sociocultural and environmental justice analyses for the 2007-2012 5-Year final EIS and the Chukchi Sea Sale 193 final EIS. The MMS is in the process of planning future efforts to address these issues. We will continue to update future environmental documents to address these issues.

See also the response to comment **Barrow 003-013** on significance thresholds.

Barrow 003-018

The MMS believes it has done a credible cumulative effects analysis on subsistence-harvest patterns, sociocultural systems, and environmental justice. In these discussions the long-term impacts of additional roads, pipelines, ports, the enlargement of the DeLong port site, and oil activities in the Russian and Canadian Arctic are discussed as they relate to impacts on subsistence resources, sociocultural systems, and environmental justice. See Sections V.C.12, IV.C.13, and IV.C.16, respectively, of the Sale 193 draft EIS.

See also the response to comment **Barrow 003-017** concerning the improvement of the analytical discussion on human health impacts in the Chukchi Sea Sale 193 final EIS.

Barrow 003-019

The EIS discusses scientific information related to the 120-dB monitoring zone in Section IV.C.1.f(1) and Appendix D. In Section II.B.5.c, the EIS specifically acknowledges that this issue is pending court decision.

Barrow 003-020

Part of MMS oil-spill-response plan requirements is that the operators test all aspects of their plan. They must conduct equipment deployment and operation exercises, tabletop drills to simulate management response to a spill, and notifications drills to ensure releases are properly reported to authorities. The

company is also required at a minimum to annually train response personnel to conduct spill-response operations, whether they actually deploy and operate equipment or provide response support as part of the incident management team. The MMS also will conduct both announced and unannounced drills to test an operator's readiness to respond to a release.

The MMS requires that all operations be done safely using the best available and safest technology. During the exploration, development, production, and transportation of oil and gas or sulphur, the lessee shall take measures to prevent unauthorized discharge of pollutants into the offshore waters. The lessee shall not create conditions that will pose unreasonable risk to public health, life, property, aquatic life, wildlife, recreation, navigation, commercial fishing, or other uses of the ocean.

All hydrocarbon-handling equipment for testing and production such as separators, tanks, and treaters shall be designed, installed, and operated to prevent pollution. Maintenance or repairs which are necessary to prevent pollution of offshore waters shall be undertaken immediately. Curbs, gutters, drip pans, and drains shall be installed in deck areas in a manner necessary to collect all contaminants not authorized for discharge. Oil drainage shall be piped to a properly designed, operated, and maintained sump system which will automatically maintain the oil at a level sufficient to prevent discharge of oil into offshore waters. All gravity drains shall be equipped with a water trap or other means to prevent gas in the sump system from escaping through the drains. Sump piles shall not be used as processing devices to treat or skim liquids but may be used to collect treated-produced water, treated-produced sand, or liquids from drip pans and deck drains and as a final trap for hydrocarbon liquids in the event of equipment upsets. Improperly designed, operated, or maintained sump piles which do not prevent the discharge of oil into offshore waters shall be replaced or repaired. On artificial islands, all vessels containing hydrocarbons shall be placed inside an impervious berm or otherwise protected to contain spills. Drainage shall be directed away from the drilling rig to a sump. Drains and sumps shall be constructed to prevent seepage.

The lessee is required to design, install, maintain, test, and use the BOP system and system components to ensure well control. The working-pressure rating of each BOP component must exceed maximum anticipated surface pressures. The BOP system includes the BOP stack and associated BOP systems and equipment.

All downhole tubing installations open to hydrocarbon-bearing zones shall be equipped with subsurface safety devices that will shut off the flow from the well in the event of an emergency. These devices may consist of a surface-controlled subsurface safety valve (SSSV), a subsurface-controlled SSSV, an injection valve, a tubing plug, or a tubing/annular subsurface safety device, and any associated safety valve lock or landing nipple.

The lessee must protect all platform production facilities with a basic and ancillary surface safety system designed, analyzed, installed, tested, and maintained in operating condition in accordance with American Petroleum Institute (API) Recommended Practice (RP) 14C. The safety-system devices shall be successfully inspected and tested by the lessee at the interval specified below or more frequently if operating conditions warrant. Testing must be in accordance with API RP 14C.

The lessee must design, fabricate, install, use, maintain, inspect, and assess all platforms and related structures on the OCS to ensure their structural integrity for the safe conduct of drilling, workover, and production operations. The lessee must consider the specific environmental conditions at the platform location.

The MMS has inspector and engineering staff to review the lessee's plans, make onsite inspections, and review pollution prevention activities.

Barrow 003-021

The MMS acknowledges this concern and will continue to develop appropriate mitigation and monitoring for OCS activities.

Barrow 003-022

In the event that a large oil spill occurred and contaminated essential whaling areas, major additive significant effects could occur when impacts from contamination of the shoreline, tainting concerns, cleanup disturbance, and disruption of subsistence practices are factored together. For a discussion of this issue as it relates to subsistence resources and practices, see Section IV.C.1.1(3), Effectiveness of Mitigation Measures. There is a discussion of transboundary oil spills in this same section at IV.C.1.1(3)(d).

Barrow 003-023

The MMS takes the comments seriously and appreciates stakeholder input. See the response to comment **Barrow 003-010**.

Barrow 003-024

For a discussion of MMS's use of TEK comments, see the response to comment **Point Lay 001-001** on working with elders.

For a discussion on oil-spill and cumulative impacts see the responses to comments Barrow 003-012 on cumulative impacts to villages and **Barrow 003-022** on transboundary oil spills.

Barrow 003-025

The MMS takes the comments seriously and appreciates stakeholder input. See the response to comment **Barrow 003-010**.

Barrow 003-026

The MMS is a bureau of the U.S. Department of the Interior. In the Alaska Region, our mission is to manage the mineral resources of the OCS in an environmentally sound and safe manner.

Under this mandate, the Alaska Region must find a way to provide the opportunity to explore for petroleum and still preserve the environment and the lifestyle of the people living adjacent to its coast.

Barrow 003-027

Industry receives Incidental Take Authorizations from the NMFS and the FWS. These authorizations are for the harassment of marine mammals and are issued if the resource agency concludes the activity would have small effects to the resource and availability of the resource to meet subsistence needs. These authorizations do not allow or authorize lethal takings. A lethal taking of a marine mammal would be subject to enforcement action by the appropriate resource agency.

Barrow 003-028

“Take” is statutorily defined as “harass, hunt, capture, or kill, or attempt to harass, hunt, capture or kill any marine mammal.” The 1994 amendments to the MMPA define harass as any act of pursuit, torment, or annoyance that has the potential to:

- Injure a marine mammal or marine mammal stock the wild (Level A); or
- Disturb a marine mammal or marine mammal stock in the wild by disrupting behavioral patterns (for example, migration breathing, nursing, breeding, feeding, or sheltering) (Level B).

Section 101(a)(5)(A) of the MMPA and the implementing regulations at 50 CFR 216.105 allow U.S. citizens to petition the NMFS or FWS to develop regulations authorizing a limited unintentional or accidental taking of small numbers of marine mammals, provided that the activity would have a negligible impact to marine mammals. The Act also requires monitoring and reporting of take to verify a negligible impact. Specific regulations are based upon the best available information and after notice and opportunity for public review. Under these regulations, operators conducting industry related activities may request a site-specific Letter of Authorization (LOA) to allow the conditional taking of marine mammals for not more than five consecutive years.

In the absence of a LOA, operators are liable for any takes which may occur. The FWS encourages applicants to apply for a LOA for activities with a potential for taking in order to fully comply with the MMPA. If terms and conditions of the LOA are not being complied with, the LOA may be revoked. If the number authorized in the LOA is exceeded or lethal takes associated with activities occur, the FWS would reassess the impacts to the marine mammal population(s) and reconsider the appropriateness of authorizations for taking under section 101(a)(5)(A) of the MMPA. Civil penalties may be assessed for violations of the regulations or permits.

Except for activities that have the potential to result in serious injury or mortality, NMFS or FWS also may issue Incidental Harassment Authorizations (IHA). An IHA applies to activities that may result in only the incidental harassment of a small number of marine mammals. All IHA's must undergo a 30-day public review period. They are valid for up to one year and may be renewed for an additional year.

Barrow 003-029

No section related to subsistence, sociocultural systems, and environmental justice characterizes the potential effect as "small." Consequences from a development scenario that includes a large oil spill and cumulative impacts from noise, disturbance, and climate change would result in significant impacts. The impacts contributed solely from the proposed Sale 193 action are expected to be more localized and short term and not reach significant levels except in the case of a large oil spill or noise and disturbance impacts that cannot be successfully mitigated by conflict avoidance agreements.

Barrow 003-030

The analysis makes clear that impacts from oil spills on subsistence or local communities would not be "small." The draft EIS states that should a large oil spill occur, impacts would be significant and long term.

See also the response to comment **Barrow 003-029**.

Barrow 003-031

The MMS has used the best available science for the Lease Sale 193 analyses to support the decision making process as outlined in the Council of Environmental Quality regulations (CEQ 1502.22). Where applicable, the EIS acknowledges the uncertainties associated with significant resources occurring in the frontier environment. Information used in conducting various analyses are listed in the bibliography contained in Section VI.

Barrow 003-032

This comment appears to refer to a parenthetical descriptor made in the Affected Environment Section of the draft EIS for the 5-Year Plan, not the draft EIS for Lease Sale 193. The figures in the draft EIS for the 5-year Plan are correctly labeled as eider critical habitat, but there was an error in that draft EIS when it described the critical habitat in the Chukchi Sea as wintering habitat.

Barrow 003-033

We believe that the commenter is referring to the 2007-2012 5-Year Program EIS here. Both beluga and gray whales are included in the marine mammals analysis in the Lease Sale 193 EIS.

Barrow 003-034

We refer the North Slope Borough reviewer to the introductory sections of Section V, Cumulative Effects of the EIS, which describes the scope of the Cumulative Impacts Analyses. Oil and gas activity associated with other countries is addressed at a programmatic level within the 5-Year Program EIS. Impacts associated with seismic activity were analyzed within Section IV as part of the proposed action and the Section V cumulative analysis when applicable for specific resources identified.

For purposes of the cumulative impacts analyses associated with Lease Sale 193, any scientific activity associated with assessing climate changes in the Arctic is assumed to not have any deleterious impacts on existing arctic resources and was not considered within the scope of this analyses. While the MMS recognizes these activities occur, the Lease Sale 193 analyses assume that these activities would be regulated by the appropriate agency or institution to avoid and minimize impacts.

The MMS recognizes that Northwest Alaska has extensive bodies of ore that might be developed if world metal prices were favorable and extensive coal deposits could someday be mined economically. The MMS information indicates that no firm plans to develop any new mines for ore or coal, although those resources generally are considered in long-term regional planning for Northwest Alaska (U.S. Army Corps of Engineers, 2005). As a result, any long-term plans for the development of coal mines within the geographic vicinity of the Chukchi Sea are considered outside the scope of cumulative impacts for Lease Sale 193.

There currently is not adequate evidence to suggest that a viable or heavily traveled northern route for commercial, military, scientific, and tourist vessels will be a reality in the reasonably foreseeable future. There has been speculation that if a warming trend were to continue, a Northwest Passage or Northern Sea Route would be open for 2-3 months in summer and early fall (Brigham and Lawson, 2002). In the meantime, while this route is attractively shorter, many things need to be addressed; for example, insurance costs, double-hull requirements, unpredictability of polar weather, and sovereignty issues. As these issues are addressed, factors such as water pollution, noise, and disturbance will be addressed with appropriate mitigating measures. To date, the only commercial vessel that has successfully used the Northwest Passage was the specifically strengthened U.S. tanker, the *Manhattan* in 1969 with the aid of American and Canadian icebreakers.

Barrow 003-035

The “Chukchi Offshore Monitoring in Drilling Area Chukchi Sea” planning workshop, November 1-3, 2006, was a small workshop designed for approximately 50 attendees to help initiate design of one MMS monitoring project. Invitations were sent to over 150 scientists and stakeholders, including local and regional governments, tribes, native associations, oil industry, and environmental groups on the Alaska OCS Regional mailing list. All local native stakeholders, tribes, governments, subsistence organizations, and native corporations on the MMS Regional mailing list were invited. In addition to Alaska OCS Regional Mailing list, invitations went by email to approximately 50-name-requested scientists. Over a hundred scientists and stakeholders attended with 77 registering. Representatives from NSB and AEWC were invited to attend the workshop. Several of the invited representatives attended the NMFS Open-water Meeting the week before (October 24-26, 2006) or the Alaska Federation of Natives Convention (October 23-28, 2006) and elected not remain in Anchorage or return to Anchorage for another meeting. The commenter – Robert Suydam of the North Slope Borough Department of Wildlife Management – was one of the invited representatives and attendees. George Ahmaogak, Sr. participated in the Subsistence Working Group as a North Slope whaler. A detailed summary of study area subsistence concerns raised in

MMS North Slope scoping was presented at start of the Subsistence Working Group session, in addition to the scoping summary presented on the first day of the workshop.

Barrow 003-037

See the response to comment **Barrow 003-010**.

Barrow 003-038

The MMS conducts inspections of OCS facilities to verify that the operator is conducting operations in accordance with the OCS Lands Act, the regulations, lease, right-of-way and any approved plans or other applicable laws and regulations (30 CFR 250.130). In the event the operator's performance is not acceptable the MMS has the authority to revoke the designation of operator of that company for the facility or facilities affected (30 CFR 250.135). Also, the Secretary of Interior has the ability to cancel a lease in the event that continued activity would probably cause harm or damage to life, property, any mineral deposits, or the marine, coastal or human environment (30 CFR 250.1810).

**Document
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PROPOSED LEASE SALE 193 CHUKCHI SEA

DRAFT EIS HEARING

WAINWRIGHT

Taken December 7, 2006
Commencing at 7:20 p.m.

Volume I - Pages 1 - 57, inclusive

Taken at
Robert James Community Center
Wainwright, Alaska

Reported by:
Mary A. Vavrik, RMR

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A-P-P-E-A-R-A-N-C-E-S

For Minerals Management Service:

Fred R. King
Hearing Officer

Peter Johnson
Geophysicist
Mike Salyer
EIS Coordinator

Albert Barros
Community Liaison

Taken by:

Mary A. Vavrik, RMR

BE IT KNOWN that the aforementioned proceedings were taken at the time and place duly noted on the title page, before Mary A. Vavrik, Registered Merit Reporter and Notary Public within and for the State of Alaska.

1 P-R-O-C-E-E-D-I-N-G-S

2 HEARING OFFICER: My name is Fred King,
3 and I'll be the hearing officer for this meeting. I'm
4 with the Minerals Management Service, and we are out of
5 Anchorage, Alaska. With me is Mike Salyer, who is the EIS
6 coordinator for this project. And I also have Peter
7 Johnson, who is with our Resource Evaluation Unit, and
8 Albert Barros, who is our community liaison person, that's
9 the four of us with MMS. We also have -- because this is
10 a hearing, we have Mary Vavrik, who is a court reporter,
11 and she is taking verbatim testimony as people give it.

12 Before we start this meeting, if it's okay with
13 everybody, we would like to ask George to give a blessing.

14 (George Agnasagga gives a blessing.)

15 HEARING OFFICER: I would also like to
16 apologize to the community. We tried to get in here a
17 couple of weeks ago and got weathered out, so we have
18 rescheduled this meeting. And we are sorry we couldn't
19 make the first meeting, but weather got the best of us.

20 We are prepared to go through a quick briefing on
21 Sale 193, but this is -- we're here to hear your
22 testimony. So if you would like us to -- if you would
23 like Mike to give about a ten-minute briefing based on the
24 information that you have got, he will be glad to do it,
25 or we can go to testimony.

1 If there aren't too many objections, I'll go ahead
2 and ask Mike to do a quick briefing, and if there are a
3 few questions, clarifications, you can go ahead and ask
4 them as he's going through. And then as soon as he's
5 done, what I'd like to do is if you would like to testify,
6 if you would please come up here and sit at the seat, that
7 way our court reporter can pick you up on the mike. And
8 we would also ask you to give your name and spell it so we
9 get it right. So if you will go ahead, Mike.

10 MR. SALYER: Good evening. I'd like to
11 start out, really appreciate you all having us in the
12 village this evening. And if you picked up a little
13 packet, real briefly it's just some general information on
14 Lease Sale 193, environmental impact statement. The
15 environmental impact statement right now is in its draft
16 form, and it's out for comment. The comment period on
17 draft -- the draft EIS is December 26th. And you will see
18 that in the slide presentation.

19 On the first page, you see these green boxes, a
20 little flow chart here. That's simply outlining the
21 environmental impact statement process for NEPA for this
22 lease sale, for Minerals Management Service. And we are
23 sort of at that date. October 2006 is where we mailed out
24 the EIS, and that kind of shows you the comment period and
25 the times associated with the process. We are expecting

1 that the lease sale will -- if everything gets approved
2 and decisions get made, if it was going to go forward, it
3 would be in November of 2007. Of course, that's up to the
4 Secretary of Interior.

5 But tonight we are here just to present some brief
6 information and mainly to hear what your comments are on
7 the environmental impact statement.

8 So on the next page it simply has a little chart of
9 the different meetings, when they were held in the
10 villages, some background information just explaining how
11 it's a special interest sale. And that really gets us to
12 the proposed action that the environmental impact
13 statement covers. And as you can see, we have a couple
14 maps up here. And the prepared action is the program area
15 which occurs in the bold green area of the Chukchi Sea.
16 And you also have this map attached in your packet, in the
17 back area of the packet here.

18 Now, I want you to notice that there is a 15- to
19 25-mile area that is excluded from this right from the
20 beginning, okay, taking care of some of the lead system
21 issues. And it's just the green line. That's the program
22 area. And toward the end of last year, there were some
23 scoping meetings held in the village. Some of you all may
24 have attended those. And we try to take the information
25 we obtained from everyone and incorporate that into the

1 environmental impact statement.

2 And as a result of those scoping meetings, we were
3 able to create some deferrals as alternatives. And we are
4 just going to look at those real briefly. On the second
5 page you have the proposed action sort of broken down.
6 There is a lot of numbers. It's mainly just pertaining to
7 that green outlined area. It's roughly 34 million acres,
8 and it excludes the spring lead system.

9 On the bottom slide it shows some of the biggest
10 concerns that were raised in the scoping process that we
11 have tried to address in that document. That's what we
12 want to hear from you all tonight on whether you all think
13 we have addressed those or not.

14 Turning the page, it has a brief description you will
15 see entitled Lease Sale 193 deferrals. Those are our
16 alternatives. We have the whole program area as one
17 alternative. We have alternatives twos and no action
18 alternative, alternative three, which is Corridor I
19 deferral. That's the largest. That's encompassed in this
20 purple or lavender area that's a deferral alternative.

21 Now, the fourth alternative is simply all of Corridor
22 II. It encompasses a little west area. It's in the blue
23 hatch marks. I apologize, it's hard to see on the map
24 but, again, it's in the map in your packet. That's what
25 we did the analysis on in the environmental impact

1 statement.

2 Again, the last couple slides are just a brief
3 overview of the process and the different dates that are
4 milestones. And again, where we are at right now is in a
5 comment period that's going to last till December 26 on
6 the draft. And then we'll put together a final
7 environmental impact statement. There will be another
8 chance to comment from there.

9 That's a brief overview of Lease Sale 193 EIS. And
10 at that point we can answer questions or go to hearing.

11 HEARING OFFICER: One more thing. Would
12 you explain what the second map is?

13 MR. SALYER: Sure. The second map here is
14 sort of a historical map, if you will, of past lease sales
15 that have occurred in Chukchi. At present there are no
16 leases out there, but over the past roughly 15 years, this
17 map depicts past leases and past wells that were drilled
18 and that were capped. So that's what this is showing here
19 within the outlined program area in the green. Okay.

20 HEARING OFFICER: One of the reasons we
21 brought that is people quite often say where do you think
22 there is going to be leasing or where is the oil industry
23 interested. This is where they were interested before.
24 There was a lot of things that they bought that they
25 didn't drill wells or anything on, so its probably our

1 best guesstimate at this point indication of maybe where
2 companies are interested. So that's why that's included.

3 MR. SALYER: Very good.

4 HEARING OFFICER: Are there any other
5 questions we can respond to before we take testimony?

6 Okay. If not, I think we would like to -- we will be
7 quiet for a bit and ask anybody who would like to come up
8 and give us comments to -- again, if you would come up and
9 sit here and give us your name and spell it so we get your
10 name correctly.

11 While people are formulating their comments, I would
12 also like to thank the Native village who has agreed to
13 give some door prizes. I'll acknowledge them, and I
14 assume we will be drawing for those door prizes later. We
15 won't draw for them early. I'm afraid I'd lose my crowd
16 here.

17 MR. GEORGE AGNASAGGA: Hi. My name is
18 George Agnasagga, A-G-N-A-S-A-G-G-A. I was looking at the
19 two maps. The first one is the relinquished area. And
20 you will notice on all the relinquished area they are
21 further out into the ocean. And if you look to the newer
22 map, you will notice that the corridors that we are
23 talking about now is much closer to shore. Is there a
24 reason behind that or --

25 HEARING OFFICER: Yes. The corridors that

1 we are identifying there are areas for the Secretary to
2 consider eliminating from the sale. So our EIS said this
3 would be the benefits and the protection that would be
4 added if you deferred or took those areas out of the sale.

5 MR. SALYER: To not explore.

6 HEARING OFFICER: So we would not issue
7 any leases or offer that for leases if the Secretary took
8 those out. And the reason we are looking at them is when
9 we came here in scoping, these were what we heard from the
10 communities. If you were to go forward with the lease
11 sale, you need to go further offshore, so you need to take
12 these areas out of the sale. So that's not looking at
13 where the sale would be offered, but those would be areas
14 that have been suggested should be removed from the sale.

15 MR. GEORGE AGNASAGGA: Okay. That's what
16 I understood several months ago when we had a meeting, and
17 that's why I had a question on the corridor. Thank you.

18 HEARING OFFICER: That's fine.

19 MR. SALYER: That's a good question.

20 HEARING OFFICER: Just to follow up, we
21 have two different degrees of how much area gets deferred.
22 And that's why there is two of them there. And then
23 again, there is always -- the other option that's analyzed
24 in the EIS is a no sale option or do nothing. So there is
25 those two deferrals and a do nothing and the proposal, so

1 there is four options available to the Secretary. And
2 when I say the Secretary, this is the Secretary of
3 Interior, Secretary Kempthorne.

4 MR. BILLY NASHOALOOK, SR.: I'd rather ask
5 questions from over there. I think there will be a lot of
6 people that would want to ask but afraid to come up here.

7 I'm Billy Nashoalook. I live here all my life. And
8 one question that I had and one story that was told that I
9 witnessed for myself back in -- when was Western
10 Geophysical? A long time ago.

11 MR. JACK PANIK: '69.

12 MR. BILLY NASHOALOOK: When they were
13 doing seismic testing on that, but they went offshore the
14 first part of April. I was out caribou hunting and we
15 went as far as Icy Cape, and we had a trap line go
16 straight out in the ocean. And we were afraid to follow
17 it because they did have snowmachines running over the
18 lines. We never tried to follow it. And following
19 whaling season, I guess they were blasting right through
20 the ice. That was in early part of April. We did not
21 sight not one whale all spring. There was not one whale
22 caught, not one whale sighted. I was out there whaling
23 with them. We went paddling as far as 30 miles out.
24 There was not a -- we didn't see no sign of any kind of
25 whale, except for one walrus. That's the only thing I saw

1 that far. And looking at this map on the deferral
2 corridor this area is about 20 miles out, you said?

3 HEARING OFFICER: About 25 miles.

4 MR. NASHOALOOK: And we do go out 30 to 35
5 miles sometimes, and that's right on the migrating area of
6 our whales that come from Point Hope and go straight to
7 this point. So that's why I say it's best to -- unless if
8 you guys know what -- how you are going to -- unless you
9 know what -- how you are going to take care of any oil
10 spills or any kind of mess any time during the -- and may
11 I ask when will the drilling take place?

12 HEARING OFFICER: It's not 100 percent
13 guaranteed, but because of the water depths we are facing
14 here, I think exploration drilling would probably have to
15 occur during the open water season, but one of our
16 requirements is they have to meet with the communities, an
17 oil company if they get it, and they have to agree to a
18 conflict avoidance agreement when they can operate and
19 what they can do and everything so they aren't disturbing
20 the whale hunt.

21 MR. NASHOALOOK: The reason I ask was we
22 have been hearing from Nuiqsut that has had to go farther
23 and farther out to catch their whales now because of the
24 oil drilling out in the Beaufort. So that's what we are
25 afraid is going to be happening. We will probably have to

1 go about as far as 100 miles out is what we need. In the
2 fall, that's when we -- no more whaling for fall whaling
3 because they don't even -- we can sight some about 30, 40
4 miles out if we are lucky coming back, but most of the
5 time they are out right through the -- way past that.
6 They go straight out to -- what's that island across --

7 HEARING OFFICER: Wrangell?

8 MR. NASHOALOOK: Wrangell Island? Yeah.
9 Fall whales go straight across, not around here. And if
10 they get blocked off, where are they going if you are
11 going to do summer whaling. And that noise do carry a
12 long way in the water. Thank you.

13 MR. SALYER: Thank you, sir.

14 HEARING OFFICER: Would more of you be
15 willing to talk if you talk from your seats? But I still
16 need you to give us your names and stuff so we can get
17 them, and talk loudly enough so that Mary can record what
18 you are saying. But if you would rather just talk from
19 the audience, that's fine. We just need to make sure we
20 get your name.

21 MR. TERRY TAGAROOK: Good evening. I'm
22 Terry Tagarook, a resident of Wainwright. Maybe you could
23 give us a bit of the seismic activity that was done this
24 past summer.

25 HEARING OFFICER: You want to take a few

1 minutes?

2 MR. JOHNSON: Okay. This summer there
3 were three companies that worked in Chukchi Sea and in the
4 Beaufort Sea collecting seismic data. Two of them were
5 collecting 3-D seismic data and one was, I believe,
6 collecting 2-D data. I'm not positive of that. The
7 companies were Shell Oil, ConocoPhillips and GXT. GXT is
8 a Canadian company. I can't tell you exactly where they
9 collected. I don't know personally, and it's also
10 proprietary. And it's proprietary because these companies
11 are competing against each other, so they don't want to
12 let the other companies know where they are collecting the
13 data.

14 But they were out during the open-water period. I
15 believe GXT completed the seismic testing in early
16 November. The others had completed it before that. And
17 most of the testing was done in the Chukchi Sea because
18 the Beaufort Sea had too much ice. They couldn't get the
19 boats over to the Chukchi Sea.

20 And in the process there is a number of stipulations
21 that they had to follow. There are very specific areas
22 where they had to stay out of. They also had to have an
23 Inupiat observer on board to look for marine mammals,
24 whales in particular, but also seals and walrus and other
25 marine mammals. And if they came upon the marine mammals,

1 they would have to shut down their operations, and then --
2 or ramp them up slowly as -- if a marine mammal was a
3 certain distance from the boat.

4 And the distance was determined by the loudness of
5 the noise that was created by the seismic air vents. If
6 the whales were further away, then -- a certain decibel
7 level that they would hear, then it was considered they
8 could go ahead with the -- with their seismic shoot. If
9 the noise was too loud, the whales were too close, then
10 they were forced to shut down until the whales moved off,
11 and seals and other marine mammals.

12 You have other questions about that or -- do I have
13 them covered or --

14 MR. TAGALOOK: Thank you. And I would
15 also like to ask, on the map on the left, when they did
16 the exploration, were there any findings of oil in those
17 areas?

18 MR. JOHNSON: There was -- there was
19 findings of possibly gas more than oil, but some oil. In
20 this area here, there is -- all these colored blocks were
21 blocks that were leased in two lease sales in the late
22 1980s, early 1990s. I can't remember exactly which year
23 now. Out of these areas -- and most of the blocks were
24 purchased by Shell Oil or leased by Shell Oil. And Shell
25 drilled these four wells in these areas, and then I

1 believe another company -- I can't remember which one.

2 HEARING OFFICER: I thought it was ARCO.

3 MR. JOHNSON: Okay. I think ARCO drilled
4 this well later on. The highest probability prospect was
5 this one they call Burger, which is, I guess, off of Icy
6 Cape. And I have to give you a very approximate idea of
7 how far offshore that is. Some 30 -- it's about 60 miles
8 offshore or so. There is also some -- some shows in this
9 area here, but I know Dimond itself, this one over here,
10 was not as productive. So this is the area that was
11 leased. And yes, there is very -- some good probability
12 of some oil and gas in the -- in the Burger area.

13 HEARING OFFICER: Back when Burger was
14 drilled, that was when the oil prices crashed and stuff,
15 and so it wasn't economic then. Whether or not it would
16 be economic now -- and if I remember right, MMS considers
17 the Burger prospect as having -- I want to say it's well
18 in excess of 10 trillion cube feet of gas, a very large
19 gas field. But again, without a market or anything to it,
20 it's unknown whether companies will bid on it because they
21 have only got a ten-year lease term -- whether or not they
22 would bid on it because they would have to do something
23 and develop it within that primary term to be able to
24 produce it.

25 So it's unknown whether anybody would come in and bid

1 on a gas field right now with the price -- with the
2 situation in gas and the fact there is not a ready way to
3 get it to market.

4 MR. TAGALOOK: While we are on the subject
5 of where they were drilling, could you explain to the
6 people if these were capped and how they were capped?

004-001

7 MR. JOHNSON: Yes. All wells -- and I
8 don't have the technology in my mind exactly how they do
9 it, but all the wells are abandoned and they are capped.
10 And I do know what they will do is they will pump a lot of
11 mud down in those wells, and that would keep any kind of
12 pressure that's underground from coming up. Any of the
13 oil, if they had any oil that was at risk of coming up,
14 they would have that well capped with the mud. And then
15 they also put a large amount of cement in the ground, and
16 that keeps that sealed. I believe they also put a metal
17 cap on top, but I'm not absolutely positive of that. I'd
18 have to find out more about that.

19 HEARING OFFICER: I believe they have to
20 cut out and do all of that a certain depth below sea
21 level.

22 MR. JOHNSON: Yeah. There is nothing
23 exposed above the sea floor at any of these locations.
24 Any of these are cut -- the top of those wells are cut at
25 the sea floor.

1 MR. TAGALOOK: Thank you. And I also have
2 another question. Would the oil companies be willing to
3 do some studies on the ocean floor where the crabs and the
4 other -- other ones that crawl on the bottom of the ocean,
5 on the ocean floor?

004-002

6 HEARING OFFICER: I'm probably not in a
7 position to tell you what the oil companies would be
8 willing or wouldn't be willing to do. If MMS saw a need,
9 an information need or something and we didn't have the
10 information and something we could tell them you have to
11 go collect it because we don't have it. Normally that
12 type of information is something that MMS, if there is a
13 need for it to be collected, would probably try to do.
14 We, however, are restricted by budget constraints, so
15 whether or not we would spend money, for example, doing
16 that versus maybe doing more bowhead research or walrus
17 research or something gets into a priority problem. It's
18 not something I would say wouldn't be done, but I don't
19 know how high a priority that would be or how soon it
20 would get done.

21 MR. TAGALOOK: What are the chances of
22 doing oil development out there in the ocean if they found
23 considerable amount of oil?

004-003

24 HEARING OFFICER: Okay. If they found
25 considerable amount of oil, there is a step phrased

1 process they have to go through. First we would have to
2 make the decision to proceed with oil leasing. And the
3 companies would come in and they bid, and they bid against
4 each other. And whoever is the high bidder, then MMS also
5 goes in and evaluates it and we determine if the
6 government and the people are getting fair market value.
7 If the bid is not high enough, we reject it.

8 If a company gets a bid, then they have the ability
9 to move forward, but they have to come to us for an
10 exploration. They have to come in and say this is how we
11 want to explore it. And then we come in and write another
12 NEPA document and come back out to the communities and
13 figure out the best way for them to go about exploring it
14 and make sure that it's safe. And the company would then
15 be -- probably take one, two or three summers to drill
16 wells. And if they found something maybe the first
17 summer, they might have to come back consecutive summers
18 to get enough holes in a structure to determine that it's
19 economic.

20 At the point they determine it's economic, then they
21 could come back in and provide a development plan, which
22 again goes back through another review where we come back
23 to the communities, we look at the additional information.
24 We have a lot more information at that point because we
25 know where they developed oil. We know where they want to

1 run a route, how to get it out, when to get it out, what
2 they are doing, when they are planning on doing it. And
3 that way we can meet with the communities and work with
4 the communities to determine the best way to minimize
5 impacts should we permit it to go forward.

6 MR. TAGALOOK: If the oil companies are
7 not going to do any studies on the ocean floor where the
8 clams, crabs that the seals, sea mammals depend on, the
9 walruses depend on the clams, maybe MMS could do some
10 studies.

11 HEARING OFFICER: That's why I'm saying it
12 may be MMS that needs to do the studies versus the others.
13 The only thing I want to be cautious about there is
14 sometimes we have to look at what's the most important
15 thing to spend money on with our limited budget, but it's
16 certainly something we will take notes on and take back
17 and consider and see. The other thing we had is
18 earlier -- I guess it was the end of November. We had a
19 meeting to where we brought in scientists from the North
20 Slope Borough, scientists from other agencies, from
21 universities and stuff that had done work up here, and we
22 had a meeting and we asked them to help us determine the
23 types of studies that needed to be done and put them in a
24 priority ranking.

25 And I cannot tell you the outcomes of that yet, but

1 that's what we are working on would be -- and I'm sure we
2 got more studies than we have funding to do it, but it was
3 to get them going so we could go back and start collecting
4 information and get the most important information first.
5 But we now have kind of a list that we are going to start
6 working from to keep getting better and better
7 information.

8 Another thing is if they were to develop this, my
9 best estimate would be it's going to be two to five years
10 before you see a company out there exploring and drilling.
11 They are going to be two to three years exploring,
12 drilling wells and stuff before they find something. It's
13 going to take them a couple of years after that to get
14 ready for development, go through the planning, and you
15 are probably least 10 to 12 years away before you would
16 actually see anything near production out there at the
17 earliest.

18 And if you look at over in the Beaufort Sea,
19 Northstar, which is in the state and part federal, that's
20 the first offshore development that's happened there. And
21 there is potential for Liberty. And both of those are on
22 leases that had been issued -- Northstar was probably a
23 lease that's been around for 20 years. And Liberty has
24 been around for about ten years. So it takes a long time
25 for companies to put everything together, put their plans

1 right, come in and go through the processes and drill it.
2 It's not like we lease today and tomorrow they are out
3 there trying to put a production platform in.

4 MR. TAGALOOK: Those two companies that
5 you just mentioned, what are the activities and did it
6 affect the marine mammals?

004-004

7 HEARING OFFICER: Okay. It's actually BP
8 who is in charge of both of those, and they have been
9 required to go out there and do monitoring, and there is a
10 whole bunch of monitoring. Plus MMS has done a bunch of
11 monitoring both before they started to put the development
12 in and then after things have been going on. And they
13 have been required to do a whole bunch of acoustic
14 monitoring, see how far sound travels from the island,
15 trying to determine if whales are being deflected or not
16 deflected. And to the best of my knowledge, we haven't
17 seen any significant big changes in what's happening. But
18 we continue to monitor that.

19 We have not seen any -- I think as far as the sea
20 bottom and what happened from construction and stuff like
21 that, we did not see a lot of change in the -- except
22 where the actual island was, we haven't seen changes in
23 the environment around the island.

24 MR. TAGALOOK: If -- if the oil companies
25 were successful in finding oil, would they put a structure

1 out there in the ocean?

2 HEARING OFFICER: Most likely they would
3 have to put one structure out there. They can use what
4 they call subsea completions where you would maybe, rather
5 than have a whole bunch of little islands, which would be
6 very expensive and stuff, they would probably have one and
7 then they would go out and dig a hole in the ocean floor
8 and put everything down below that so it's lower. But I
9 can't see any way that the oil companies could develop
10 this without having some type of structure out in the
11 ocean.

12 MR. TAGALOOK: So whoever wins will have
13 to tell MMS what they are going to do to get to the oil?

14 HEARING OFFICER: It's not only MMS, but
15 it would be -- we would be coming back to the communities
16 with this is their plans. And we also require them to go
17 through -- with the regulations we require them to go
18 through a whole bunch of engineering stuff to show that
19 they have got these studies and this is what they know
20 about the environment, the ice movement, the waves and
21 everything else, and that they have engineered this
22 structure to be capable of withstanding all of those
23 things. If it's not safe, we aren't going to authorize
24 it. So we try to go through a number of different
25 processes to make sure that what's going out there is both

1 engineering and environmentally safe and sound to the best
2 that we can do it.

3 So it's not they come in with a plan, we
4 automatically say go do it. There is quite a review
5 process, and there can be change and modifications. And
6 you know, part of it -- this is where communities get in
7 when they are allowed to work, when they are not allowed
8 to work, where this route goes. There is probably going
9 to have to be some type of a base for them to work from;
10 where is that located at. Communities, the North Slope
11 people can have some say in where those things happen.

12 MR. TAGALOOK: All I can say is I'm more
13 concerned about the sea mammals that we depend on. And in
14 the environment, the sea floor is where the food chain is.
15 And I'm hoping that the oil companies will take it into
16 consideration to be careful and do what's best for our
17 people up here on the Slope.

18 HEARING OFFICER: Okay. What I will do is
19 when I get back, I will talk to our studies people and see
20 what I can find out, and I will try to send you an e-mail
21 or a letter stating what came out of the meetings we had
22 and what studies, if any are being planned for the sea
23 floor; and if there aren't any, I'll see if I can find out
24 why they came to that conclusion. But I will get back to
25 you.

1 MR. TAGALOOK: Do you have any newsletters
2 of your activities with your meetings?

3 HEARING OFFICER: Actually, the meetings
4 that we hold for, like, this sale and stuff, when we put
5 out the final EIS, all those are in there, but as far as a
6 newsletter on the studies, we put out an annual study
7 plan. And there will probably be reports on this. And I
8 will try to make sure that both of those come to the
9 community.

10 We have a web page. I don't know that -- you can go
11 there and look for information. Our web page is mms.gov.
12 And we have information and stuff on there. I'll bring up
13 the subject to see if they want to consider putting out a
14 newsletter, if it would be useful. The other thing I
15 would say is if the community feels like they need us to
16 come in more often -- there is a good and bad in MMS
17 coming in more often, you know. People get tired of
18 seeing us and stuff, but if we need to come up and meet
19 with the communities and keep you apprised of what's going
20 on, that's something we need to do.

21 We would probably appreciate feedback from the
22 communities because communities get overloaded with
23 government people and industry and everybody else coming
24 in and demanding your time and demanding meetings. And we
25 hear that quite a bit.

1 MR. TAGALOOK: And having grown up in
2 Wainwright, we were taught by our elders to show respect
3 to our land and our sea. And I'm hoping that you pass
4 this onto the oil companies. Respect our ocean if you are
5 going to be doing any development out there.

6 HEARING OFFICER: Okay. And one other
7 thing, again, that -- one of the things we require is the
8 companies, if they are going to do anything, either
9 exploration or development or anything else, they have to
10 come and meet with the communities, explain what they are
11 doing, give a chance for you folks to get involved. And
12 they have to -- for example, we require a conflict
13 avoidance agreement so that for exploration and things
14 like that they are not coming in and interfering with
15 your -- with your whale hunt and your other subsistence
16 activities.

17 So we are requiring them to come and communicate, and
18 then MMS also has a responsibility to come and communicate
19 with you, too. I'm not saying it's all the oil companies
20 have to do it. We have some responsibility there, too.

21 MR. TAGALOOK: And I think I've got
22 nothing else to say, but I'm sure there is some people
23 that will voice their concerns. Thank you.

24 MR. SALYER: Thank you, sir. Thank you.

25 MR. GEORGE AGNASAGGA: Looking at this

1 map, we followed the trail of the whales that were tagged
2 from Barrow straight out to Wrangell Islands. Took a
3 B-line. And with the elders that we have been talking to
4 these past few years about whales coming in from Point
5 Hope area to Cape Lisburne, they would make a straight
6 B-line from the Cape Lisburne area straight toward Icy
7 Cape and into Wainwright. Now, if you make a separate
8 line between Icy Cape and Cape Lisburne, you will see some
9 of this black line will be too far into the land, but what
10 I would like to see is this line over here on this corner
11 here to be further out so that you would have a B-line
12 from Cape Lisburne to Icy Cape. That would not disturb
13 the whales' migration during the springtime.

14 HEARING OFFICER: Let me explain the black
15 line to you.

16 MR. GEORGE AGNASAGGA: I think I know what
17 it is.

18 HEARING OFFICER: We started this -- every
19 five years MMS has to develop a five-year program. And
20 this sale that we are working on is started under the
21 current 2002 to 2007 program. And the green line that
22 goes there was the program area decided, which would be
23 the maximum area we could lease. So that's there, and we
24 started this process. In July of this coming year, that
25 program will end. The sale hasn't happened. So the sale

1 will actually occur in the next five-year program. The
2 Secretary of Interior in his proposed program said I'm
3 going to defer everything 25 miles and out from being
4 considered in the next five-year plan.

5 Right now if he makes that decision, which we expect
6 he will, the area that will be offered will be either the
7 black line or the green line, which either is furthest
8 from shore.

9 MR. GEORGE AGNASAGGA: That would be the
10 green line over here.

11 HEARING OFFICER: So it would be the green
12 line there. In other places it would be the black line.
13 Okay? Now, that's his proposed program. I can't say 100
14 percent that it's going to happen, but I have never seen a
15 Secretary make a proposed program, take an area out and
16 then put it back in.

17 MR. GEORGE AGNASAGGA: It depends who the
18 Secretary is, too.

19 HEARING OFFICER: But secretaries haven't
20 come it me, and I don't always tell them what they have to
21 do. But that's what the black line is. I would expect,
22 at a minimum if this goes forward, that the black line
23 will be the new boundary where it's further from shore.
24 Otherwise, it will be the green area.

25 MR. GEORGE AGNASAGGA: Okay. Thank you.

1 HEARING OFFICER: Thank you. You are
2 dealing with government, and we are able to make
3 everything complicated.

4 MR. TAGALOOK: It's me again, Terry
5 Tagalook. And just one question. What would it take to
6 stop future oil leases out in the Chukchi Sea?

004-005

7 HEARING OFFICER: It would take a decision
8 by the Secretary or by Congress. The Secretary definitely
9 has the power to not approve this sale, to not approve any
10 future sales. Congress also at different times has
11 created moratoriums, which is taking areas off. Right
12 now, as part of the President's energy program and
13 everything else, this has come down more or less a
14 directive from the federal government through our agencies
15 that we should encourage and try to offer more lands for
16 oil development stuff. But the President would be the
17 other person who could stop it.

18 But those are probably the three levels. It's going
19 to be either Congress, the Secretary, or the President who
20 could stop this. And that's the other thing. That's why
21 we're here. And what happens with these meetings, if
22 people are against it, we take your testimony; when we
23 summarize it, these are things that we tell the Secretary,
24 when we were out, this is what we heard.

25 MR. TAGALOOK: Thank you.

1 HEARING OFFICER: And in fact, I think the
2 last one I was here in scoping, one of the things we got
3 is we got a map, and a lot of people signed on the back of
4 the map they were against it. And that's part of the
5 record and that's part of what we identified to the
6 Secretary. And I will acknowledge we have been here
7 before. We have heard that you are against oil and gas
8 leasing, and we understand why. We present that. And we
9 make sure they know that that's what we heard.

10 MS. MARGARET AHMAOGAK: I'm Margaret
11 Ahmaogak. I usually don't say anything, but I'm a mother
12 and a grandmother. I definitely am against this oil lease
13 sale in the Chukchi. You can drill anywhere else but in
14 our ocean. Thank you.

15 HEARING OFFICER: Thank you.

16 MR. TAGALOOK: Just on the humorous side,
17 you can go drill by my house.

18 HEARING OFFICER: I might get in trouble
19 because I don't have the authority.

20 MR. TAGALOOK: I'll give you permission.

21 HEARING OFFICER: Do I have to split it if
22 I find the oil?

23 MR. TAGALOOK: Well, if you find gas, just
24 hook me up.

25 HEARING OFFICER: Yes. Gas would be nice

1 here, wouldn't it?

2 MR. TAGALOOK: Yeah. With the oil prices
3 going up, we need gas.

4 MR. JACK PANIK: My name is Jack Panik.
5 I'm a whaling captain, and commissioner for Alaska Eskimo
6 Whaling Commission. And if -- if the drilling was
7 supposed to start out there, will MMS be involved out
8 there watching them or what?

004-006

9 HEARING OFFICER: Yes. What happens is if
10 a company comes in and presents us with an exploration
11 plan, we go through the process of community involvement.
12 And then at the point that there are supposed to be
13 drilling, there are a number of things. Number one is we
14 will inspect the vessel or whatever they are going to be
15 using for drilling before it comes on site to make sure
16 it's worthy and adequate and everything else. And then
17 during the drilling process, we have an inspector on board
18 the whole time that it's drilling.

19 Now, there are some cases where in the Beaufort, for
20 example, they brought the rig, put it on site and then
21 gone into like cold storage. And if it's not drilling or
22 doing anything, we wouldn't have an inspector on site.
23 But when it is drilling, we try to have an inspector on
24 site all the time it's doing exploration drilling.

25 MR. JACK PANIK: What about Native

004-007

1 observers?

2 HEARING OFFICER: At this point it's -- we
3 haven't required those. That doesn't mean that as we are
4 developing it and with AEWC involvement, conflict
5 avoidance, all those other things that are going to be
6 part, if there is a need for a Native observer or a desire
7 for one, that may be something that could be accommodated.
8 You mean for seismic.

9 Now, for seismic, we do have Native observers on the
10 seismic, but you're talking drilling.

11 MR. JACK PANIK: Drilling, yes.

12 HEARING OFFICER: In the past there has
13 not been, to the best of my knowledge, a requirement for a
14 full-time Native person there doing observations. That
15 doesn't say that would be off the table, but it isn't a
16 requirement right now.

17 MR. JACK PANIK: So if there is drilling
18 going on, will it be in the open water all year round
19 or --

20 HEARING OFFICER: My guess -- and this is
21 my guess from what I know. Exploration drilling, I would
22 say, over the next ten years would most likely have to
23 occur during the open water and be negotiated with the
24 local communities so that it would occur when it wouldn't
25 interfere with subsistence or minimize the effects to

004-008

1 subsistence. I don't see any way that they could put a
2 rig together and go out there and do it over the ice.

3 And my understanding of the ice and everything out
4 there, they probably can't drill from the ice like they
5 have some places in the Beaufort. So I don't see any way
6 it would be anything other than a vessel during open water
7 or near open water. They may have to get something out
8 there and get some ice breakers or something after the
9 whaling has stopped to extend it or complete it or
10 something, but I don't see any way it would be anything
11 but open water.

12 That's -- that's the best information I have. I
13 can't say that's 100 percent, but I can't see any way they
14 could operate any other way. That's part of why I'm
15 saying it would probably take multiple years because they
16 are probably going to get one well, two wells at the most
17 from a rig during the season, and so it's going to take
18 them a while to do their exploration.

19 MR. JOHNSON: Maybe I can add one thing,
20 that there is really two phases to going from a discovery
21 to development. And the first part is exploration where
22 they can put a rig out there that's a temporary rig that
23 will only be there for a short period of time, enough time
24 to drill the well, and then they'll move it off someplace
25 else. And the companies like to use those rigs to drill

1 several wells because it's cheaper for them to move one
2 around than to bring a rig up every other year.

3 Once they've made a discovery, then they have to go
4 to decision as to whether to actually develop that
5 discovery. And that would be a much longer process in
6 which you would have to have much more permanent fixtures
7 out there that would last many years while they would have
8 these -- doing the drilling for the discovery.

9 So there is exploration and development --
10 exploration drilling and then there is developmental
11 drilling, and there is different things. Right now
12 development drilling would be a long, long way into the
13 future if they ever find something that's worth
14 developing.

15 MR. PANIK: All right. Thank you.

16 MR. GEORGE AGNASAGGA: I have a question.
17 I would recommend that there if there is a way we can have
18 the oil companies -- prevent the oil companies to coming
19 out in our ocean to test drilling, the daily activities
20 around that wintering area of the whales where they stay
21 for the winters out by St. Lawrence Island. Any
22 activities around there, it might be useful to try going
23 down there to test to see if there is, you know -- or get
24 them used to the north. This is when they migrate.

25 HEARING OFFICER: To the best of my

1 knowledge, I'm getting way out here. The only thing I
2 know that would be is if there was anything around
3 Sakhalin or stuff. But I don't know of any -- MMS has no
4 plans, at least in the next five-year, to have areas
5 further down -- at least where my perception is is where
6 the bowhead overwinters -- that's not being offered for
7 lease, or oil companies could not go down there and at
8 least do any exploration activities or something. This
9 would be a concept, I guess, that would be something that
10 would be considered, but I know from meetings I have been
11 to with the AEWG and stuff that they have been concerned
12 about some proposed tests and different things to where
13 noise and stuff would be scaring the bowhead whale or
14 anything else. It would be something that might be
15 possible, but it would definitely take a lot of
16 consideration, community involvement, and AEWG involvement
17 to make sure it was worth proceeding. Probably the other
18 one who'd have to buy off on it would be the National
19 Marine Fisheries Service because it's an endangered
20 species. So whatever you do around the bowhead whale has
21 to go through their review and have their blessing.

22 I'd like to remind everybody if you would help my
23 court reporter out and, again, she doesn't keep track of
24 everybody's name. So even if you are testifying again,
25 I'd appreciate it if you would mention your name.

1 MR. JOHN HOPSON: John Hopson.

2 HEARING OFFICER: How are you, John?

3 MR. JOHN HOPSON: Good. The beluga has --
4 they are tagged. We have tagged belugas that tell us
5 where they go and when they are at that spot. The bowhead
6 whales, recently we have those on there now. You can look
7 it up on the Internet. I think it's wildlife.org, or
8 something. Are you using that information to base your
9 decisions on what happens out there, as well as the walrus
10 commissions and enough commissions activities?

11 MR. SALYER: I was going to say, the
12 latest information is probably not in there because the
13 document was already in preparation when it was
14 distributed. The new information we need to get in there
15 now. You understand what I'm saying? I have to see the
16 time frames of the data. If it was within the last, say,
17 three or four months, it's probably not in there. Okay.
18 So if it's newer information, then we need to go get that
19 now and add it in there. And that's what we want to hear,
20 that kind of information.

21 MR. JOHN HOPSON: Start typing.

22 MR. SALYER: Yeah, I agree.

23 HEARING OFFICER: John, one of the things,
24 I guess, is the purpose of these hearings is if people
25 know of information that's not in there that we should be

004-009

1 doing; that's hopefully what we are hearing both from
2 people like yourself and other scientists if they know
3 information or if they have misinterpreted information
4 that's there.

5 MR. JOHN HOPSON: Also, you said you meet
6 with AEWC. Do you also meet with the walrus commission,
7 the Nanook Commission, the Beluga Whale Commission?

004-010

8 HEARING OFFICER: I know we have met with
9 them. At least we may have gone to them and made annual
10 presentations.

11 MR. JOHN HOPSON: I think that ought to be
12 posted up a little more because their information is being
13 updated monthly. That's something that's going to help us
14 protect our animals, their information that they have. To
15 do it annually, you are going to leave out a piece that
16 would be so important to us.

17 HEARING OFFICER: Okay. Let me rephrase,
18 make sure -- we meet with them. I know we make
19 presentations and stuff. If they have data and stuff,
20 hopefully they will also coordinate with that. We will
21 make notes and make sure we are coordinating to get their
22 time.

23 MR. SALYER: Yes, absolutely.

24 MR. JOHN HOPSON: Have you guys received
25 information from the subsistence representatives or

004-011

1 observers that were out on the ships this past summer?

004-011

2 HEARING OFFICER: We have that
3 information, yes.

4 MR. JOHN HOPSON: And is that being used
5 to our benefit or your benefit to go ahead and lease these
6 places out?

004-012

7 HEARING OFFICER: I think it was
8 considered -- my understanding of the amount of marine
9 mammals and the sightings and stuff of what was there was
10 probably less than what was expected. And that's my
11 understanding, that there wasn't a lot of sightings and
12 stuff that was useful that provided a lot of new
13 information, but I know it was available and it was
14 available to us. I think there was a daily log that was
15 similar to what came into the communities to where our
16 scientists could go look and see what they sighted. And I
17 think the annual reports from the seismic efforts are
18 supposed to be coming out soon.

19 MR. JOHN HOBSON: What about human life?
20 We understand there was a couple of deaths in the month of
21 September, August or September. There was quite a few
22 people who got sick, quite a few people who got injured.
23 Now, with what you guys are -- in your stipulations,
24 how -- how will that affect them? Are you making your
25 stipulations more strict so that this doesn't happen

1 again?

2 HEARING OFFICER: I'm sorry, John, but I
3 don't know the circumstances you are speaking to. I was
4 unaware of any injuries that occurred during seismic
5 operations.

6 MR. JOHNSON: I haven't heard of any,
7 either.

8 MR. JOHN HOBSON: Well, there was.

9 MR. JOHN HOPSON: You have the information
10 somewhere that we can --

11 MR. JOHN HOBSON: Shell Oil has them,
12 Conoco or BP; whoever was out there; Western Geco. It was
13 on the news quite a few times, people dying from diving,
14 people getting sick out there.

15 HEARING OFFICER: Let me back up there.
16 What you are talking about was a Navy ship over in the
17 Beaufort.

18 MR. JOHN HOBSON: I don't know who it was,
19 but that was on the news.

20 HEARING OFFICER: It was actually a U.S.
21 Navy ship over in the Beaufort.

22 MR. JOHN HOPSON: And they said it was oil
23 related on the news.

24 HEARING OFFICER: No, it wasn't oil
25 related. They were doing scientific surveys, and they

1 actually put down some divers, but that was the U.S.
2 Navy -- actually, I think it was U.S. Coast Guard. Let me
3 correct myself. It was the U.S. Coast Guard, and they put
4 down some divers. And it had nothing to do with oil and
5 gas or any of the oil companies. And they put down some
6 divers. But it was not anything permitted by the MMS. It
7 had nothing to do with oil and gas operations. They were
8 actually out on a scientific exploration and doing a whole
9 bunch of different research, but it was not oil and gas
10 related.

11 So I know what you are talking about there, but it
12 was not related to any of the seismic permitted operations
13 that we have. So now I'm talking about the same instance.

14 MR. JOHN HOBSON: The last one, back in
15 October we had to haul food out from here to a ship. And
16 it was from Western Geco. I knew of that instance because
17 I got paid to do it. I got paid to go out there and haul
18 their food for them from our store. They were a
19 single-hull ship that would not come into our inlet when
20 the waters were rough because they were afraid of tearing
21 up their boat. What would ice do to that boat? They are
22 hauling -- they are storing diesel to run their engines.
23 And if ice cuts open their hull, there goes an oil spill.

24 Can you make -- is it possible to make these ships
25 double hull for that safety of the animals in the ocean?

004-013

004-013

1 Can you put that in your stipulation to have double-hull
2 ships out there? We have a lot of ice, and you know that
3 for a fact.

4 HEARING OFFICER: I guess and my
5 understanding is it's possible. I think the way we look
6 at those regulations is that we expect the companies to
7 get out of there if they are doing seismic when we are
8 talking seismic ships. When they're out there doing
9 seismic, they need to get their seismic ships out
10 before --

11 MR. JOHN HOBSON: These are also supply
12 ships that head out there and help these seismic ships.
13 They having going to go out there where the ice is. I
14 don't want you guys to play stupid with me today. Okay.
15 I just want to make sure that we are protected.

16 MR. JOHNSON: Let me make one comment.
17 I'm not an engineer, so I don't have all the technology on
18 shipping. We have heard about double-hulled tankers, and
19 my understanding is a single-hull tanker, you have a plate
20 of steel, and directly inside that plate of steel was the
21 oil that was stored in that tanker. A double-hulled
22 tanker, you'd have that plate of steel, a space, another
23 plate of steel with the oil in it. With a ship, what you
24 have is the plate of steel is the hull of the ship, and
25 then you would have a fuel tank inside that hull of a

1 ship.

2 So it's not necessarily the case that if a ship hits
3 ice, it gets a hole in it, that any oil is going to -- any
4 diesel fuel is going to spill. On the other hand, if any
5 ship sinks, then it is a possibility, whether it's got a
6 double hull or a single hull or whatever; it could get --

7 MR. JOHN HOBSON: And just a life safety
8 and health issue, as well as maintaining our marine
9 wildlife out there, keeping it clean. We have more ice
10 than anywhere else in the world, and the activities is
11 just growing.

12 MR. JOHNSON: I could find out for you
13 what the stipulations are and the type of boat that they
14 are required to have. I think those stipulations are
15 there. And that would tell us whether they are required
16 to have reinforced hulls, for example, to prevent
17 damages.

18 HEARING OFFICER: I'm unaware of any
19 requirement for a reinforced hull.

20 MR. JOHN HOBSON: It's something to think
21 about for the safety of everybody. And these guys wanted
22 food, but we couldn't get it to them for three days
23 because of weather. I couldn't get my little 22-foot out
24 there, and he couldn't bring his 75-foot in because he was
25 afraid of running aground in his single hull is what he

1 said. And, you know, it's for the safety of everybody,
2 the marine mammals and people's lives. He said if he had
3 a double hull, it would reassure him he would be able to
4 come in, whether he hits ground or not.

5 HEARING OFFICER: Okay.

6 MR. GEORGE AGNASAGGA: After sitting with
7 the answers that you gave between the black line and green
8 line -- we are talking about Sale 193, right?

9 HEARING OFFICER: Yes.

10 MR. GEORGE AGNASAGGA: You look at this
11 map, you will see that the black is Sale 193. And
12 that's -- that's the line that shows it going into the
13 cove near Cape Beaufort and the Point Lay area. And what
14 I'm talking about is that the whales will make a B-line
15 from Cape Lisburne to 11 miles out at Icy Cape. If they
16 do that, then this -- if there is drilling activity going
17 on just beyond the black line, then the whales would have
18 to find another route.

19 HEARING OFFICER: Okay. There will not
20 be any leasing shoreward of this green line, regardless of
21 the black line.

22 MR. GEORGE AGNASAGGA: We are talking
23 about the --

24 HEARING OFFICER: Then what the Secretary
25 did with the next five-year decision, which would happen

1 before this sale, if he decides this ought to be the
2 boundary, that means these areas here would fall out.
3 This area would not be added because we have not studied
4 it under an environmental impact statement. So we would
5 not add in this area here. It would stay here and go like
6 that. So this area here would not be added back into this
7 sale, regardless of what decision is made.

8 The Secretary may make the decision to defer this
9 out, or he could choose one of these deferrals, as well.
10 But there would not be any leasing in here in Sale 193
11 because we haven't studied it under our NEPA analysis, so
12 we couldn't add it back in. We can delete areas out, but
13 we can't add areas that are outside of where we have
14 studied.

15 MR. GEORGE AGNASAGGA: I will think about
16 it because I've got a brother that sees some people out
17 from this area here. And you will look at that on -- you
18 will see these two here.

19 HEARING OFFICER: These were leased
20 previously, but they couldn't be leased now. We couldn't
21 offer that area.

22 MR. GEORGE AGNASAGGA: This was about 15
23 years ago, 10, 15 years ago. He had to chase them away
24 with a shovel. And these people came in helicopters. But
25 he was able to chase them away. That's how we feel about

1 our area. It's part of us. That's our garden.

2 HEARING OFFICER: Okay. Thank you.

3 MR. TAGALOOK: In the first place when
4 they first came in for the oil lease sale hearing, we were
5 opposed to that.

6 HEARING OFFICER: Right.

7 MR. TAGALOOK: And we will definitely be
8 opposed to oil development out in the ocean because we
9 depend on our ocean for our subsistence lifestyle and for
10 the marine mammals that are living out there in the ocean.
11 Thank you.

12 HEARING OFFICER: Thank you.

13 MR. JOHN HOBSON: What's your plans after
14 you leave Wainwright? When are you coming back?

15 HEARING OFFICER: At this point we don't
16 have any plans on when we would be back as part of this
17 process, but we would come back whenever the -- if the
18 community wanted us to if they need more information.
19 This is the -- we come out for scoping. We come out for
20 the hearings. Those are two times that we definitely come
21 out. And if communities want us out more often, we can
22 come more often; but there is not another planned trip
23 back out before this sale would be held unless we got a
24 request from the community.

25 MR. JOHN HOBSON: What's the deadline?

1 What are we looking at?

2 HEARING OFFICER: December 26th is the
3 deadline for the comments.

4 MR. SALYER: On the draft.

5 HEARING OFFICER: On the draft EIS.

6 MR. PANIK: And nothing will be going on
7 after that draft is done and after you receive --

8 HEARING OFFICER: After we receive the
9 draft -- or after we receive the comments, then what we do
10 is we go through the comments and look what's there, and
11 we respond to the comments that are saying you didn't use
12 this information, you didn't have that information, you
13 did something wrong. So we go in and look at each of
14 those comments, respond to them, change the analysis where
15 necessary, add analysis, et cetera, and then in the spring
16 we will publish a final EIS.

17 When that comes out, there is another opportunity for
18 people to comment. We send a -- we start the consistency
19 determination process with the State that has to be
20 consistent with coastal zone laws, and we put that. And
21 then we are also required by law to go through and send a
22 letter to the governor, and the governor gets to respond
23 to us to tell us what -- and in this case what the new
24 governor would think of the sale, what things she might
25 want to add, or whatever. And then the Secretary looks at

1 her comments and makes a final decision on whether to
2 proceed with the sale or not. And that decision would
3 occur probably in the October time frame.

4 So there are a number of these processes that go on.
5 And I believe the State comes back through the North Slope
6 Borough for the community. And then you are able to get
7 involved with the consistency determination review and
8 comments and stuff on that. So there are a number of
9 different processes that are ongoing. But the final
10 decision on whether to proceed or not would not occur
11 until probably October, and that's after all of the
12 information that's been gathered and the final EIS has
13 been made available.

14 MR. JOHN HOBSON: So we are looking at
15 possibly this coming summer you would probably be back.

16 HEARING OFFICER: We would not come back
17 unless the community wanted us to. But I'm assuming that
18 MMS would be willing to come back if the community wanted
19 us to come and talk.

20 MR. JOHN HOBSON: As for myself, I do want
21 you guys back here. And just give everybody else a chance
22 that's not here to comment. I know you posted notices. I
23 know this has been ongoing, but there are other
24 commitments going on right now. So given the fact that
25 you can come back, we might get more people here later on.

1 HEARING OFFICER: Okay.

2 MR. TAGALOOK: It's me again, Terry
3 Tagalook. I'm just wondering if prior to the lease sale,
4 do the oil companies go to the State or the federal?
5 Where do they go to?

6 HEARING OFFICER: Prior to the lease
7 sale --

8 MR. TAGALOOK: If the Secretary of
9 Interior open the lease sale.

10 HEARING OFFICER: If the Secretary decides
11 to conduct the lease sale, to go forward with it, what
12 happens is companies have to come in, and each of those
13 little squares on there is a block, and what they have to
14 do is they have to submit a bid. There is a minimum bid.
15 There is a whole bunch of financial requirements they have
16 to meet. And then they put bids in on them. And at a
17 public sale MMS opens the bids up and reads them and we
18 decide -- we look at who the high bidder is, and after
19 that process we go through and determine if that bid is
20 adequate.

21 But it's a public lease sale to where anybody,
22 companies or individuals, can go in and bid on those
23 leases, but it's -- I think it's like \$25 an acre minimum
24 bid. So it's fairly hefty money. And all the monies
25 that's received from these lease sales goes to the federal

1 treasury, the same as, like, your taxes. It does not come
2 back to the agency. It goes to the federal treasury.

3 MR. TAGALOOK: Why not give some of that
4 money to the villages that are going to be impacted?

004-014

5 HEARING OFFICER: This is a question that
6 we get quite a bit, and I'll give you a short answer and
7 I'll give you a long answer. The short answer is
8 Congress -- because this is money that goes into the
9 federal treasury, only Congress can appropriate funds.
10 It's not up to my agency or the Secretary of Interior to
11 say we think a percent of this money ought to go to the
12 community.

13 As part of the Energy Bill -- and I think it's 2004.
14 Can you help me there, Albert? They set aside what they
15 called community impact assistance program to where I
16 think it was \$250,000,000 over a five-year period is to
17 come back to communities wherever there is OCS
18 development. And some of that will come to the State of
19 Alaska. Some of that will come to the North Slope Borough
20 and communities.

21 The downside of it is that is based on where the
22 federal government is collecting royalties and leases.
23 And if you look at the OCS program, most of the money
24 collected by us is in the Gulf of Mexico. The Gulf of
25 Mexico produces about 25 percent of the oil used in the

1 U.S. and about 30 percent of the gas. So the majority of
2 money that will go back to the states and local
3 communities is going down there because they are the ones
4 that have generated most of the money.

5 Now, if this program keeps funded by Congress and
6 keeps along and if there is development here, there is
7 potential for more money to come to the communities; but
8 again, it's up to Congress to keep that going and keep
9 adding it to us. But in this case, it would be Congress
10 that you would have to keep pushing to keep giving money
11 to it. I think MMS is supported. We need to get money to
12 offset local communities, but we do not have the authority
13 to appropriate funds.

14 MR. TAGALOOK: Well, if the federal
15 government can fund space exploration, and it funded
16 billions and billions of dollars for exploration, why not
17 do it up here, too.

18 HEARING OFFICER: I don't disagree with
19 you, but again, Congress is the one who has to handle
20 that. The executive side, which is the Presidential side,
21 cannot make those determinations. The President submits a
22 budget, but Congress is the one who passes it, and they
23 are the only ones that can appropriate funds. So I share
24 some of your frustration.

25 MR. JOHN HOBSON: Do you guys have a

1 stipulation in there to request for a mitigation fund from
2 the industry to the impacted villages?

3 HEARING OFFICER: No.

4 MR. JOHN HOBSON: Can that be put in there
5 so that they are dictated to go do this mitigation
6 program?

7 HEARING OFFICER: I -- I can't give you
8 the direct answer on that. That has come up before, and I
9 think there are some legal issues with how that's crafted.
10 I think what happened with Northstar, the North Slope
11 Borough was involved, and as part of their process at
12 Northstar, BP put such a fund together. And it was
13 handled through that process. It was not handled through
14 a lease stipulation. I know there are certain things that
15 we can't require. And I can't tell you -- it would
16 probably be how that was crafted and developed as to
17 whether or not it would be legal. I don't know. But I
18 think they are hard to come by.

19 MR. BARROS: That was handled under what
20 BP called their good neighbor policy. And so if things
21 occur, you may want to check with the North Slope Borough
22 on the good neighbor policy with BP, find out a little
23 more background information on that because that was
24 between the North Slope Borough and BP. The MMS was not
25 involved in that. As Fred says, we cannot require --

1 legally we cannot require that.

2 MR. JOHN HOBSON: I just want to say for
3 the record I'm disappointed that we have to go through
4 this process. I oppose offshore activities to the
5 fullest. I want to fight this to the extent that I
6 possibly can, and I'll continue to do it for as long as I
7 live. It's for the protection of the food we eat, the
8 life we live, and the survival of our people that are --
9 that live out here in the middle of nowhere. The only
10 time we get noticed is when we are on the news about
11 something dramatic like an oil spill or an accident. But
12 that doesn't mean we should give up on fighting this. We
13 got to fight this to the fullest. Offshore is not the
14 answer to -- to our problems. We have lived long enough
15 to know that, and we will keep doing so. Thank you.

16 HEARING OFFICER: Thank you.

17 MR. SALYER: Thank you.

18 MR. JOHN HOBSON: But I also want to thank
19 you guys for coming. It gives us the opportunity to give
20 you guys crap, but it's crap that is well needed to be
21 said to put us on the map and noticed. Thank you.

22 HEARING OFFICER: You are welcome. I
23 would like to thank the community for having us come.

24 MR. JOHN HOBSON: And I'll keep inviting
25 you guys to keep coming over because that's what we need.

1 It's a healthy way of doing things. The only problem is
2 every time a meeting like this happens is we say the same
3 thing over and over, but everything goes on without --
4 without our input. We don't get a word in. You say and
5 you will tell me we do, but it's happening.

6 HEARING OFFICER: Okay. I'll -- the only
7 thing I disagree with what you said is we relay your
8 input. We do give input. I do not think the results that
9 are occurring after that input are the results you would
10 like. But I guarantee you they are being informed that
11 the communities here are against it and what you are
12 saying. At this point I would agree with you, I have not
13 seen the decisionmakers change their mind based on that
14 input. I'll acknowledge that for you.

15 MR. JOHN HOBSON: Thank you.

16 HEARING OFFICER: And we will keep coming.
17 As long as this is here and the community wants us back,
18 we will come back.

19 MR. PANIK: And tell that Secretary to
20 take time off and come up here.

21 HEARING OFFICER: Okay. He was on the
22 North Slope this summer right after he took his job, but I
23 don't think he came to Wainwright.

24 MR. JOHN HOBSON: I promise we won't be
25 Dick Cheney. He won't get shot. Dick Cheney ain't here.

1 We may be republicans, but we are smarter than that.

2 MR. BILLY NASHOALOOK: As long as our
3 comments don't go in the trash, that's all right.

4 HEARING OFFICER: They do not.

5 MR. GEORGE AGNASAGGA: One last comment.
6 You know there is whale all over the world. We have whale
7 here only a few miles from Wainwright. Still we are
8 paying the highest price in gasoline and diesel than
9 everybody else. We can get it cheaper from Mexico.

10 MR. JOHN HOBSON: That's a big problem,
11 huh? Why is that, anyways? A lot of the oil and gas
12 comes from up here, yet in America we pay the highest
13 prices for gas and oil, literally.

14 HEARING OFFICER: Yep.

15 MR. JOHN HOBSON: It comes from our own
16 backyard. It's ridiculous. It's an embarrassment to the
17 country itself. You make your -- you make your people who
18 live on top of oil pay the most. It's -- it's -- it's
19 sick, you know. I would be ashamed to be a leader in the
20 federal government with that kind of mentality going on.
21 I would be ashamed to be sitting where you are sitting
22 because of that. That's wrong.

23 HEARING OFFICER: I understand what you
24 are saying, but from that point the federal government
25 does not control the price of gasoline or the price of

004-015

1 oil.

2 MR. JOHN HOBSON: Well, it can if it does
3 its policies right.

4 HEARING OFFICER: If -- maybe what we need
5 to do is run you for higher office and get you in behind
6 Senator Stevens and stuff so you can change stuff.

7 MR. JOHN HOBSON: At the rate we are
8 going, I'd rather shoot myself, you know, because it's an
9 embarrassment. That's how bad it is, literally, in
10 America. We produce a lot of oil for you people and you
11 benefitted -- you benefit from it like crazy. And what do
12 we do? Suffer. And no federal assistance on that part,
13 you know.

14 HEARING OFFICER: Yep.

15 MR. JOHN HOBSON: It's literally an
16 embarrassment.

17 HEARING OFFICER: I can't explain it all
18 because I know that Canada exports oil to the U.S., and
19 yet they pay a higher price than we do.

20 MR. JOHN HOBSON: That's Canada's problem.
21 They are a different country.

22 HEARING OFFICER: There is a lot of
23 different things going on, and that's one point that I
24 can't control. And it's not within the Department of
25 Interior's decision making. I'm sorry. Or I would

1 guarantee you there would be lower prices around here.

2 MR. JOHN HOBSON: Maybe we ought to do the
3 duck-in like they did back then. We just go to Prudhoe
4 and stop everything and say until we get what we want, you
5 ain't getting any more oil from us. Maybe that's the
6 thing that people need to do, get all together and stop
7 development up there until we get what we want. We can do
8 it. We have the power to say no. That's our right. It's
9 something we ought to think about. Just go shut that
10 whole place down, see what the federal government will do.
11 Maybe they will start giving us money left and right. Who
12 knows?

13 MR. TAGALOOK: One final comment I'd like
14 to make is I think it's the oil companies that are making
15 the profits, and if you can help us, federal government
16 should stop oil companies from going out in our oceans.
17 That's all we ask.

18 HEARING OFFICER: Okay. Thank you. Are
19 there other comments? Anybody else like to make a
20 comment? Okay. I would, on behalf of MMS, like to thank
21 everyone for coming. I'd like to remind you that the
22 comment period for this draft EIS ends on December 26th.
23 There is still opportunity if you would like to put in
24 written comments or you may go onto our web page if you
25 have a computer and you can enter them directly into our

1 MMS government web page. I think that's on the handout.
2 And we will take your suggestion there and we will pass it
3 on and see what we can do about coming back later this
4 summer. And okay. There is a comment.

5 MR. GEORGE AGNASAGGA: When you go back,
6 do you go to the government planning department? Do you
7 attend their meetings and have comments?

8 HEARING OFFICER: We receive comments and
9 stuff from the departments, and actually I think we can
10 get them both from the department, and also normally the
11 North Slope Borough themselves will make comments.

12 MR. GEORGE AGNASAGGA: You do receive
13 public comments from them?

14 HEARING OFFICER: Yes. And in fact, I
15 believe -- I'll take this back. We have received comments
16 from the North Slope Borough on the Beaufort Sea sale. We
17 haven't received any from here. But I'm very sure North
18 Slope Borough will comment on this. They always comment
19 on it. And sometimes the departments both within the
20 State of Alaska and within the North Slope Borough will
21 send us their own individual comments. Okay.

22 The village has offered some door prizes, and I am
23 going to turn it over to them to help award the prizes.
24 And I thank them very much for offering the door prizes.

25 (Proceedings adjourned at 8:52 p.m.)

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REPORTER'S CERTIFICATE

I, MARY A. VAVRIK, RMR, Notary Public in and for the State of Alaska do hereby certify:

That the foregoing proceedings were taken before me at the time and place herein set forth; that the proceedings were reported stenographically by me and later transcribed under my direction by computer transcription; that the foregoing is a true record of the proceedings taken at that time; and that I am not a party to nor have I any interest in the outcome of the action herein contained.

IN WITNESS WHEREOF, I have hereunto subscribed my hand and affixed my seal this _____ day of _____ 2006.

MARY A. VAVRIK,
Registered Merit Reporter
Notary Public for Alaska

My Commission Expires: November 5, 2008

MMS Responses to Wainwright Comments

Wainwright 004-001

As stated by 30 CFR 250.1715 (a)(8), a well with casing must have a cement surface plug at least 150 feet (ft) long set in the smallest casing that extends to the mud line (seafloor) with the top of the plug no more than 150 ft below the mud line. As stated by 30 CFR 250.1714, the purpose of the plug is to (a) provide downhole isolation of hydrocarbon and sulphur zones; (b) protect freshwater aquifers; and (c) prevent migration of formation fluids within the wellbore or to the seafloor. As stated by 30 CFR 250.1716(a), all wellheads and casings must be removed to at least 15 ft below the mud line (seafloor).

Wainwright 004-002

During the lease-sale environmental review process, MMS identifies information gaps and assesses what and if additional studies may be necessary. The MMS may conduct and support studies prior to or during the individual lease-sale process. Following a lease sale, if MMS believes that a specific project proposed by industry could have adverse effects, MMS can require industry to conduct site surveys and monitoring to identify the presence and abundance of biological resources and to mitigate potential effects.

Wainwright 004-003

Oil exploration is an uncertain business. In mature areas such as the Gulf of Mexico, there is a high rate of success for exploration leading to development (>50%). In frontier areas such as Alaska, there is a low success rate (<10%). This means that exploration drilling could result in expensive dry holes or discoveries that are too small or too difficult to develop. If a large discovery is made, there are many regulatory steps that must be followed before development could occur, regardless of the amount of oil discovered. More studies, more local involvement, more evaluation of mitigation, and compromises will be made before development occurs. If a considerable amount of oil is found (billions of barrels), it is more likely that compromises will be reached and some development will occur. If smaller amounts of oil are found (perhaps only 1 discovery), it is less likely than commercial development will occur. Considering all of the factors, the chance that commercial development will happen as a result of holding one lease sale in the Chukchi Sea OCS probably is <10%. If several lease sales are held and many discoveries are made, the chance for commercial development may increase to 50%. No one can give solid predictions on these estimates, because there are too many variables.

Wainwright 004-004

Liberty has not been constructed yet, and so has not had any impacts on marine mammals.

MMS is unaware of any research findings that have shown any impact from Northstar to polar bears, walrus, belugas, or seals. For example, as stated in the draft EIS at page IV-222:

Moulton et al. (2005) reported that during spring surveys, there was no evidence that construction, drilling, and production activities at BPXA's Northstar oil development affected local ringed seal distribution and abundance. Drilling and production sounds from Northstar likely were audible to ringed seals, at least intermittently, out to ~1.5 km in water and ~5km in air (Blackwell, Greene, and Richardson, 2004). These results suggest that any negative effects on seals from individual developments are likely to be minor and very localized. Likewise, Richardson and Williams (2004) concluded that there was little effect from the low-to-moderate level, low-frequency industrial sounds emanating from the Northstar facility on ringed seals during the open-water period, and that the overall effects of the construction and operation of the facility were minor, short term, and localized, with no consequences to the seal populations as a whole.

Wainwright 004-005

The OCS Lands Act of 1953 (67 Stat. 462), as amended (43 U.S.C. 1331 et seq. (1988)) would have to be amended to exclude the Chukchi Sea, or new legislation written into law, which would stop oil and gas exploration and development in the Chukchi Sea.

Wainwright 004-006

The MMS will have an inspector present during most drilling operations. Whether a full-time presence would be needed would depend on the level of activities. If two drilling operations are being conducted at the same time, the inspector would rotate between the sites.

Wainwright 004-007

The MMS stipulations and required mitigation and conflict avoidance measures under IHA requirements as defined by NMFS and FWS that directly impact subsistence activities are followed in locations where the subsistence hunt is affected. The IHA requirements obligate operators to demonstrate no unmitigable adverse impacts on subsistence practices. Conflict avoidance agreements (CAA's) between permittees, the AEWC, and village Whaling Captains' Associations work toward avoiding unreasonable conflicts and disturbances to hunters and bowhead whales. Such conflict avoidance agreements would follow protocols similar to those reached annually between permittees and the AEWC for the subsistence bowhead hunt and address industry seismic and drilling activities under provisions of the MMPA. With the use of the CAA methodology, subsistence-whale hunters generally have been successful in their annual whale harvest. A CAA generally includes prohibitions on conducting oil-industry activities during the bowhead whale-hunting season, dispute resolution, and emergency assistance to whalers at sea. Implementation of this CAA ensures that there will no unmitigable adverse impacts on the subsistence uses of marine mammals by these residents.

For seismic surveying, NMFS- and FWS-sanctioned observers, including local Alaskan Natives, are onboard survey vessels. These observers stop seismic operations when they observe marine mammals within the safety radius designated by the NMFS. The MMS urges the Wainwright Whaling Captains' Association to ask the AEWC and other marine mammal co-management organizations participating in CAA negotiations to ask for Native observers on drilling vessels.

Wainwright 004-008

The answers given at the meeting are generally correct. There will not be any drilling in the winter over ice because the ice moves. Exploration wells and seismic operations will occur in the summer open-water season. If large discoveries are developed, it is likely that one or more permanent platforms will be installed. Development wells could be drilled off these fixed platforms during the winter, but drilling probably will be stopped during broken-ice conditions in spring and fall. If subsea wells are used instead of installing more platforms, these wells will be drilled by drill ships in the summer months.

Wainwright 004-009

The latest published information on the NSB's beluga tagging project was included in the draft EIS.

Wainwright 004-010

The text has been modified to reduce the scope of the statement and remove the redundancy.

Wainwright 004-011

Marine mammal observations are conducted under the auspices of MMPA authorizations issued by the NMFS and the FWS. This information is submitted to and disseminated by these agencies.

Wainwright 004-012

See the response to comment **Wainwright 004-011**.

Wainwright 004-013

The MMS does not have jurisdiction over the hull types of vessels used in conducting ancillary or seismic survey activities. The Coast Guard certifies vessels for use in U.S. waters.

Wainwright 004-014

Consideration of revenue sharing is an issue that is usually not considered in an EIS for the reasons stated in Section II.B.5.b, Issues Considered but not Analyzed. Revenue sharing is further discussed in Section IV.C.1.p(4), Standard, Potential, and Ongoing Studies and Mitigation Initiatives.

Wainwright 004-015

It is true that a lot of oil comes from the North Slope. However, crude oil needs to be refined into other products such as gasoline, diesel, and other fuels. The price for fuel includes the crude oil price and all of the steps needed to transport and refine the crude oil and deliver the fuel to markets. For small, remote markets (villages on the North Slope) the costs will be higher than for big cities close to refineries and oil terminals (Texas). State and Federal taxes also add to the price of fuel. In some countries, taxes are low and refining costs are subsidized by the government (Indonesia). In other countries, taxes are high and there are high costs for transportation (Japan). The U.S. is in the middle of the range of fuel costs compared to all countries in the world, although some parts of the U.S. have much higher fuel costs than others. This is mostly due to market factors, not where the oil is actually produced.

**Document
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1
2 5-YEAR OCS OIL AND GAS
3 PROPOSED LEASING PROGRAM
4 FOR 2007-2012
5 Anchorage, Alaska
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10 NORTH SLOPE BOROUGH PUBLIC HEARING/MEETING
11 for the Draft Environmental Impact Statement
12 Taken December 6, 2006
13 Commencing at 7:00 p.m.
14 Volume I - Pages 1 - 38
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I-N-D-E-X

Minerals Management Service:

Fred King, Chief of Leasing

Deborah Cranswick

Michael Salyer, Wildlife Biologist, EIS Coordinator

Reported by Britney Chonka, CR

PUBLIC COMMENTS

Page 3

1 MR. KING: If we can get everybody to come sit
2 down, my clock on the back of the wall says it's
3 time to start.

4 My name is Fred king. I'm with the Minerals
5 Management Service. I'm chief of leasing
6 activities. And I'm going to be the hearing officer
7 today. Sitting up here with me as part of the
8 panel, I've got Mike Salyer and Debbie Cranswick.
9 And we'll be conducting the hearing.

10 I also have Britney Chonka, who is going to be
11 taking the minutes, or actually transcript of the
12 testimony that's given here today. If you have
13 written testimony, please bring it up and give it to
14 her. And then also when you start to testify, and
15 I'll have people come here and sit, if would you
16 please say your name and spell it, that way we'll
17 make sure we get it into the record correctly.

18 I'd like to cover just a few administrative
19 things, just in case something goes wrong, but if,
20 while you're here, you should -- there should be any
21 type of an emergency, earthquake, fire, anything
22 like that, please go out the door, head to your left
23 and exit. Go out the same way you came in. If, for
24 some reason, that's blocked, you can also go out
25 this door here and out to the south.

1 If you need to use the rest room or anything
2 while you're here, there are rest rooms located
3 right on the other side of this wall here. We would
4 appreciate it if you would stay on the first floor.

5 And right now, we're hoping that the meeting
6 will, we anticipate being here from 7:00 to 9:00,
7 based on the crowd. I'd like to limit testimony to
8 no more than ten minutes.

9 Are there any questions or anything before I
10 start and go any further?

11 Just, as a little bit of background, we have a
12 couple of maps up on the wall. This EIS, just for
13 people's -- so you know a little bit about what
14 we're talking about, we are actually looking at four
15 alternatives, I believe, in this EIS. There is the
16 Polar proposal, which is basically leasing the
17 program area. There is also a no-action
18 alternative, which means no sale, which we're
19 required to look at by NEPA, and then we have two
20 alternatives, there is a Corridor I, which I believe
21 is based on 60 miles.

22 MR. SALYER: Yes.

23 MR. KING: And then the second alternative is
24 based on 25, about 25 miles, so those are the two
25 alternatives that we're looking at here and we also

1 offer a suite of mitigation.

2 To start with, looks like I've got four people
3 who would like to testify. And, Elise --

4 MS. WOLF: Elise.

5 MR. KING: Elise, would you like to come
6 forward?

7 MS. WOLF: Sure.

8 MR. KING: If you would sit over here, which is
9 nearest the --

10 MS. WOLF: The exit so I can run? All right.

11 MR. KING: One other thing, if you're
12 testifying, if you represent a group, I'd appreciate
13 it if you testify. If you're here as an individual,
14 you don't need to go any further. If you're
15 representing an organization or a group, please
16 state the group.

17 MS. WOLF: You caught me off guard, I guess I
18 should --

19 You should start with somebody else, because I
20 was expecting you to explain some things first, so I
21 shut my computer off.

22 MR. KING: Okay. Bruce St. Pierre, would you
23 like to come and testify?

24 MR. ST. PIERRE: Sure.

25 Good evening. My name's Bruce St. Pierre, S-t

1 period P-I-E-R-R-E. I'm a 38-year resident in the
2 state of Alaska. Currently employed with
3 ConocoPhillips as an environmental coordinator
4 working in the exploration of land department. And
5 I am giving comments for, representing
6 ConocoPhillips Alaska.

7 ConocoPhillips has a strong and long-standing
8 interest in Exploration Alaska, including the
9 Chukchi Sea area, Outer Continental Shelf. We're
10 the largest oil and gas producer. And we have a
11 proven track record of high quality environmental
12 performance on the Alaska North Slope.

13 As the largest owner of state and federal leases
14 in Alaska and a major owner in the three largest
15 fields, Prudhoe Bay, Kuparuk and Alpine,
16 ConocoPhillips is a long-standing and active
17 participant in oil and gas exploration and
18 development activities in the state.

19 Among our production and other activities that
20 we have in place on the North Slope, this past
21 summer we conducted a seismic exploration program in
22 the Chukchi Sea and we intend to conduct additional
23 seismic activities in federal waters in the Chukchi
24 Sea area into this summer coming up. We will be
25 submitting full-blown comments on this draft

1 environmental impact statement for this Lease Sale
2 193 in writing by the comment deadline.

3 Our general comments are as follows: Again,
4 we're a strong supporter of oil and gas leasing in
5 Alaska and especially in the OCS areas. We are
6 particularly interested in Chukchi and the Lease
7 Sale 193 that's coming up that's being commented on
8 tonight.

9 We also appreciate and would like to continually
10 see consistent and reliable scheduling in the
11 occurrence of lease sales. And we believe that's
12 crucial to allow companies sufficient assurance to
13 justify the significant investment that's required
14 to be prepared for those lease sales.

15 ConocoPhillips encourages MMS to authorize
16 pre-leasing activities for seismic in 2007. And to
17 proceed after that with the Lease Sale 193 in the
18 Chukchi.

19 We encourage MMS to continue leasing and to
20 continue to promote exploration, development and
21 production of oil and gas in the Alaska and federal
22 offshores.

23 The opportunity in the Alaskan OCS, specifically
24 in the areas of Beaufort and the Chukchi Seas, is
25 very attractive for the industry and for

1 ConocoPhillips. Those areas are considered frontier
2 and areas that are of extreme interest to us.

3 ConocoPhillips commends the Minerals Management
4 Service pursuing an area-wide EIS and planning
5 process as well as a thought-out analysis within
6 that process of potential environmental impacts.

7 Subject to a few important concerns, we do
8 believe that the DEIS that's being discussed today
9 provides a convincing analysis in support of both
10 the Lease Sale 193 and pre-lease seismic exploration
11 activities in the Chukchi for 2007.

12 ConocoPhillips does oppose alternative 2, which
13 is the no-sale alternative, as well as opposition to
14 alternatives 3 and 4, which would impose lease
15 exclusions zones larger than the current Polynyal
16 spring lead system. These alternatives would
17 exclude larger areas from leasing, resulting in lost
18 opportunity to discover commercial areas and
19 reserves calculated by MMS to range between 15 and
20 35 percent in comparison to the alternative 1.

21 Geophysical surveys that use seismic rec --
22 reflection are essential. They are done as state of
23 the art. They are a component of oil and gas
24 exploration in the OCS. Geophysical data are used
25 by both industry and MMS to make informed, economic

1 and regulatory decisions regarding the potential
2 accumulations of oil and gas.

3 As one of the earliest components of the lengthy
4 and costly process leading from leasing of lands to
5 the exploration to the next phase, which is
6 development and then on to production of hydrocarbon
7 resources, seismic surveys are both critical to the
8 OCS resource development and in the marine
9 environment, any low activity -- impact activity
10 with no detectable long-term effects. It's a
11 critical part of the process.

12 ConocoPhillips asks MMS to take notice of its
13 findings as strong evidence and strong support for
14 both the absence of significant adverse
15 environmental impacts from seismic activities and
16 for authorizing seismic activities throughout the
17 Chukchi OCS and Lease Sale 193.

18 In conclusion, ConocoPhillips strongly supports
19 Lease Sale 193 and the NEPA process, the draft
20 environmental impact statement that is being done to
21 that end. We also support pre-leasing seismic
22 activities subject to reasonable mitigation
23 measures.

24 Conoco believes that the OCS can and will be
25 developed responsibly with respect for the

1 environment and in a manner that also respects the
2 way of life of the residents of the North Slope of
3 Alaska. Thank you.

4 MR. KING: Thank you.

5 Do you have any questions?

6 MR. SALYER: No.

7 MS. CRANSWICK: No.

8 MR. KING: Thank you.

9 One thing I would like to mention to everybody
10 is we had some discrepancies in our notices on when
11 the comments were due. The official word now for
12 the comments is going to be December 26th. So
13 there's a little bit more time. That way anybody
14 who is real bored at Christmas will have something
15 to do. Okay.

16 Elise, are you ready?

17 MS. WOLF: All right. I represent the Alaska
18 Oceans Program and a group called Alaska Watch.

19 First of all, I have a couple of questions. One
20 is about the buffer zone. You have indicated in the
21 summary of the EIS that there is a 15-mile buffer
22 zone, which, in the text of the EIS doesn't exist.
23 You refer to the five-year plan alternatives, but
24 then in the EIS, you do not refer to the 15-mile
25 buffer zone.

1 MR. KING: Let me try it, then you can -- go
2 head, then I'll jump in if I think you're wrong.

3 MR. SALYER: There's good chance.

4 It's a 15- to 25-mile. It's one -- you know,
5 whenever it was laid out on the map.

6 MS. WOLF: 15- to 50-mile buffer is what you
7 have in the summary.

8 MR. SALYER: Polynya are the buffer zone. I
9 believe it's 15 is in the northwest corner, but it
10 doesn't track perfectly with that.

11 MS. WOLF: But your proposed plan has no buffer
12 zone.

13 MR. SALYER: Yes, it does. That is the buffer
14 zone for the proposed plan.

15 MR. KING: Just real quick, what happens is in
16 the five-year program, this program was decided in
17 2002 to 2006. The Secretary made a decision that
18 just the program area with that buffer zone would be
19 offered. So we don't consider anything outside of
20 the area that was in the program area for 2002,
21 which included elimination of the buffer zone from
22 leasing.

23 MS. WOLF: Say that again, please.

24 MR. KING: Okay. The five-year program, okay,
25 deleted the buffer zone from consideration in

1 leasing in the current five-year program.

2 MS. WOLF: Right.

3 MR. KING: So that is not considered and is not
4 available for consideration for further analysis or
5 leasing during this five-year program.

6 MS. WOLF: That buffer zone is not considered?

7 MR. KING: Right. As well as, for example, area
8 to the north, which is part of the planning area,
9 it's outside of the area being considered and in the
10 program area for the five-year program.

11 MS. WOLF: Then why do we have two alternatives
12 with buffer zones?

13 MR. KING: They came up as we did scoping, when
14 we went out to the communities.

15 MS. WOLF: But you're saying those are already
16 integrated into the plan to some degrees?

17 MR. KING: There's some. These would add more.
18 So that's part of what we look at in the EIS, is
19 what do we hear in scoping and what alternatives
20 should we evaluate to see what the benefits and
21 risks are of those.

22 MS. WOLF: Okay. So let me start at the top.

23 I could stand here for two days, but I don't
24 think you want me to, so -- the EIS does not provide
25 sufficient discussion of the national parks, three

005-001

1 wildlife refuges, two reserves and the one monument,
2 four of those which border, abut the coastline of
3 the Chukchi Sea. And I think they should.

005-001

4 There's five species of salmon, as well, that
5 come up into these areas. So in terms of tourism
6 and fisheries, I think the EIS should evaluate the
7 impact on those. The Northwest region of Alaska is
8 increasingly becoming a site for both guided and
9 other types of people looking to explore those
10 regions.

11 They also do -- they also do beluga whale and
12 other types of whale tourism off the coast of
13 Canada. And this is being discussed as a potential
14 economic industry that could be developed off of
15 Alaska's coast.

16 You have in your marine habitat discussions -- I
17 went to the Chukchi Sea monitoring science meetings
18 in November. And there was virtual consensus by the
19 agencies' representatives there at the marine mammal
20 group that there's significant lack of baseline
21 data. So my question would be how -- if we do not
22 have enough baseline data to monitor impacts, how we
23 could possibly have enough baseline data to have an
24 environmental impact statement?

005-002

25 And so I would conclude that we don't have

1 enough baseline data to even begin to do an
2 environmental impact statement, much less a
3 mitigation plan. But I'll talk about the mitigation
4 plan in a minute.

5 The bowhead whale in terms of impacts, the EIS
6 fails to discuss their roughened areas on their skin
7 that allow oil to penetrate the epidermal surface
8 and their eye sockets, which also allow oil to
9 penetrate the epidermal surface and gain access,
10 which is almost redundant, because if they're in
11 that much oil, their baleen's going to be saturated.
12 But those are current science studies that are not
13 integrated into the EIS.

005-003

14 The EIS concludes that there's going to be
15 limited to no or small impacts. And yet they cite a
16 40-percent oil spill estimation. And to me,
17 unlikely means, in terms of percentages, 40 percent
18 doesn't equate logically to the term "unlikely"
19 doesn't equate logically to a 40 percent statistic.

005-004

20 I would equate "unlikely" to maybe under 10
21 percent. 40 percent is almost half, that's -- on
22 averages, that's -- that's "likely" at least, not
23 "unlikely."

24 So I have a real issue with the EIS continued
25 use, rhetorical use of "unlikely," "small,"

1 "minimal," to refer to or make conclusions about
2 discussions -- impact discussions that would
3 logically conclude higher impacts than those
4 references -- or those terms referenced. "Minimal"
5 does not mean that there's going to be 50 percent of
6 a chance. "Minimal" means there's going to be not
7 much of a chance. And I think we could definitely,
8 either if you're going to use terminology, then
9 perhaps what we need is a definition of terms at the
10 beginning of your EIS, so that the public
11 understands that what you think is unlikely is, to
12 them in the logical common knowledge, the use of
13 these terms, you know, used differently in common
14 knowledge.

15 I don't think the seals and the walrus and the
16 polar bear are discussed enough in this EIS.
17 There's the ribbon seal, there's 193 or 198 left out
18 there. They're so wild that people can walk up to
19 them. I think you have -- this is the most, you
20 admit to or acknowledge that the Chukchi Sea is
21 pristine, relatively pristine, but the only
22 industrial activity you can cite is commercial
23 whaling from 100 years ago or 80 years ago.

24 And I think what we have here is a huge public
25 interest issue that is being shoved into the

005-004

1 holidays and completely set aside for Alaskans to
2 make a decision on, even though this is a national
3 issue, we have national parks, monuments, wildlife
4 refuges and preserves on them, and yet there is
5 virtually no public comment period for the nation.

6 And even though we've had a, supposedly a year
7 to deal with this, and you might argue maybe longer
8 with the previous five-year plan, there's -- MMS has
9 perform virtually no public education outside of
10 Alaska. And even in Alaska I find a lot of problem
11 with the public education attempt to get what is
12 really a national decision here.

13 This is our wildest ocean resource, hands down.
14 The Chukchi Sea is the wildest Alaska re -- ocean
15 resource we have. It is a wilderness area. And it
16 could be qualified or set aside as a wilderness
17 area. It could be called Yellowstone. And yet what
18 we're doing here is shoving it into: Hey, between
19 eating turkey and opening presents, by the way, make
20 a decision on one of the biggest decisions, as a
21 country, we're being asked to make. I think this is
22 completely unfair to the public. And I think it's
23 highly misrepresentative and misleading to the
24 public.

25 Just the language, I have a background in

1 rhetoric, so I mean, I could take this thing apart
2 and write a dissertation on the problems with the
3 minimization, the language that minimizes impacts in
4 conclusions. It's not so much that your EIS and the
5 main document or discussion performs somewhat of an
6 adequate job, although I would never admit it was an
7 adequate job, because I think it could be a lot
8 better. And I think you're missing a lot of
9 science, perhaps Conoco could contribute some more
10 to that.

11 But anyway, the EIS, the summary, we could
12 conclude that the Secretary of the Interior, in his
13 decision on this issue, is not going to read 600
14 pages. That's going to be true for five-year plan,
15 800 pages in that case. Right? So what we have
16 here is in your summary, this enormous linguistic
17 manipulation of fact that is pretty improper. And
18 if I were to use harsher terms, I'd say negligent.

19 The coastal communities that are going to be
20 impacted, and this is one of the most negligent, to
21 use my more harsher term, that the EIS fails to
22 discuss, is, one, you do not have anywhere near
23 enough psychological studies in this. And I did my
24 master's thesis on the psychological impacts on
25 Native communities in Alaska from oil development.

1 So I could provide you some citations, if you need
2 those. But you do not have anywhere near, you
3 minimize the psychological impacts to such a degree
4 that it's absolutely overwhelming.

5 If you rip out -- if you put infrastructure and
6 the cultural changes that will come from people all
7 over the States, coming in to work in these
8 villages, the infrastructure changes, the chance of
9 losing beluga migration routes, which will cut off
10 subsistence, caribou changes from onshore siting of
11 infrastructure, beluga changes in routes, seal and
12 walrus, you eliminate subsistence which is a
13 possibility with your 40-percent large impact -- oil
14 spill impact. You are going to devastate these
15 people.

16 Chenega Bay is an excellent example. We can
17 look at Chenega Bay village, and we know where
18 Chenega Bay is, correct? Okay. It was surrounded
19 by the Exxon Valdez oil spill. Who is living there
20 now? That should be in this. If you want to look
21 at the impact of what oil spills do on a Native
22 village, then you should go to Chenega Bay. First
23 you have to come to Anchorage to interview the
24 people, because they don't live there any more. The
25 only ones that are living there now are the most

1 elders, the elders that just cannot leave because
2 they're so emotionally attached to their homes.

3 You are -- this EIS is just atrocious on this
4 point. And I'm hoping -- I am sure that the North
5 Slope Borough will attend those more than I am going
6 to right now.

7 The true cost of cleanup on -- in terms of oil
8 spill is not addressed. There is no infrastructure
9 for a boat with cleanup equipment to even park
10 itself along the Chukchi Sea coast to address a
11 spill. And this is going to happen even in
12 exploration. We are going to have oil spill risks
13 even in exploration. So where is the deep ports,
14 where are the ports that all these boats that are
15 going to respond to this spill?

16 We talk about a suite of mitigation, I'm still
17 waiting to read that part.

18 MR. KING: Can I get you to wrap up in a couple
19 minutes.

20 MS. WOLF: Yeah. Okay.

21 I want to talk about mitigation. I'm going talk
22 about economics.

23 The economic analysis in this EIS completely
24 ignores what the true cost of the taxpayer is going
25 to be. First of all, public agencies, federal and

1 state agencies are going to pay for all the baseline
2 data. There might be an opportunity to for some
3 industry, but in order for this data to be public
4 knowledge, we have to provide baseline data.

5 That's going to -- the costs of which is
6 staggering. That economic cost needs to be taken --
7 I mean, it's just like a business. You can't
8 estimate your income, just by your gross profits.
9 You have to have a net number. And your net number,
10 you don't give a net number, you give a gross number
11 of how much money these leases would make. And no
12 discussion of how much it would cost to oversight
13 them.

14 And I think we can see that the burden of the
15 State of Alaska at least, in oversighting the
16 industry was evident -- particularly evident with
17 the corrosion issue. I mean BP, of course they're
18 not going to do monitoring. Who needs to monitor
19 it? The State of Alaska. What did they decide to
20 do? Not fund it.

21 So there's a big issue. You're assuming that
22 the costs of this monitoring is going to be happily
23 absorbed by the State of Alaska and the federal
24 government. And those numbers need to be
25 determined, and they need to be taken off the top.

1 And I think once we do a true economic analysis, it
2 won't be -- look so rosy.

3 In addition to which, and this is part of the
4 mitigation, the industry requirement in the EIS is
5 that all they have to do is cap the wells and leave
6 the pipelines and infrastructure where they sit.
7 And it's a public, quote/unquote public
8 responsibility for us to pay for the removal of
9 their stuff? Where is the cost analysis of that?
10 How many billions of dollars is that going to cost?
11 That should come straight off the top.

12 And that is also a mitigation impact that is
13 just completely overwritten, just: By the way we're
14 going to leave all these pipelines with all the oil
15 in it and all the other stuff and the rust and
16 whatever else at the bottom of your ocean wilderness
17 of the Chukchi Sea. That's a big problem. I don't
18 think that's right.

19 Inadequate discussion of climate impact, there
20 were citations of baby walrus floating, abandoned to
21 starve or drown two years ago when the scientists
22 were up there. We're not even -- we need baseline
23 data that integrates climate changes that are going
24 on right now. And Alaska is a hot spot for that.

25 My conclusion with this whole thing is it's an

1 improvident plan. And what I mean by that is we are
2 ramrodding this thing through without adequate
3 studies or sufficient thought or sufficient impact
4 from the nation on an issue that is truly a national
5 issue. So, thank you.

6 MR. KING: Okay. Thank you.

7 Next is Whit.

8 MR. SHEARD: Thank you. My name is Whit Sheard.
9 And I work with Pacific Environment; we're a
10 non-government organization that undertakes
11 conservation work around the Pacific Rim, including
12 China, the Russian Far East, Japan, United States.
13 I'm the Alaska program director.

14 I have a couple of comments I'd like to make.
15 First, by way of background, I -- a couple of you
16 know I was up at the Barrow meetings. And I just
17 wanted to remind folks here that at the Barrow
18 meetings, which lasted about five hours and covered
19 a few topics, including this Lease Sale, I didn't
20 hear one public comment in support of this plan.

21 And I think that's very important, because, as
22 Elise pointed out, there is not a lot of community
23 support for this, whatsoever. And in my opinion,
24 and I think in the opinion of a lot of folks up
25 there, who I don't speak for, the agency is failing

1 to achieve environmental justice.

2 And what that means is the agency is going
3 forward with the plan that deprives citizens of due
4 process by forcing disproportionate impacts upon
5 these communities, which are minority, rural, off
6 the road system and oftentimes low income, and that
7 are also dependent upon subsistence.

8 The reason this is important is because, if you
9 put it into context, really I think what we're
10 seeing here is that you have a region of the
11 country, the Arctic, that is most feeling the
12 impacts of global warming, which is a direct result
13 of our fossil fuel development and use.

14 The citizens, as well as the ecology of the
15 Arctic region are feeling these impacts at an
16 accelerated rate more so than the rest of the
17 nation. The fact is that the rest of the country,
18 except for the Gulf of Mexico, is under a moratorium
19 on offshore development because they have the
20 political wherewithal and connections to keep this
21 development off their shores.

22 The Arctic is really a marginal development
23 area. And I say that because we have no proven
24 technology to clean up oil spills in broken ice.
25 That's a fact, yet when you look at the development

1 scenario, there is, I think a 33 to 51 percent
2 chance of a large spill, a 40 percent chance of a
3 large spill. For analysis in the five-year program
4 they assume one large spill and something like 15 to
5 30 or 40 medium and small spills. These spills will
6 not be cleaned up unless we're very lucky. And the
7 policy of being very lucky didn't hold very well
8 when you look at what happened with the pipeline up
9 at Prudhoe Bay and aging infrastructure, which is
10 something that will be occurring at sub-sea
11 platforms and sub-sea pipelines in the Arctic. And
12 I think that's very important.

13 In terms of environmental justice, we've heard
14 over and over again from these communities from the
15 mayor of the Borough, from the wildlife division of
16 the Borough, and the Whaling Commission that this is
17 all too much too soon, too fast. It's being forced
18 upon these communities at a rate that does not allow
19 for adequate public involvement, adequate public
20 analysis, and adequate public discourse.

21 I think this document reflects that. I think it
22 tears off a five-year plan document that is
23 inadequate, I think they're being forced through.
24 And I think the analysis is deficient in many ways.

25 One of the major deficiencies is in quantifying

1 scientific uncertainty. And, as you're aware, under
2 the National Environmental Policy Act, it's the
3 agency's responsibility to do the best job possible
4 of characterizing the amount of science and amount
5 of baseline data we have on this issue.

6 The responsibility doesn't stop there. At that
7 point you are supposed to look to other areas or
8 regions of similar conditions and look at what the
9 science there says. And I think if you look over at
10 the Barents Sea and certain other places in the
11 Arctic, you see government agencies and communities
12 trying to develop much more comprehensive plans
13 than what we have here. What we have here is
14 basically a zone in the Arctic for oil and gas
15 development. That's the Beaufort and the Chukchi.

16 If you look at the Barents Sea and what the
17 Norwegians are doing right now, they have an
18 integrated management plan, which takes into account
19 ecological areas which takes into account birds,
20 fish, whales and takes into account oil development
21 and fisheries. It's not the cart before the horse
22 approach that we're doing here.

23 I think if you look at what the U.S. Commission
24 on Ocean Policy and the Pew Ocean Commission said,
25 they said what you need in the oceans is

1 comprehensive zoning. This is not comprehensive
2 zoning. This is taking the Arctic, which is feeling
3 the impacts of our fossil fuel addiction and zoning
4 it almost exclusively for oil development. That's
5 simply the wrong approach. And we're probably only
6 taking that approach because we're pushing this way
7 too fast.

8 Going back to the communities for a second. We
9 heard in Barrow, and I have heard in meetings that
10 there are impacts to whales, to subsistence
11 resources that the agency is not taking into
12 consideration. During the open water meetings,
13 there was a lot of discussion about subsistence.
14 And ultimately there was cobbled together these
15 agreements that would allow folks to go ahead and do
16 seismic this last summer. It didn't go very well,
17 in my opinion and in the opinions of some of the
18 communities despite the fact that most of the
19 acoustics scientists said that the 120 decibel level
20 was where you had to monitor out to, to avoid
21 impacts to bowhead whales and aggregations of
22 whales, cow/calf pairs, Conoco went ahead and sued
23 on that because it was too much for them.

24 Our experience with Shell has been similar on
25 Sakhalin Island, they have not followed the advice

1 of scientists they had made promises to communities
2 that they don't follow through on and they've
3 impacted the environment and compromised the
4 environment in an unacceptable manner that has
5 serious deleterious impacts on communities and on
6 subsistence resources.

7 The subsistence resources analysis in the
8 five-year program in this document is exceptionally
9 poor. I am as confused as Elise was, how you can
10 say that one of these six communities along the
11 Chukchi coast will very likely lose their
12 subsistence resources for one to two years and this
13 is not a substantial impact. The five-year program
14 goes through a list over and over again of saying
15 these are major impacts, there will be
16 disproportionate impacts to communities and it does
17 the same thing. It reaches a conclusion that
18 ultimately does not match the level of analysis.

19 Furthermore, in terms of scientific uncertainty,
20 the agency has another responsibility, which is to
21 take their scientists and other scientists and ask
22 them to draw a conclusion in the absence of the
23 science that's there. I think if you talked to
24 North Slope Borough scientists, they will say there
25 is some science on the impacts of seismic and

1 development on whales and it shows that there's
2 deflections within the migration.

3 But even ignoring that, local and traditional
4 knowledge, which was pretty well documented at that
5 Barrow meeting, says that the impacts to whales go
6 far and above what are in these documents. And I
7 think that needs to be noted. And I think the
8 communities would especially appreciate hearing a
9 response from the agency to their concerns that
10 traditional knowledge is not being factored in and
11 that the agency is drawing conclusions that bear no
12 relation to the analysis whatsoever. And also to
13 the fact that this is too much too soon, too fast.

14 So I encourage the agency to go back to the
15 drawing board on this EIS, seriously look at the
16 impacts. Seriously talk to these communities. Look
17 at that time what the Norwegians are doing in the
18 Barents Sea with an integrated management plan,
19 think more holistically In terms of zoning the
20 Arctic and come up with a plan that does not cause
21 disproportionate impacts on these communities to
22 meet our nation's perceived energy needs.

23 Think I we can, as a nation, craft a much better
24 energy policy that does not force us to go destroy
25 subsistence resources of communities that have

1 existed for a millennium.

2 Thank you.

3 MR. KING: Thank you.

4 Any questions?

5 Next I have Chris.

6 MR. KRENZ: Good even, my name is Chris Krenz.

7 And I am here representing Oceana. Oceana is an
8 international ocean conservation organization. It's
9 a nonprofit organization. And we have an office in
10 Juneau. I work in that office in Juneau and I am
11 the North Pacific project manager.

12 We oppose development in the Chukchi Sea of oil
13 and gas. The Chukchi Sea is very pristine area, as
14 has been pointed out previously tonight. It has
15 amazing abundance and uniqueness in its animal
16 diversity that occurs there. You have whales that
17 use a variety of habitat within the Chukchi Sea,
18 from bowhead whales to gray whales, using a lot of
19 the bottom habitat. You also have walrus that rely
20 heavily on bottom habitat areas. You have sea birds
21 and sea ducks. Some of those sea ducks go down and
22 they also rely on that bottom habitat area.

23 A lot of these animals are very sensitive to
24 impacts from oil and gas development. For example,
25 in an oil spill, a fraction of that oil is likely to

1 end up on the bottom where filter feeders will
2 consume that oil and it will get biomagnified up in
3 the food chain through the numerous animals that
4 consume resources on the bottom. And I think that
5 they need to take that into account.

6 Those are not the only animals that are
7 obviously going to be potentially impacted by oil
8 and gas development. But I think it's also
9 important, as others have done before tonight, to
10 point out that communities are likely to be very
11 impact -- largely impacted in the development of oil
12 and gas in the Chukchi Sea, these communities
13 obviously rely on those resources that are in a
14 pristine state in the Chukchi. And they don't just
15 rely on them for their recreational activities.
16 They rely on them for both their culture and their
17 food.

18 I think the Chukchi Sea is a place where we
19 don't know a lot as scientists. As western
20 scientists, we don't know a lot. However, there's
21 been people there that have lived for a millennium,
22 as Whit pointed out. Those people have accumulated
23 a vast amount of knowledge, have a lot of
24 traditional knowledge and wisdom.

25 If the Minerals Management Service would like to

1 make its decision on the best available information,
2 they need to, and must incorporate that information
3 that is at a level that is much higher than what
4 western science has within the region.

5 There's going to be impacts of development in
6 oil and gas and exploration and putting in
7 infrastructure and certainly during the lifetime of
8 extracting those resources. We already are seeing
9 debates about the impacts on bowhead whales of
10 seismic explorations. Putting in infrastructure is
11 not only going to impact the Chukchi Sea, it will
12 impact much of the -- much area on the North Slope
13 Borough through pipelines out to Prudhoe Bay
14 impacting numerous types of wildlife in those areas.

15 Oil spills obviously are something that strike a
16 chord when one talks about oil spills in Alaska to
17 the U.S. public, everyone thinks of the Exxon Valdez
18 oil spill and the impact that that oil spill had on
19 numerous animals. We still haven't seen full
20 recovery of that.

21 And that's only going to be compounded by the
22 fact that the Chukchi Sea has ice on it most of the
23 year. And we don't know how to clean up oil in
24 broken ice conditions, or if oil is underneath the
25 ice. We have no way to even imagine how we would

1 clean that up. We believe that there are going to
2 be very many adverse impacts to the development of
3 the Chukchi Sea. Thank you.

4 MR. KING: Thank you.

5 I believe John's up next.

6 MR. WARRENCHUK: Hello --

7 MR. KING: Would you state your name and spell
8 it for the court reporter, please.

9 MR. WARRENCHUK: Sure. My name is John
10 Warrenchuk, W-A-R-R-E-N-C-H-U-K. I'm here as an
11 Alaska resident and a concerned scientist.

12 The Chukchi and Beaufort Sea, really our last
13 pristine Arctic wilderness, our last pristine
14 wilderness in the U.S., really. Here we are
15 debating whether or not to open it for oil
16 exploration. The Chukchi, even though this is a
17 voluminous document, there's a lot that science
18 still doesn't know.

19 The Northern Right Whale, which is the most
20 endangered cetacean marine mammal species in the
21 world. There's 300 left, I think. We don't know
22 where their calving and breeding areas are yet.
23 It's possible that they do use portions of the
24 Chukchi Sea to breed and to feed. With only 100 --
25 300 animals left, there's a lot we don't know. I

1 don't know if Northern Right Whale is discussed in
2 here very much at all.

3 You know, consideration of this project in the
4 Arctic marine environment, particularly with all the
5 endangered species and Arctic wildlife, which are
6 really under risk of extinction because of -- well,
7 because of global warming brought on by -- well,
8 our -- the negative effects of our oil-driven
9 economies. This is a double-whammy for these
10 animals. We shouldn't proceed. I support
11 alternative -- the status quo alternative, which is
12 no lease sale. And I want to see this, this last
13 pristine wilderness in the U.S. remain pristine.
14 Thank you.

15 MR. KING: Okay.

16 Thank you.

17 Okay. Next we have Bubba.

18 MR. COOK: Thank you for the opportunity to come
19 and speak with you today.

20 MR. KING: Could you state your name and spell
21 it for the court reporter.

22 MR. COOK: Absolutely. My name is Bubba Cook,
23 B-U-B-B-A C-O-O-K. And I represent the World
24 Wildlife Fund. World Wildlife Fund is an
25 international conservation association with 1.2

1 members in the U.S. And thousands more worldwide.

2 And I'm here -- I'm not going to spend a whole
3 lot of your time, but I am going to address the EIS
4 itself.

5 We're interested in the issue because the Nature
6 Conservancy and World Wildlife Fund led a
7 biodiversity assessment in 1999 where 60 scientists
8 from the U.S. and Russia agreed that the area should
9 be considered of the highest priority for
10 conservation.

11 And with respect to the EIS, I have a little bit
12 of experience with EIS development, as well as
13 review. While with the Trustees for Alaska, I
14 reviewed a similar lease sale for the proposal for
15 the Beaufort Sea. And as a member of another
16 federal agency, I had a considerable amount of
17 experience writing, drafting these documents.

18 I can say from reading this document I
19 understand how it is when you're under a time
20 crunch, but looking at this document, it appears
21 there's a lot of cut and paste. I have seen it in
22 other places, I've done it myself. Doesn't mean
23 that it's right. You need to spend more time
24 addressing the analytical issues in this document,
25 more time fleshing out the individual arguments,

1 particularly with respect to the subsistence
2 argument.

3 I don't know that any of you would appreciate
4 someone coming in and throwing a bunch of oil into
5 your refrigerator or cabinet and telling you that it
6 wasn't a significant impact, because that's what
7 you'd be ultimately doing with the Native groups in
8 these areas. And they would tell you that directly.

9 They depend on the subsistence resources. If
10 you tell them that they can't go out and get them
11 because of oil contamination, they're going to be
12 upset, obviously.

13 And I think it's very important to consider also
14 obligations under Executive Order 13175, which are
15 obligations to consult with the tribes in the
16 regulatory process, especially when it's something
17 that directly affects the tribes as this will. And
18 I don't think it's addressed in the EIS.

19 An additional concern is with the cumulative
20 impacts. It appears that this is more of a
21 threshold assessment as opposed to a serious
22 in-depth review of the issues, particularly from a
23 cumulative-impacts perspective. When you're
24 considering these issues, you need to consider them
25 in the context of everything that's occurring. That

1 includes whether it's climate change, fisheries
2 impacts, mining impacts that are onshore, any
3 terrestrial or oceanic impacts that may be occurring
4 from other areas.

5 I think that, unless this additional effort
6 isn't made to further flesh out these issues, it
7 probably wouldn't pass the hard-look test required
8 by NEPA.

9 With that, I want to state on behalf of World
10 Wildlife Fund that we support the no-action
11 alternative. The resources in this area that
12 include polar bears, which are undergoing the 90-day
13 scrutiny for ESA listing and gray whales and beluga
14 whales and the other marine resources that both
15 Natives depend on and the ecosystem depends on, the
16 jeopardy is too great to continue with the sale at
17 this time.

18 MR. KING: Okay. Thank you.

19 Is there -- according to what I have got, that's
20 everybody who signed up to testify. Is there
21 anybody else who would like to testify? If so, you
22 don't have to sign up, you can just come up.

23 Okay. I think what I'd like to do is go ahead
24 and go into temporary adjournment, we'll see if
25 anybody comes up the next half-hour or so, we'll

1 hang around in case somebody shows up who wants to
2 testify. If you want to hang around with us, you're
3 welcome to. Otherwise, thanks for coming out. Be
4 careful going home.

5 (Whereupon, the public hearing was
6 adjourned.)

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REPORTER'S CERTIFICATE

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I, Britney E. Chonka, Court Reporter, hereby
certify:

That I am a Court Reporter for Alaska Stenotype
Reporters and Notary Public in and for the State of
Alaska at large. I certify Hereby that the forgoing
transcript is a true and correct transcript of said
proceedings taken before me at the time and place stated
in the caption therein.

I further certify that I am not of counsel to
either of the parties hereto or otherwise interested in
said cause.

In witness whereof, I hereunto set my hand and
affix my official seal this 23rd day of December, 2006.

BRITNEY E. CHONKA, REPORTER

Notary Public - State of Alaska

MMS Responses to Anchorage Comments

Anchorage 005-001

The MMS addressed places of concern, including national parks, wildlife refuges, reserves, and national monuments, within the 2002-2007 5-Year Program EIS. The Wrangell World Heritage Site is covered in the Sale 193 EIS. Appendix A on the oil-spill-risk analyses determined that the chance of impacts associated with oil contacting this special area was <1%. See Tables A2-15 through A2-18. As a result of the analyses conducted in the 2002-2007 5-Year Program EIS, MMS concluded that there would be little to no effect on the intrinsic value of these places of concern. The MMS believes that the 5-Year Program EIS document adequately analyzes the issue at the appropriate stage of the OCS program. We decided not to consider this issue for further analyses, because the Sale 193 EIS “tiers” or “flows from” the 5-Year Program EIS.

Anchorage 005-002

The MMS has used the best available science for the Lease Sale 193 analyses to support the decisionmaking process as outlined in the Council of Environmental Quality regulations (CEQ 1502.22). Where applicable, the EIS acknowledges the uncertainties associated with significant resources occurring in the frontier environment. Information used in conducting various analyses is listed in the bibliography for this EIS.

Anchorage 005-003

Section IV.C.1.f(1)(g)3) of the EIS discusses of the potential effects of an oil spill on bowhead whales. Section IV.C.1.f(1)(g)3b), in particular, discussed the effects of direct contact with skin and eyes. Further, Section IV.C.1.f(1)(g)3c), Ingestion of Spilled Oil, includes a discussion of baleen fouling from spilled oil.

Anchorage 005-004

The assumptions for the analysis of oil spills assume one large spill occurs and a distribution of smaller spills. The oil-spill-occurrence estimate is provided for the decisionmaker to consider. The oil-spill-occurrence estimate is a Poisson distribution based on the mean number of spills. For the Proposed Action, there is approximately a 60% chance of no spills occurring over the 27-year production life of the proposed action. There is approximately a 31% chance of one spill, an 8% chance of two spills, and a 1% chance of three spills over the life of the Proposed Action. The chance of zero spills is greater than the chance of one, two, and three spills added together (chance of one or more large spills). The text has been revised to state the percentages associated with the chance of one or more large oil spills occurring over the life of the project. See also the response to comment **AEWC 007-001**.

North Slope Borough

OFFICE OF THE MAYOR

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☎ 907 852-2611 ext. 200
Fax: 907 852-0337



Edward S. Itta, Mayor

December 29, 2006

Sale 193 EIS Coordinator
U.S. Department of the Interior
Minerals Management Service
Alaska OCS Region
3801 Centerpoint Drive, Suite 500
Anchorage, AK 99503-5823

Submitted Via Mail and Email to akeis@mms.gov

Re: Comments on Draft EIS for Chukchi Sea Oil and Gas Lease Sale 193

Dear Sir or Madam:

The North Slope Borough (Borough) appreciates this opportunity to comment to the Minerals Management Service (MMS) on the draft environmental impact statement (DEIS) for proposed Chukchi Sea Outer Continental Shelf (OCS) Oil and Gas Lease Sale 193. It remains our strong belief that oil and gas leasing, exploration, and development should not occur in the Chukchi Sea given the paucity of critical baseline environmental data, extraordinarily harsh weather and ice conditions, remoteness from existing industrial infrastructure, and the failure of the oil industry to demonstrate the capability to effectively respond to a major spill.

To begin, we must put MMS on notice that the unavailability of hard copies of this DEIS and other recent documents is an issue in our communities. Many of our residents do not have computers. Many, and especially many of our elder residents in particular, are not computer-literate. Only having CD or downloadable copies widely available is a hardship for many village residents. Ample numbers of hard copies and *ample time* for review should be available within our affected communities, as our residents are most likely to be impacted by this lease sale.

General Comments

Insufficient Range of Alternatives

The DEIS does not present a meaningful range of alternatives. Indeed, MMS recognizes this when it explains “the differences in effects between the proposed sales and their alternatives are so small that we cannot distinguish measurable differences between the combined estimated effects in the cumulative case analysis.” (DEIS at ES-vi) Besides the no action alternative, which is not being seriously considered, only two other very similar alternatives are proposed, both of which are inadequate. The deferral area described in Alternative IV is derived from a 20-year old Biological Opinion. MMS should use more recent information to form the basis of the alternatives.

006-001

Lack of Analytical Clarity

This DEIS suffers from the same deficiencies as other recent MMS documents we have reviewed and commented upon, including the DEIS for the 2007-2012 OCS Oil and Gas Leasing Program and the Beaufort Sea OCS Lease Sale 202 environmental assessment (EA). The DEIS repeatedly cites to outdated research, offers conclusions not supported by meaningful analysis, presents contradictory statements, and uses undefined or inexact terminology.

MMS, for instance, tends to use definitive words or phrases when making statements in support of oil and gas activities in the Chukchi Sea. In finding low levels of risk to bowhead whales, for example, the DEIS concludes that “whales habituate” or that “effects will be short-term”. The document continually (and somewhat annoyingly) refers to “an unlikely large oil spill” despite a large spill risk estimate fixed at 40% with a range of 33-51%. Those figures seem to us inconsistent with use of the qualifier “unlikely”. A computer search of the document found the term “unlikely” used 114 times, most often in reference to the probability of an oilspill occurring. The word is used 14 times in the brief Section D.2. of the Executive Summary discussing effects in the event of an (unlikely) oilspill. In contrast, the Executive Summary states only once that the probability of a large spill is 33-51%. This imbalance in the presentation of data can be quite misleading to decision makers and reviewers. Clearly, 51% cannot be considered “unlikely” in any statistical sense. Furthermore, nowhere does the Executive Summary state that the estimated sum of mean large platform and pipeline spills is 0.51 (95% confidence interval (CI) = 0.32-0.77) per billion barrels with a 41% chance (range = 27-54%) of a spill occurring over the life of the project (Appendix A, page A.1-18 and Table A.1-25).

006-002

When discussing more significant potential impacts, however, qualifying words are often used, such as “the effect *might* be expected” or “the number *likely* would be small if the spill contacted”. MMS must discuss these issues objectively and honestly. If there is uncertainty MMS must acknowledge it. If there are effects or impacts, MMS must also acknowledge them.

Further, MMS readily admits that with respect to most subsistence species, there is an almost total lack of baseline data. The ability to mitigate spill effects and other industrial impacts, or even identify and evaluate impacts, would be compromised by the absence of baseline data for comparison. It is irresponsible to take such a risk in an area that is so biologically productive and vulnerable in the absence of data and with large uncertainty surrounding the data that do exist. What MMS proposes is essentially a huge experiment that will, with up to a 51% probability, allow us to examine the effects of a large spill on the biological resources of the planning area and the human health and cultural well being of the communities that depend upon those resources.

006-003

Also, the DEIS is lacking references. In many sections, it appears that MMS did not conduct a comprehensive literature review. Before finalizing the EIS, the most recent and available information must be used in the analysis of impacts. In some sections, references are provided, but those references are not included in the bibliography. It is impossible to provide alternative explanations or interpretations of data or study results if MMS does not provide the pertinent references.

006-004

Oilspill Risk Analysis

Throughout the DEIS, MMS acknowledges repeatedly significant uncertainty about the effects of a large spill. MMS appears to be willing, however, to look past those statements and offer the Chukchi Sea planning area for lease. The agency must be willing to acknowledge that under weather and ice conditions that may occur for approximately 8-9 months of the year in the Chukchi Sea, a significant oil spill could not effectively be cleaned up with current technology. With the dynamic moving ice conditions in the region, it would often be too risky to deploy manpower and equipment for spill response. Moving forward with Lease Sale 193 when the risks from an oil spill are so high and the ability to clean up spilled oil is so low, is unacceptable.

006-197

Also troubling are apparent inconsistencies between this DEIS and other MMS documents as they relate to spill probabilities. The MMS 2007-2012 Leasing Program DEIS seems to provide consistently lower estimates of foreseeable industrial activities and their associated impacts than does this DEIS for Lease Sale 193. The 5-Year DEIS suggests that there would be fewer small and large oil spills than would be apparent if summing estimates for Lease Sale 193 with future lease sales (assuming similar estimates as Sale 193) were planned in the 5-year program. Also, the amount of discharge per exploratory well is lower in the 5-year DEIS than estimated in this DEIS. MMS is not being consistent between documents. This inconsistency is troubling in that the estimates of impacts appear to be consistently lower in the 5-year document, which is used by decision makers to set the course for MMS activities during the next 5 years. The inconsistencies create confusion for reviewers, and make providing advice to MMS extremely difficult. MMS must be consistent between EIS documents, especially when more than one is out for review and comment at the same time.

006-198

Inappropriate Significance Thresholds

The different “significance thresholds” that MMS uses for determining how to describe the expected levels of impacts to different resources and uses are also a great frustration to us. MMS has decided that an impact to subsistence harvest patterns is only “significant” if “one or more important resources would become unavailable, undesirable for use, or available only in greatly reduced numbers for a period of 1-2 years”. The threshold for significant impact to sociocultural systems is “chronic disruption . . . that occurs for a period of 2-5 years with a tendency toward the displacement of existing social patterns.” See page IV-5. Use of these standards is insulting and shows a clear lack of understanding of our traditional cultural and nutritional needs. Furthermore, the significance threshold for environmental justice merely contains a restatement of the subsistence and sociocultural impact thresholds, rather than also establishing a significance threshold for human health. It also seems throughout the effects analysis that as often as not, conclusions with respect to significance are strained in favor of findings of lesser, rather than greater significance. These conclusions are often unsupported by data or analysis. For many species, for instance, no justification is provided for assertions that recovery following an oil spill would occur in, what seem to our knowledgeable hunters, a very few generations. We are willing to work with MMS to establish criteria that more accurately reflect the way we live and the seriousness of impacts that can occur if leasing in our waters continues.

006-005

Cumulative Effects

As is the case with respect to the other MMS documents we have recently reviewed, the focus of the cumulative effects analysis here is too narrow and too shallow. An incomplete range of potential effects-producing factors are considered in the analysis, and nothing appears to have been done with the conclusions that are reached in terms of their impact on the choice of a proposed leasing alternative. MMS has not fully described or analyzed:

1. Upper-end scenarios for oil and gas development in the South, Northeast, and Northwest NPRA Planning Areas, including roads, pipelines, port and coastal staging area facilities, and marine transport. Special attention should be given the potential development of Barrow as an industrial hub given its use this winter season for support of Northeast NPRA exploration via an extended snow road.
2. The Nikaitchuq prospect in the Beaufort Sea and the purchase of the Kulluk drillship by Shell and the company’s announced plans to utilize it to develop resources in the Camden Bay area.
3. Expansion of the Delong Mountain Terminal portsite or Red Dog Mine.
4. Coal and hard rock mineral development within and outside of the NPR-A, including announced ASRC plans to develop coal reserves on corporation lands.
5. Increasing onshore and offshore industrialization and commercialization of the eastern Russian Arctic.
6. Industrial and other activities in the Canadian Beaufort Sea.
7. Full analysis of effects due to arctic warming, including the near-term potential for a commercial northern sea route, the northern expansion of commercial fishing into the Chukchi Sea, thawing of permafrost, shifts in plant and animal

006-006

species abundance and distribution, increased incidence and severity of ocean storms and coastal erosion, changes in transportation routes to subsistence use areas and loss of ice cellars to thawing and the need for more frequent hunts, and shorter tundra travel openings and other increased technological challenges.

006-006

Subsistence, Sociocultural Organization and Environmental Justice

The DEIS does not adequately analyze the impacts of oil and gas development on our subsistence practices, our sociocultural organization, or on environmental justice. Routine activities and oil spills will significantly impact our communities.

The conclusion regarding the effects from noise on subsistence activities is arbitrary. The DEIS concludes that effects of noise and disturbance are expected to be “short term (generally < 1 year), *see* DEIS at IV-333, although the DEIS recognizes that noise will deflect the bowhead whale migratory path and that noise will be generated over multiple years from seismic surveys, exploration, and development. While disturbance that makes hunting more difficult for even one day is significant, the noise from oil and gas development in the Chukchi will last for many years and cannot be considered short term. As MMS recognizes, “any disruption of the Barrow bowhead whale harvest could have significant effects on regional subsistence resources and harvest practices.” DEIS at IV-333. MMS also recognizes elsewhere in the DEIS that disruption from seismic surveys alone “could impact sharing networks, subsistence task groups, and crew structures as well as cause disruptions of the central Inupiat cultural value: subsistence as a way of life. Over time, these disruptions also could cause a breakdown in family ties, the community’s sense of well-being, and could damage sharing linkages with other communities.” (DEIS at IV-337)

006-007

Although MMS relies on mitigation measures to downplay these effects, our past experience with seismic testing, exploration and development in the Beaufort Sea suggests that it is not possible to sufficiently mitigate the effects of noise on bowheads and other whales, and as MMS recognizes, it may not be possible to mitigate the effects of multiple seismic surveys. *See* DEIS at IV- 333.

The DEIS is also contradictory in its discussion on the effects of noise on beluga whales. The DEIS states, “When not restricted, they appear not to be particularly sensitive [to noise].” (DEIS at IV-334) However, the DEIS recognizes elsewhere that beluga whales are sensitive to noise, and the DEIS is correct in explaining that the Inupiat have long understood this to be the case. *See* DEIS at IV-292 (noting that “The observations about the effects of noise on beluga whales are widespread and probably very old in traditional knowledge.”)

006-008

The conclusions regarding the effect of a large oil spill correctly note that subsistence could be affected for at least one harvest season or longer, *see* DEIS at ES-v, but this is a misleading understatement of the effect of a large oil spill on our communities. The DEIS is incorrect in stating that “Effects from an unlikely large oil spill would not be of a size that would displace or alter the fundamental long-term relationship between

006-009

subsistence harvest and sociocultural systems . . . As such, sociocultural systems of Alaskan Native villages should not be affected in the unlikely event a large spill.” (DEIS at ES-v) A large oil spill has the potential to permanently change our entire way of living. It could take years for the environment and whales to recover, and in that time the relationship between subsistence and our sociocultural systems will be forever altered. As MMS recognizes elsewhere, “Disruption of subsistence-harvest resources, such as that created by a large oil spill, would have predictable and significant consequences and would affect all aspects of sociocultural resources-social organization, cultural values, and institutional organization.” (DEIS at IV-340)

006-009

MMS cannot rely on mitigation to eliminate the effects that a large oil spill would have on our sociocultural organization. As MMS correctly notes, “Far from providing mitigation, oil-spill-cleanup activities more likely should be viewed as an additional impact, causing displacement and employment disruptions.” (DEIS at IV-342)

The DEIS environmental justice analysis is also inadequate and arbitrary. The DEIS concludes that “No ‘disproportionately high adverse effects’ as defined by the Environmental Justice Executive Order are expected to occur from planned and permitted activities associated with the lease sale evaluated in this EIS.” (DEIS at ES-iv) However, as MMS recognized in the DEIS for the OCS Oil and Gas Leasing Program for 2007-2012 (5-Year Plan), “any effect arising from Alaskan OCS activity is liable to have EJ implications.” (DEIS for 5-Year Plan at 229)

006-010

The DEIS states that “Because of the NSB and NWAB’s homogeneous Inupiat population, it is not possible to identify a ‘reference’ or ‘control’ group within the potentially affected geographic area (for purposes of analytical comparison) to determine if the Inupiat are affected disproportionately.” (DEIS at IV-364) It is not necessary to identify a control group within such a narrow and specific geographic area in order to properly evaluate whether the proposed project would have a disproportionately high adverse effect on certain populations. Indeed, the purpose of an environmental justice analysis could always be circumvented if the relevant geographic area chosen were limited to the area populated by the minority population of concern. MMS should examine environmental justice issues from a broader perspective of both the entire state and the entire country, as did the DEIS for the 5-Year Plan. *See* 50Year Plan at IV-228. MMS can also compare Inupiat to non-Inupiat households in the North Slope. *See id.* at IV-229. As the 5-Year Plan correctly explains, “any OCS activity in Alaska is likely to significantly affect a specific local minority.” *Id.*

Again, MMS cannot assume that mitigation measures will reduce the impacts to a non-significant level. Offshore oil activity has already had a significant impact on our communities, despite the mitigation measures that are in place. As MMS recognizes, “Limited data also limit our assessment of the effectiveness of mitigation measures. practices. Development already has caused increased regulation of subsistence hunting, reduced access to hunting and fishing areas, altered habitat, and intensified competition from nonsubsistence hunters for fish and wildlife.” (DEIS at V-61)

Here also, we must again demand that MMS address in its cumulative effects and environmental justice analyses the already significant levels of widespread North Slope community anxiety and disillusionment associated with multiple onshore and offshore, federal, state, and industry leasing program, lease sale, and project-specific planning processes. MMS has never fully addressed these culture-wide impacts in the context of its cumulative effects or environmental justice analyses. There is an increasing sense in our communities of being overwhelmed by multiple planning processes; both in terms of a lack of time and expertise on a community and individual level to process all that is occurring, and in terms of a seeming inability to ever meaningfully influence the decisions being made. It is simply unreasonable to expect a small community to engage in any meaningful way in a host of concurrent planning processes of this magnitude. The increasing burden of project reviews initiated by multiple agencies and companies is more than our community can deal with.

006-010

The fact that a single agency, MMS, is responsible for much of this burden, and has resisted calls for additional review time, raises clear and significant environmental justice issues. Within only the last quarter of this year, our institutions and residents have been faced with reviews of the Beaufort Sea Sale 202 EA, the 2007-2012 Leasing Program DEIS, the arctic seismic programmatic EIS, and this Sale 193 DEIS. Adding BLM planning efforts dealing with the South and Northeast planning areas of the NPR-A, and many other project-specific, state, and other federal reviews of which you must be aware as well, it is clear that we are dealing with an all-out assault by the Department of the Interior. It must end, and it is the legal and moral obligation of the DOI to see that it ends immediately. We have raised this issue with other agencies as well as with MMS, and await any indication that measures have been identified and implemented that will mitigate this significant impact.

Human Health Effects

On December 15, 2006, the MMS invited Dr. Aaron Wernham, our consultant on health-related issues, to draft sections on health concerns for the FEIS. We appreciate the MMS' willingness to accept our input on health impacts. Recognizing that there has not been enough time to complete a detailed, systematic analysis, we look forward to the inclusion of our suggested public health comments as a substantial improvement to the DEIS. The comments below represent our concerns with the DEIS in the absence of any substantial improvement.

006-011

Neither this DEIS nor any MMS environmental review to date has adequately recognized and addressed as a component of its cumulative effects analysis the fact that the most likely long-term impacts of an increased industrialization of the Arctic will be on the human residents rather than on the wildlife resources of the region. There are numerous studies funded by the petroleum industry and others concluding that many potential impacts to wildlife can be mitigated to varying degrees. We are unaware, however, of any comparable literature finding that an adequate approach to mitigation of impacts on subsistence activities has been identified and employed.

The DEIS refers to a wide array of potential human health impacts associated with the proposed action and the cumulative case, yet includes little or no analysis of these impacts. Some public health issues are briefly mentioned in the “sociocultural” impacts and “environmental justice” discussion, yet there has not been an effort to systematically and thoroughly address human health concerns.

The issue of community health has become a prime concern for the Borough. We feel strongly that this issue must receive the same level of analysis accorded other environmental concerns through the NEPA process. For the purposes of discussion with MMS and other responsible agencies, we have employed the World Health Organization’s definition of health, since it is the most widely used and accepted definition:

*A state of complete physical, mental, and social well-being,
and not merely the absence of disease or infirmity.*

There are many human health concerns referenced in the DEIS yet there is little analysis of the concerns. The document also identifies potential effects that would predictably impact public health, but with no discussion of the obvious public health concerns. For example, compromised subsistence, acknowledged as a possible impact of the proposed action and the cumulative scenario, represents the potential for a significant dietary change. Subsistence diets are well known to be protective against diabetes, hypertension, and cardiovascular disease. These issues must be addressed in the Final EIS. Also, the DEIS acknowledges the possibility of displacement of subsistence resources requiring longer travel distances, with no discussion of the potential for increased accidents and exposure-related injuries resulting from such changes.

It is particularly troubling that the DEIS has not utilized the best available information to assess human health impacts. There are a number of readily available sources of information that would render more complete and useful the analysis regarding the health issues raised in this document. The following sources of information are readily available, and would contribute valuable information to the discussion of health issues raised in this DEIS:

- a. Arrest and social service records in the Borough would allow a readily available comparison of indicators of social pathology in the Borough and a comparison between communities.
- b. Baseline prevalence of respiratory illness.
- c. Baseline elder mortality rates.
- d. Rates of accidental injuries and death.
- e. Epidemiology of mental illness, including prevalence of depression, suicide rates, etc.

MMS has not used the accepted and best available methodology to assess human health impacts. We have discussed this point with MMS officials, and hope to discuss our expectations with state officials as the process of updating best interest findings for North Slope areawide sale areas begins. Health Impact Assessment (HIA) is a methodology in

wide use outside of the U.S., and is increasingly employed within the U.S. by local planners and universities. The World Bank has used it for large oil and gas projects such as the Chad-Nigeria pipeline. Canada regularly incorporates it into environmental impact assessments. Recognizing its value in guiding planning and development decisions to prevent adverse human health outcomes, the U.S. Centers for Disease Control advocates its use. The World Health Organization has recognized its value for protecting human health and encouraging responsible development, and also strongly advocates its use in evaluating any large industrial project. There is no justification for employing substandard methodology when it comes to protecting the health of our North Slope communities. It is our belief that MMS, as well as the Bureau of Land Management and other federal agencies, must use HIA to satisfy requirements under NEPA to fully assess the potential impacts of their actions on the quality of the human environment.

The MMS is legally and ethically required to include a rigorous, systematic assessment of human health impacts in its NEPA analyses. The federal trust responsibility for American Indian/Alaska Native culture and subsistence practices requires that MMS analyze human health impacts. NEPA, the C.F.R., and Executive Order 12898 provide a very strong and consistent legal foundation requiring a more systematic and rigorous analysis of human health concerns than the MMS has provided here. Consider the following:

1. NEPA discusses human health in detail, with 6 references to health concerns, including objectives such as:
 - a. To “stimulate the health and welfare of man.”
 - b. To “ensure for all Americans safe, healthful, aesthetically and culturally pleasing surroundings.”
 - c. To “attain the widest range of beneficial uses of the environment without degradation, risk to health and safety”
 - d. To “prevent or reduce adverse effects that endanger the health and well-being of man”
 - e. 40 C.F.R., which is often quoted as requiring evaluation of the “human environment” (40 C.F.R. §1500.2), specifically defines the “effects” of a NEPA action to include: “ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative.”(40 C.F.R. § 1508.8) 40 C.F.R. goes on to direct agencies to consider “the degree to which the proposed action affects public health or safety” when evaluating the intensity of an impact (40 C.F.R. § 1508.27).
2. CEQ guidelines on E.O. 12898 require that agencies “consider relevant public health data and industry data concerning the potential for multiple or cumulative exposure to human health or environmental hazards in the affected community.”

The Borough has provided to MMS as attachments an expanded treatment of our concerns regarding human health assessment, including our expectations with respect to

this and future sale-specific NEPA reviews, and suggested language for inclusion in the relevant EIS sections.

Sabotage as a Spill Risk Factor.

The North Slope Borough Science Advisory Committee pointed out in its 2003 review of oil spill risk the very real risk of sabotage against oil infrastructure (Section 6: SAC-OR-130). The Committee stated:

Unfortunately, the tenor of the times requires that sabotage be considered among the risk factors for oil spills in Alaska. In fact, the first incidence of sabotage against arctic oil field contributions was shortly after startup of the Trans-Alaska Pipeline (TAPS) in 1977 (Maxim and Niebo, 2001).

Our discussions were, of necessity, very general. Probably, there are three basic and very different categories of potential sabotage attempts: (1) random spontaneous malicious destruction (i.e. the recent shooting of the TAPS); (2) deliberate destruction of production sites or pipelines (i.e. the bombing of TAPS in 1978; and (3) some maximum level horrific impact such as against the Valdez Marine Terminal (VMT) or a loaded oil tanker.

We did not attempt to assess the risk of spills from sabotage in Arctic Alaska. We note, however, that the two incidents against the TAPS spilled a total of 22,800 barrels of North Slope crude oil. The first, a bombing on February 15, 1978, released 16,000 barrels. The second, a malicious mischief type shooting on October 4, 2001, released 6,800 barrels. These two instances of sabotage caused the loss of 60% of the total amount of crude oil (38,000) barrels spilled from the TAPS.

From startup in 1977 to November 30, 2002, a total of 13.95 billion barrels of North Slope crude oil was delivered to the VMT through the TAPS. Though the total volume of oil spilled is a miniscule fraction of the total through-put (0.0000016%), cleanup costs have been high. Environmental impacts are still being evaluated.

Coping with the risk of sabotage entails several issues, including but not limited to design features and security.

The Borough recommends that sabotage be considered and described as an oil spill risk where offshore pipelines transition to onshore facilities, and at offshore facilities themselves.

Specific Comments

Pg. ES-iii, last lines: note "There is a high potential for marine and coastal birds to experience disturbance and habitat alteration. However, little recent site-specific data are available on habitat and use patterns, routes, and timing of specific species using the arctic environment. Short-term, local disturbance could affect subsistence-harvest

006-012

006-013

resources, but no resource or harvest area likely would become unavailable, and no resource population would experience an overall decrease.” This is an early example of the many internal inconsistencies and unsupported conclusions reached in the DEIS. Despite having little recent site-specific data, MMS states without qualification that no resource population would decrease under its proposed leasing alternative.

Pg. ES-iv, 2nd paragraph: states that “Sociocultural systems would not be altered, because the sale and possible follow-up activities would result in few new residents. Furthermore, the activities represent the continuation of an important and long-time aspect of many of the area’s communities.” An influx of new residents is clearly not the sole determinant of impacts to sociocultural systems. MMS has failed to grasp the magnitude of sociocultural impacts that have already occurred as a result of OCS leasing and activities. We are not only dealing with the impacts of the single production facility at Northstar, but also the exploratory drilling operations that have been conducted, the dramatically increased level of seismic activity we saw this past open water season, and the impacts of the constant planning processes themselves. The fact that in only a very few weeks, our organizations, communities, whaling captains, and other residents have been faced with reviews of multiple large, complex, and extremely important planning documents all produced by MMS alone is an enormous impact on us all. On this list of current projects are the Beaufort Sea Lease Sale 202 EA, the 5-Year OCS Leasing Program DEIS, the joint NMFS/MMS Seismic Programmatic EIS, and this Chukchi Sea Lease Sale 193 DEIS.

006-014

MMS states that, “No resource population would experience an overall decrease.” This conclusion is unsupported and contradicts conclusions made elsewhere in the DEIS. For example, the DEIS recognizes that “several species or species-groups have a high probability of experiencing substantial negative impacts. The risk that several regional bird populations could experience significant adverse impacts is high.” DEIS at II-34.

006-015

There are repeated conclusions stated throughout the DEIS with respect to many resources and values that impacts “could be” significant or that there is the “potential for” significant impacts. None of these conclusions seems to have affected the MMS decision to proceed with leasing. MMS fails to acknowledge that such conclusions, so often reached, are impact-producing in and of themselves. They increase already significant levels of widespread anxiety and disillusionment associated with multiple onshore and offshore, federal, state, and industry leasing program, lease sale, and project-specific planning processes. MMS has never fully addressed these culture-wide impacts in the context of its cumulative effects or environmental justice analyses. There is an increasing sense in our communities of being overwhelmed by multiple planning processes; both in terms of a lack of time and expertise on a community and individual level to process all that is occurring, and in terms of a seeming inability to ever meaningfully influence the decisions being made. We have raised this issue with other agencies as well as with MMS, and await any indication that measures have been identified and implemented that will mitigate this significant impact.

As we stated in our October 6 comments to MMS on the Sale 202 EA, it is not difficult for us to recognize a clear link between truly oppressively high numbers of agency and

industry planning processes and community-wide stress and anxiety and other impacts to our cultural and physical health:

With oil prices high as we described earlier, industry interest and the level of activities are high. There were no seismic surveys in the Chukchi Sea for perhaps 15 years. This season there are three. There are multiple exploration and development projects being conducted, under construction, or in the planning stages right now. The number of industry and agency meetings and contacts in affected communities has skyrocketed. These are in addition to meetings and contacts associated with lease sale planning processes like that this EA. In some communities, it would be virtually impossible to prepare for and attend all of the meetings and have any kind of satisfying life beyond that activity and a day job. There is stress associated with deciding what meetings to attend and what meetings not to attend. There is stress associated with attending frequent meetings and being away from family and friends and other pursuits. Most subsistence hunters already have the dual commitments of a day job and all of the responsibilities associated with learning, teaching, and engaging in traditional subsistence practices. Free time is always in short supply. Most subsistence harvest activities take hunters away from their homes for varying periods of time. Efficiency and safety in harvests is success. Increased industry activity in subsistence use areas has always meant reduced harvest success. Hunters have to travel farther and more frequently for game. The risks of exposure-related and other injuries, and wear and tear on subsistence gear are increased. With oil prices high, the price of fuel for snowmachines, ATVs, and boats is high. The price of heating oil is high. The prices are far higher on the North Slope and elsewhere in bush Alaska than they are in urban centers. Subsistence success may be down, but with high transportation and heating oil expenses, cash may be tight and the ability of many residents to purchase alternative foods at local stores is compromised. Besides, we Inupiat need our Native foods to sustain us. The detrimental effects of a shift from Native to non-Native foods have been well documented.

006-016

This discussion should be just the beginning of MMS' analysis of the complex interrelated ongoing and foreseeable future cumulative effects of many influences on subsistence use patterns, sociocultural systems, and human health.

In addition, MMS makes a brief reference to development of 190 billion cubic feet of natural gas and to the effects from a natural gas release. However, impacts from gas development are not analyzed in the DEIS. If gas development is reasonably foreseeable, the impacts must be fully analyzed and not briefly mentioned in the executive summary.

006-017

Pg. ES-v, fifth paragraph: MMS states that the "Effects from an unlikely large oil spill would not be of a size that would displace or alter the fundamental long-term relationship between subsistence harvest and sociocultural systems. . . . As such, sociocultural systems of Alaskan Native villages should not be affected in the unlikely event a large spill." However, on the previous page, MMS acknowledges that a large oil spill could have significant impacts on subsistence hunting. (DEIS at ES-iv) This statement belies the central role that subsistence hunting plays in our culture. A large oil spill will significantly impact sociocultural systems on the North Slope.

006-018

Pg. ES-v, D.3 Cumulative Effects: The section begins with the statement that "In the cumulative effects analysis, we assess the estimated contribution of Sale 193 to the

combined estimated additive, countervailing, and synergistic effects of all the past, present, and reasonably foreseeable activities that are likely to affect the *same resources that may be affected by Sale 193*". (emphasis added) On just the next page, however, in Section E discussing the effects of Alternatives II – IV, there appears a lengthy self-serving discussion of the global impacts of importing oil versus producing it domestically. If MMS is going to discuss effects on this scale, the potential environmental benefits of energy conservation and use of alternative fuels, as well as the contribution of domestically produced oil to greenhouse effects, ought to be discussed to a comparable degree.

006-019

Pg. II-1: The unavailability of hard copies of the DEIS is an issue in our communities. Many of our residents do not have computers. Many, and especially many of the elder residents in particular, are not computer-literate. Only having CD or downloadable copies widely available is a hardship for many village residents. Ample numbers of hard copies and ample time for review should be available within our affected communities, as our residents are most likely to be impacted by this lease sale.

006-020

Pg. II-4, Paragraph 5, Line 4: Add mating to the activities that occur in this area.

006-021

Pg. II-4, Paragraph 5, Line 5: Add gray whales and beluga whales to the list (bowheads are the only cetaceans noted).

006-022

Pg. II-5, Stipulation No. 1: The stipulation provides little mitigation. The first sentence states that "If previously unidentified biological populations or habitats that may require additional protection are identified in the lease area by the Regional Supervisor, Field Operations (RS/FO), the RS/FO may require the lessee to conduct biological surveys to determine the extent and composition of such biological populations or habitats." As written, this stipulation actually discourages industry from conducting appropriate surveys for important and unique populations or habitat. If a lessee identifies these populations or habitat, additional surveys may be required. Given the acknowledged lack of good baseline biological data for the Chukchi Sea, the stipulation should require pre-operation surveys, with independent peer-review of study design and results. These surveys must be conducted before any exploratory or production activities occur so important populations that reside or migrate through the areas or habitats are not disturbed. Such a measure would be comparable to measures adopted by the Bureau of Land Management (BLM) that require multiple years of study before operations are allowed in potentially important waterfowl and caribou habitat within portions of the National Petroleum Reserve-Alaska (NPR-A).

006-023

Pg. II-7, Stipulation No. 4: Line 4 should read "polar bears". Ice seals should also be included in the subsistence species list that is in the 1st sentence of the 1st paragraph. Further, the Ice Seal Commission should also be listed as one of the co-management organizations. The penultimate sentence in the 1st paragraph discusses the amount of time allowed for co-management organizations to comment on monitoring program plans. This amount of time needs to be adjusted. A large number of oil and gas companies are interested in operations in the Chukchi Sea. If there are a large number of plans to review

and the plans do not become available until late in the spring, then 30 to 60 days is not enough time to review and comment on monitoring plans. If a limit of 30 to 60 days is placed on co-management organizations to comment on plans, then there needs to be a cut-off date of March 1 for submission of monitoring plans. Otherwise, subsistence activities in spring and early summer will conflict with review of the plans. Finally, MMS must clarify how the agency and oil companies will respond to and incorporate into the plan the comments they receive from the co-management organizations.

Pg. II-8, Barrow: This paragraph does not accurately capture the area that is used by Barrow for subsistence hunting of bowheads. Occasionally, Barrow hunters will travel as far to the east as Smith Bay to hunt bowheads. This paragraph also does not capture the importance of ice seals to the Barrow community.

006-025

Pg. II-9, Point Lay: This paragraph does not accurately capture the timing or location of the beluga hunt. Typically the beluga hunt occurs between the middle of June and the middle of July. Hunters can travel as far north as Utukok Pass or as far south as Cape Beaufort while looking for belugas.

Pg. II-9, Stipulation No. 5, 1st paragraph: The standard employed is the prevention of “unreasonable conflicts” with subsistence, but it is never defined. MMS should replace the inadequate “unreasonable conflicts” standard of Stipulation 5 governing impacts to subsistence, with the MMPA standard of “no unmitigable adverse impacts”.

2nd paragraph: MMS should require industrial operators to avoid conflict with the subsistence harvest of all marine species, not only bowheads. Operators should also consult with co-management organizations that deal with belugas, walrus, polar bears and ice seals if their plans call for activities to occur during the seasons of harvest for those species.

006-025

Pg. II-10, and 11: See comments above (Pg. II-8 and 9) about Barrow and Point Lay.

Pg. II-11, Paragraph 4: This paragraph states that this stipulation has been effective in the Beaufort Sea. We have found, however, that these stipulations only work when industry follows the rules. MMS should state how it would ensure compliance of operators with the stipulations.

006-026

Pg. II-19, last bullet statement: This paragraph states that seismic operations will not cause “undue harm to aquatic life”. It is not clear how MMS defines “undue harm”. This term must be defined.

006-027

Pg. II-20: Paragraph 3, #1: The exclusions zone of 180 dB for cetaceans may be insufficient (specifically, for bowheads) to avoid physical harm. MMS should acknowledge the limitation in knowledge that surrounds these decibel zones. A zone of 180 dB is not sufficient for avoiding harassment. To ensure avoiding taking bowheads by harassment, monitoring and mitigation zones should be set to 120 dB and perhaps lower.

006-028

Pg. II-21, bullet statement #4: Ramp up is a mitigation measure used by seismic operators. We are not aware of data indicating the effectiveness of the measure. If there are such data, appropriate studies should be cited. If MMS only presumes that this mitigation approach works, then it should say so.

006-029

Pg. II-21 to 24, Alternative Mitigation for Seismic Surveying: MMS must include monitoring and mitigation zones to the 160 and 120 dB isopleths. As MMS stated in the recent Programmatic Environmental Assessment for 2006 arctic seismic surveys, it is known that migrating bowheads are impacted by seismic sounds down to 120 dB and possibly lower. Given the known sensitivity of bowheads to industrial sounds, the lack of current information, and the uncertainty in existing information, MMS must use a precautionary approach to permitting seismic activities in the Chukchi Sea. Further, the alternative mitigation measures focus solely on bowhead and gray whales. MMS must also develop mitigation measures for belugas, walrus, ice seals and polar bears, and ensure that operators follow the mitigation measures and conduct the appropriate monitoring studies.

006-030

Pg. II-29 to 36, Summary of Impacts: There are a few references in this entire section. MMS makes statements and conclusions about how bowheads and other resources have responded to or were impacted by oil and gas activities. It is not possible for decision makers or the public to adequately evaluate MMS' statements without citation to sources. Every statement that references a study or study results must have a reference.

006-031

Pg. II-32, Endangered and Threatened Species, 3rd paragraph: One of the only references cited by MMS in this section is very old. There are many more current studies that show that bowheads continue to respond to low levels of noise from industrial activities even after years of operations (e.g. BP's Northstar studies) and do not habituate. MMS must not be selective in the references they use. The penultimate sentence is misleading. First, MMS does not provide the reference for this study. It is Richardson (1999). The data do not support the conclusion that whales re-occupy areas where seismic operations occur within 24 hours. The data were limited, preliminary and easily interpreted in other ways. It is reasonable to interpret the data in Richardson (1999) to indicate that whales had not reoccupied seismic areas within 96 hours, when data collection had ceased. The Borough has made this same comment in reviewing other MMS documents over the past 4 or 5 years. MMS must cease making conclusions from preliminary (as indicated by the authors of the report) and inadequate data.

006-032

4th paragraph: MMS must also acknowledge the importance of monitoring. The focus of this paragraph is on mitigation, but our recent experiences with seismic operations in the Chukchi Sea in 2006 show that it is impossible to assess either impacts or the effectiveness mitigation if there is inadequate monitoring. Preliminary results released by operators indicate that it will likely not be possible to determine the effects from this season's seismic operations on marine mammals. Most monitoring occurred in the immediate vicinity of the seismic vessels and few data were collected "over the horizon", in areas where marine mammals could be impacted by the loud sounds from seismic.

006-033

MMS must acknowledge that inadequate monitoring will not provide the data needed to evaluate the effectiveness of the mitigation measures.

Penultimate paragraph, last paragraph: MMS concludes there will not be any “significant adverse impacts” if whales are deflected during feeding. There are no data to support this conclusion. The sentence must be rewritten or qualified.

006-034

Pg. II-33: MMS does not reference the Bowhead Whale Aerial Survey Program (BWASP) that they fund. BWASP provides data on bowhead distribution in the Beaufort Sea during the autumn. Recent analyses by MMS indicate that bowheads may either have been deflected away from a sizable area offshore of Prudhoe Bay, or have somehow modified their behavior in a way that renders them difficult to observe. MMS must reference and discuss these data, especially given that it is the agency’s own data.

006-035

3rd complete paragraph, sentence near the middle of the paragraph: The sentence begins “Prolonged exposure...” and states that few whales would be impacted by a large oil spill during the open water period. There are no data to support this statement. Further, there are data to indicate that the opposite might occur. Bowhead whales might aggregate to feed in areas with higher densities of zooplankton, thus a large oil spill could impact many whales. MMS must revise this paragraph.

006-036

Penultimate paragraph: In the first sentence, MMS states that marine mammals would “most likely experience temporary, nonlethal effects.” There are no data to support this statement. MMS must refrain from making conclusions without any data. The penultimate sentence in this paragraph states that a large oil spill will be “unlikely”. It is not clear why MMS chooses to use the word “unlikely” when there is a 40% chance of a large oil spill for the preferred alternative (Pg. IV-25, last paragraph). MMS must be consistent and honest. A large spill is likely with the proposed action.

006-037

Pg. II-34, 1st complete paragraph: This paragraph is not completely true. In 2006, there were monitoring requirements associated with seismic surveys in the Chukchi Sea; however, the monitoring was not sufficient to document impacts to marine mammals or effectiveness of the mitigation measures. MMS must acknowledge the unproven and uncertain effectiveness of the mitigation measures and monitoring in offshore areas.

006-038

Pg. II-35, Marine Mammals: It is unclear why only polar bears are discussed in this section. There are many other marine mammals that must be discussed.

006-039

Pg. II-36: MMS states that “Routine activities . . . could cause noticeable disruption to social organization, cultural practices, and institutional organizations . . . However, the combination of effects would not be sufficient to displace existing social patterns at the Regional level.” DEIS at II-36. Our communities are connected, sharing subsistence, family, and cultural ties. Impacts in one community have an effect on other communities in the North Slope, as MMS recognizes elsewhere in the DEIS. See DEIS at IV-302. Thus, MMS it is not clear how MMS can conclude that effects on our society will not be

006-040

significant at a regional level. In addition, this statement implies that impacts to our people are somehow less substantial if they do not affect our entire populace.

MMS also states that “Wainwright could experience other effects to social organization, cultural values, and institutional organization for a period exceeding two to five years. Collectively, these other effects represent a chronic disruption. Given the resiliency of social systems and their ability to adapt, the chronic disruption can be successfully accommodated.” DEIS at II-36. MMS fails to explain how the chronic disruption can be successfully accommodated, and reveals the agency’s lack of appreciation for the impacts to our communities that have already occurred and that have not been “successfully accommodated.”

006-041

Pg. II-39, 1st paragraph: This alternative would preclude development and production of oil within Corridor I; however, MMS could allow seismic surveys. It is unclear how deferral of Corridor I will adequately protect marine resources if seismic surveys are allowed to occur. MMS should not allow seismic surveys in Corridor I.

006-042

Pg III-20-21, Air Quality, and Pg. IV 56-60, Discharges (Air Emissions) from the Development and Production Phase:

The statement that the “air quality of the Chukchi Sea area is well within the NAAQS standards” is not justified. EPA NAAQS sets standards for 6 “criteria pollutants.” The NAAQS standards include acceptable levels for coarse (PM 10) and fine (PM 2.5) particulate (MMS enumerates this standard in table III.A-5.) To our knowledge, fine particulate is not monitored on the North Slope; it is not included in the referenced table of North Slope data (III A-6, erroneously referenced as III A-5 in the DEIS).

006-043

According to the EPA, PM 2.5 is associated with “increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing, for example; decreased lung function; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease.”² The significance of PM 2.5 with regard to human health is acknowledged later in the DEIS, when the MMS states that “the smallest particles pose the highest health risks (pg. IV-54). But again, no data are included regarding either baseline air quality or predicted contributions from the proposed action with regard to fine particulate.

PM 2.5 is one of the primary pollutants produced by combustion of hydrocarbons, and one of the main components of haze, and must therefore be discussed in terms of baseline levels, projected emissions, and potential impacts on human health.

Pg. III-41, Threatened and Endangered Species: MMS must cite the most current and available scientific information. MMS did a very good job of summarizing available data in the 2006 Programmatic Environmental Assessment that allowed seismic surveys during the most recent open water season. It is unclear why this DEIS has not continued to cite the most current and available information.

Pg. III-42, 1st paragraph: MMS states that “conservation concerns include: ...hunting in calving, migration and feeding areas...”. This is not true. The International Whaling Commission, the National Marine Fisheries Service and the Alaska Eskimo Whaling Commission closely manage the hunt for bowhead whales. The carefully managed subsistence harvest of bowhead whales is not a conservation concern. The sentence must be revised. A later sentence states “available information indicates that bowheads that use the Chukchi Sea Planning Area are resilient at least to the level of human-caused mortality and disturbance that currently exists.” This sentence is absolutely true and highlights why North Slope residents are especially concerned about increased industrial activity in the Chukchi Sea. Impacts from seismic sound, vessel traffic, development and production, and oil spills could lead to mortality of bowheads, the slowing of population recovery or potentially even a population decline.

006-044

Pg. III-43, 1st paragraph: MMS should use the most recent information available. In this paragraph MMS mentions a meeting scheduled for spring 2006 about bowhead stock structure studies. This meeting did occur in spring 2006 and representatives of MMS attended the meeting.

Pg. III-42 to 51, bowhead whale: Most of the references in this section are not included in the bibliography. It is not possible for reviewers of the DEIS to adequately review and comment of this section without being able to independently examine the pertinent references.

006-045

Pg. III-44, 3rd paragraph: As stated in the text, George *et al.* (2004) suggested that the recovery of the BCB bowhead stock is in part due to the relatively pristine habitat in which it lives. The antithesis is also true - an industrialized habitat could halt the recovery of the BCB population, or even lead to a population decline.

006-046

Pg. III-46, Spring Migration, 3rd paragraph: MMS does not use the most pertinent information. George *et al.* (2004, and references within) provide the most recent and complete dataset on spring migration past Barrow. The final sentence in this paragraph is confusing. It is unclear what is meant by “[cow/calf pairs] rate of spring migration was ...more circuitous than other bowheads”?

006-047

Pg. III-46, Summer Migration: This section is incomplete and inaccurately cites references. For example, Melnikov *et al.* (1998) did not observe bowheads feeding in Barrow Canyon. Instead they postulated that Barrow Canyon was a good feeding area. The 3rd paragraph is confusing. Bowheads in the Chukchi Sea in the summer are by definition from the Western Arctic population. Further, it is not clear what surveys (“since the time of the last surveys”) are being referred to in the 2nd sentence of the 3rd paragraph.

006-048

Pg. III-47, Fall Habitat Use and Migration: 2nd paragraph, 2nd sentence: This sentence is incorrect. Large whales are the first to arrive at Barrow in the autumn and the small ones are last to arrive. Here again, MMS does not reference a substantial study that it funded, the BWASP surveys. Results from those surveys should be included in this section.

006-049

Pg. III-48, Known Use of the Chukchi Sea by bowheads: This section must also comment on the lack of current information about how bowheads use the Chukchi Sea Planning Area. Given the amount of feeding in the western Beaufort Sea, the northeastern Chukchi Sea may also be an important feeding area.

006-050

Pg. III-49, 4th complete paragraph, 1st sentence: It is not clear why MMS states “far more than 10% of the bowhead” feed in the Beaufort Sea. Later in the paragraph, MMS references data that 73% (77 of 106 whales) of landed whales had food in their stomachs. This sentence should be modified to be more accurate and reflect the most data.

006-051

Pg. III-52, 1st paragraph: MMS is right to acknowledge the broad range of the unknowns in the Chukchi Sea. There are no recent data on distribution, abundance (in summer), or habitat use in the Chukchi Sea Planning Area.

006-052

Pg. III-59, III.B.5.b(1). Murres. 3rd paragraph. Misspelled piscivorous.

Pg. III-62, Waterfowl: MMS has not done a reasonable literature review for this section. There are numerous references that have not been included. MMS has relied on outdated information for a large portion of this section.

006-053

Pg. III-62 and 63, Yellow-billed Loon: For some reason MMS focuses the discussion on the nesting areas of Yellow-billed Loons. Instead, MMS must focus on the use of the Chukchi Sea Planning Area or the areas immediately adjacent. The entire Yellow-billed Loon population that nests on the North Slope of Alaska and some that nest in northwest Canada migrate through or adjacent to the planning area. Thus, the entire population of Yellow-billed Loons, which is very small, is vulnerable to an oil spill or other perturbations caused by oil and gas activities in the Chukchi Sea.

006-054

Pg. III-63, Long-tailed Ducks: The entire North Slope population of Long-tailed Ducks migrates through the planning areas during the spring and autumn. In spring they migrate along the lead system during May and early June. In autumn they likely use a broader area as they move through the region in August to October. Because they are often confined to the spring lead or to a relatively narrow corridor in autumn, Long-tailed Ducks are very susceptible to oil spills during migration.

006-055

Pg. III-64, King Eider: There are many references available on King Eider migration past Barrow in the spring, summer and autumn. The most recent is Suydam et al. (2000). MMS must use the most current and best information for the analysis of impact.

006-056

Pg. III-64, Pacific Brant: The 1st sentence states that Black Brant are “not known to nest near the Chukchi Sea coast in appreciable numbers” but goes on to state that the “current status of Pacific Brant along the Chukchi Sea coast is unknown.” These sentences must be reconciled.

006-057

Pg. III-65, Lesser Snow Geese: Ritchie et al. (2006) has the most current information about snow geese nesting in northwestern Alaska.

006-058

Pg. III-68, Paragraph 3: While it is good that MMS has noted that there are no reliable estimates for ringed seal population, estimates are critical to have *prior* to allowing industrial operations in order to evaluate the possible effects of development or evaluate whether significance thresholds have been met. The reality of the situation is that with accelerating global climate change, serious changes in population (both number and demographics) may be occurring. These data are key to have prior to development. Again, a mitigation measure requiring pre-operation surveys similar to that required by the BLM in the NPR-A for caribou and waterfowl is appropriate. (This same comment applies to spotted, ribbon and bearded seals and walrus as well.)

006-059

MMS notes that these stocks are not listed as “depleted” under the MMPA, but if recent populations estimates are not available, this statement is relatively meaningless.

Pg. III-72 to 73: The walrus population in Alaska may be in decline. Climate change and receding pack ice may have led to reduced numbers of walrus. The situation is unlikely to improve for walrus and other ice-dependant species in the foreseeable future. This concern underscores an even stronger case for having sufficient biological and population data before selling leases in areas critical to walrus in the Chukchi Sea.

006-060

Pg. III-83, Section III.B.7.a(1): Throughout the EIS, MMS should change the abbreviation TLH (Teshekpuk Lake Herd) to the more conventionally used TCH (Teshekpuk Caribou Herd).

006-061

The Western Arctic Herd (WAH) winter range extends farther north than it is described in the DEIS. The herd ranges as far north as Wainwright and Barrow. (Dau, J. 2005. Units 21D, 22A, 22B, 22C, 22D, 22E, 23, 24, and 26A caribou management report. Pages 177-218 in C. Brown, editor. Caribou management report of survey and inventory activities 1 July-2002-30 June 2004. Alaska Department of Fish and Game. Juneau, Alaska.)

006-062

Recent population estimates for the TCH are needed. The TCH was estimated to be 45,000 in 2002. (Carroll, G. 2005. Unit 26A caribou management report. Pages 246-268 in C. Brown, editor. Caribou management report of survey and inventory activities 1 July-2002-30 June 2004. Alaska Department of Fish and Game. Juneau, Alaska.)

006-063

A more detailed description of the CAH seasonal range should be included. Additionally, the most recent population estimates must be included. The CAH was estimated at 31,857 in 2002. (Lenart, E.A. 2005. Units 26B&C caribou management report. Pages 269-292 in C. Brown, editor. Caribou management report of survey and inventory activities 1 July-2002-30 June 2004. Alaska Department of Fish and Game. Juneau, Alaska.)

006-064

Pg. III-83, III.B.7a(2) Migration: In the spring migration section delete the word “very leisurely pace” when referring to the fact that non-parturient cows and bulls rate of movement is less than that of parturient cows. Also, use the reference Carroll (2005).

006-065

A citation should be provided for the statement that non-parturient cows and bulls remain on the wintering grounds until June. If there is no reference, the statement should be removed.

006-066

The following citation should be used for the sentence that describes how snow can delay spring migration. (Carroll, G.M., L.S. Parrett, J.C. George, and D.A. Yokel. 2005. Calving distribution of the Teshekpuk caribou herd, 1994-2003. Rangifer 16:27-35)

006-067

The authors should review Griffith et al. (2002) in Arctic Refuge coastal plain terrestrial wildlife research summaries. (USGS Biological Resources Division, Biological Science Report USGS/BRD/BSR-2002-2001. ed. Douglas, Reynolds, Rhode.) The report contains information about vegetation green-up that is applicable to all caribou herds on the North Slope.

006-068

The authors should review Dau, 2005 (see above) for more recent WAH wintering information. They should also see: Prichard A.K. and S.M. Murphy (2004. Analyses and mapping of satellite telemetry data for the Teshekpuk caribou herd 1990-2002. Final report prepared for North Slope Borough Department of Wildlife Management, Alaska Department of Fish and Game, U.S. Bureau of Land Management. ABR, Inc. Box 80410 Fairbanks, Alaska.) This report will provide a better review of the TCH wintering areas.

006-069

Pg. III-85, III.B.7.b. Muskoxen: Recent population estimates and distribution should be included. This information can be found at:

http://www.wildlife.alaska.gov/pubs/techpubs/mgt_rpts/mu05mt.pdf

See Lenart, E.A. 2005 Units 26B and 26C.

006-070

Pg. IV-2, last paragraph, 1st sentence: “Other possible, but unexpected, activities include: (1) oil spill accidents...” This sentence is not consistent with other sections of the DEIS. In the next paragraph, MMS shows the information about the probability of an oil spill. The probability of a large oil spill is 40% (Pg. IV-3 and IV-23) and “accidental oil spills are likely to occur” (Pg. IV-45). The section of “Basic Assumptions” must contain consistent information with the remainder of the DEIS. MMS needs to modify this section to state that oil spills are likely to occur as a result of leasing in the Chukchi Sea.

006-071

Pg. IV-3, 1st paragraph: It is not clear why MMS is trying to explain away the high probability of an oil spill. Instead of simply stating the results of the oil spill analysis, the text appears to trying to justify Sale 193 by suggesting that spill effects will be small, i.e., “the reader should remember that the estimate of one or more oil spills, greater than or equal to 1,000 barrels occurring from the proposed lease sale and contacting any environmental resources area ranges from less than 0.5 to 7% within 30 days over the life of the project.” There is no citation provided for these figures. Industry has not demonstrated the capability to clean up spilled oil in arctic marine waters that contain ice.

006-072

MMS asserts that industry could begin cleaning up oil “within hours or minutes of the detection of a spill”. This assertion is hard to accept given the remote location of the planning area and the difficulty that has been experienced cleaning up an oil spill at sea in areas without ice and close to infrastructure and personnel.

006-073

Pg. IV-5, Significance Thresholds, Biological Resources: MMS suggests an inappropriate significance threshold for biological resources. “An adverse impact is defined as a “decline in abundance and/or change in distribution requiring three or more generations for the indicated population to recover”. This impact could never be measured. There are no population surveys available for any biological resource (other than bowheads) in the Chukchi Sea that could detect a population decline unless the decline was catastrophic. There are few baseline data and no surveys with sufficient statistical power to detect any substantial change in any biological resource in the Chukchi Sea. It is not clear how MMS or any other federal agency could measure an adverse significant impact let alone determine when a resource had recovered. MMS must develop significance thresholds that are measurable.

006-074

Pg. IV-5, Significance Threshold, Threatened and Endangered Species: In this case, MMS defines an adverse impact as one that results in a population decline requiring one or more generations for recovery. If this criterion were applied to bowhead whales, the population could be affected by MMS actions for ~20 years (the ~generation time of bowheads) or more. Affecting an endangered whale population for 20 years or more is not acceptable.

006-075

Pg. IV-16, Estimates of Drilling Wastes and their Disposal, 2nd paragraph: This paragraph states that a typical exploration well will produce 600 tons of rock cuttings and 95 tons of “spent mud” for a total of 695 tons of discharge per exploratory well. This figure is not consistent with MMS’s 5-year DEIS, which estimated 610 tons of discharge per exploratory well. This difference totals to an additional 5100 tons of cuttings not accounted for in the 5-year DEIS. This is a substantial amount of additional discharge not factored into decisions that the agency will make about the 5-year DEIS.

006-076

Pg. IV-19, Oil and Gas Development and Production Activities: The first sentence states that, “there currently are a few oil production facilities on artificial islands in the Beaufort Sea”. There is currently only one (not a few) operating production facility in the Beaufort Sea on an artificial island, although several others are currently being planned or constructed. There are also two developments on causeways. Further, the discussion about sounds propagating from Northstar production island are misleading. MMS states that sound levels associated with Northstar attenuate to near background levels at various distances from the island, depending on the noise source. This statement insinuates that those sounds cannot be heard by marine mammals at greater distances. The studies at Northstar show that, indeed, bowheads are responding to very low industrial sound levels, even when those levels are near or below ambient (Richardson 2006—note the more recent reference than those contained in the DEIS).

006-077

Pg. IV-20, Discharges to the Marine Environment: “Existing pollution occurs at very low levels in arctic waters or sediments and does not pose an ecological risk to marine organisms in the OCS.” This sentence must have a reference. It seems likely that there are no current data on contaminant levels in water or sediments of the Chukchi Sea. Dr. Sathy Naidu presents very outdated information at MMS sponsored meetings, but there do not seem to be any current data. MMS must qualify any statements if they are not supported by data or by very old data.

006-078

Pg. IV-23, Large Oil Spills, 3rd paragraph: “We estimate that a large oil spill is unlikely to occur based on a mean spill number ranging from 0.33 to 0.51.” This conclusion is odd. In this section MMS is essentially saying that it is unlikely that an oil spill will occur because it is unlikely that a development will occur. Yet MMS is leasing in the Chukchi Sea with the expectation that development will occur. A more honest assessment is that it is likely that an oil spill will occur. MMS’s own analysis suggests there is a 40% chance of a large spill.

006-079

Pg. IV-25, paragraph 5: A proposed action with a 40% chance, as estimated by MMS, of a large oilspill is absolutely unacceptable to the Borough. Our residents depend for their physical and cultural well being on the resources that come from this planning area. The direct (i.e., health) and indirect (i.e., anxiety about contaminated environment and food sources) costs that would be felt in these communities would be immense in the event of an oilspill. If the spill estimate is accurate, MMS should not allow leasing, exploration or development in the Chukchi Sea.

006-080

Page IV-29, Paragraph 4: For our benefit, and that of the state and the public, MMS should indicate what long-term oversight would be in place of the spill prevention, spill detection, and cleanup capabilities of lessees. This paragraphs states that it is “up to the operator to mobilize sufficient equipment and personnel to control, contain, and clean up the spill to the greatest extent possible”. Judging from the recent pipeline spills and shutdowns at Prudhoe Bay, it seems that mechanisms must be in place to assure the long-term compliance with spill prevention, detection, and response regulations.

006-081

Page IV-38 last paragraph: There are no references listed that deal with the effects of discharged drilling muds on benthic communities. Since two of the major subsistence pinnipeds, walrus and bearded seals, are benthic feeders, and since the number of potential exploratory drill sites is unknown, references to impacts from drilling muds are needed. If there are no data, MMS must acknowledge the uncertainty about these impacts.

006-082

Pg. IV-39, 1st paragraph: The penultimate sentence says that impacts to water quality from dredged material will be short term. It is unclear what is meant by short-term. MMS must provide definitions for such terms and statements.

006-083

Pg. IV-45, Paragraph 3: The data listed, with respect to aromatic volatiles, do not state whether the situation is in solid/broken ice areas and appears to be a general statement regarding “cold water” studies. The discussion should be clarified.

006-084

Pg. IV-45 to 47: The discussion seems to pertain to open water spills. A comparable discussion should be presented concerning the fate of broken-ice and under-ice spills, including movement of oil that is frozen into ice. Since ice is present the majority of the time in the Chukchi, these specific scenarios must be represented.

006-085

Pg. IV-46, Paragraph 5: This paragraph states that 68% of spilled Prudhoe Bay crude could persist as individual tarballs floating on the water surface. MMS must discuss the effects of these persistent tarballs (and their associated toxicity) on bowhead whales (which often feed by skimming on the surface) and other species, as well as on vessels and other equipment used for subsistence.

006-086

Pg. IV-52, Paragraph 6: It should be explained what agency oversight will be associated with the discussed maintenance procedures.

006-087

Pg. IV-58, Effects of oil spills on air quality, 2nd paragraph: In the second sentence, MMS again states that a large spill is unlikely, yet provides an analysis that identifies a 40% chance of a large spill if production occurs. MMS must be honest with the public and decision makers that a large spill is likely. Use of the word “unlikely” or similar qualifiers must be avoided throughout the EIS when talking about the risk of an oil spill in the planning area. A 40% chance of an oil spill is a likely event.

006-088

MMS must provide a reference for the statement in the last paragraph on this page that “During broken-ice or melting ice conditions, because of limited dispersion of oil, the concentrations might reach slightly higher levels for several hours, possibly up to 1 day”. This seems like an underestimate, especially in heavy ice and freezing temperatures. Further justification for the statement and a reference are needed.

006-089

Pg. IV-60, Summary and Conclusion...: The first sentence must be changed. MMS states that the likelihood of an oil spill is low over the life of the exploration, development and production. Elsewhere in the DEIS, MMS identifies a 40% chance of an oil spill. A 40% chance of an oil spill is not low. Further, about halfway down the paragraph MMS states that the potential contamination of the shore would be limited because activities would occur offshore with the exception of pipelines. This statement is not true. Potential contamination could occur because water currents or wind could move the oil to shore. Additionally, there will likely be substantial industrial activity in the nearshore region adjacent to the planning area as industry conducts re-supply activities from shore-based stations. Thus, nearshore activities could result in nearshore contamination.

006-090

Pg. IV-63, Conclusion: MMS must provide better support for their conclusions. The 2nd sentence states that discharges in summer would lead to low effects offshore and slightly greater effects onshore. Given that ice can occur in the planning area any time of the year and that oil would likely accumulate next to floating ice, the potential for more than “low effects” offshore seems likely. The statement in the 3rd paragraph that water circulation under the winter ice cover is slow must have references. The water circulation under the Beaufort Sea ice is typically slow; however, the water circulation under the ice in the

006-091

Chukchi Sea can be quite high. If MMS has information about currents in the upper part of the water column in the Chukchi Sea, it should be provided with pertinent references.

006-091

The middle part of this paragraph discusses recolonization of benthic habitat after installation of a pipeline. MMS suggests the pipeline route will be recolonized within 10 years. If there are there data available on this recolonization rate, MMS should provide those data. If not, the statement should be qualified or removed. Furthermore, MMS states “disturbance effects would be assessed and possibly monitored by MMS and the Corps.” [emphasis added] It is not comforting that MMS might monitor effects. MMS needs to provide assurances that effects will be monitored either by the agency or by industry.

006-092

In the latter portion of this paragraph, MMS discusses the advantages of a rapid response capability for cleaning up an oil spill. While this statement is true, MMS must also provide information on the lack of ability to clean up oil in ice-covered waters, especially the Chukchi Sea. Industry might be able to clean up spilled oil under ice in parts of the Beaufort Sea where the movement of ice is minimal. In the Chukchi Sea, where ice is constantly in motion, it will likely often be impossible for industry to even attempt to clean up spilled oil because of human safety issues. This issue must be adequately discussed and evaluated in the Final EIS.

006-093

Pg. IV-64, 1st paragraph: “The assessments are consistent with absence of observations of invertebrate “die-offs” during the previous conduct of open water seismic exploration in the Beaufort and Chukchi seas.” More information and support is needed for this statement. If industry has conducted studies to look for die-offs of invertebrates after seismic exploration, those studies must be referenced. It is unclear whether it is possible to observe invertebrate die-offs associated with seismic exploration. Given that there are no vessels within the streamer pattern off the stern of the seismic vessels, it would be very difficult to observe invertebrate die-offs because of the small size of the invertebrates. Even if vessels were within the streamers, they would likely not be able to detect an invertebrate die-off.

006-094

The last two sentences in this paragraph need further explanation. If the effects of seismic exploration on invertebrates has been examined in the Beaufort and Chukchi Seas, those results must be presented in the EIS. If MMS plans on assessing those impacts, as suggested in the last sentence, more information should be provided about how that assessment will be conducted. There does not seem to be any information about how MMS plans to conduct invertebrate assessments or effects to those organisms. Given that this is a large data gap in the Chukchi Sea, MMS should provide more details about how the data gap will be filled.

006-095

Pg. IV-65, 1st paragraph, last sentence: MMS anticipates 14 exploratory wells in the Chukchi Sea as a result of Lease Sale 193. The 5-year DEIS suggested there would be 60 exploratory wells for the arctic region. If there are 5 lease sales, as anticipated in the 5-yr DEIS, and there are 14 anticipated wells per lease sale, the total number of wells would

006-096

be 70 and not 60 as suggested in the 5-year DEIS. Clarification of the model used to predict the likely number of wells resulting from a lease sale is needed.

Pg. IV-71, Effectiveness of Proposed Mitigation Measures: Stipulation #1 should be discussed here as well. Documenting populations and important and unique habitats in and adjacent to the planning area is essential to reduce impacts from industrial activities, including oil spills. Without this information the mitigation measures could be meaningless. MMS must strengthen Stipulation #1 so that foreseeable industrial impacts can be more effectively mitigated.

Pg. IV-72 to 113: As a general assessment, the fish section is excellent, and sets a high standard for EIS analysis. The literature review is current and appropriate. The DEIS authors correctly point to the general paucity of information on the biology of fish in the Chukchi Sea in the introduction of this section. The DEIS also points out that the old paradigm about oil toxicity to fish has changed markedly in recent years suggesting that the most significant and long-term chronic effects are to the early life stages and not acute effects to adults. The Borough is reconsidering its position on industrial effects to fish based on this new information:

Pg. IV-90 "Peterson et al. (2003) stated: The ecosystem response to the 1989 spill of oil from the Exxon Valdez into Prince William Sound, Alaska, shows that current practices for assessing ecological risks of oil in the oceans and, by extension, other toxic sources should be changed. Previously, it was assumed that impacts to populations derive almost exclusively from acute mortality. Unexpected persistence of toxic sub-surface oil and chronic exposures in the Alaskan coastal ecosystem, even at sublethal levels, has continued to affect wildlife. Delayed population reductions and cascades of indirect effects postponed recovery. Development of ecosystem-based toxicology is required to understand and ultimately predict chronic, delayed, and indirect long-term risks and impacts.

Such scientific honesty is appreciated. The conclusions of the fish section, which predicts significant effects from an oilspill are well supported by the analysis. The other effects sections of the EIS should be written to an equal standard.

Pg. IV-104, Standard Mitigation Measures Considered in this Analysis: The 1st paragraph suggests that Stipulation 1 will lower impacts to fish resources. As currently written, this is a dubious statement at best. The stipulation does not require industry to conduct pre-operation surveys, but only essentially says that important areas must be avoided if they are known. Given how little information is currently available about the distribution, abundance and habitat use of fish and other biological resources in the Chukchi Sea, this stipulation provides virtually no mitigation.

006-097

Pg. IV-104, 9. Ramp Up: If there is any evidence that ramp up provides mitigation for fish or other resources, MMS should provide the references here and other places in the EIS. If not, MMS must state that ramp up is assumed to provide mitigation but that its usefulness has not been documented.

006-098

Pg. IV-113, Conclusion: The conclusion that an oilspill in the inter-tidal area or into coastal spawning streams could have a significant effects seems well supported by the data and arguments presented. MMS should also note that storm surges can raise sea level as much as 3 m along the Chukchi Sea coast, further exacerbating oil effects to natal streams, estuaries, or other coastal environments by pushing oil considerable distances inland (since the stream gradients are so low on the coastal plain).

Pg. IV-116, Potential effects of “key habitat types...”: MMS must provide more information about how few data exist on “key habitat types” in the Chukchi Sea. Aside from the use of the spring lead system, there is very little information about the use of the planning area by bowhead whales, although we do know bowheads use the planning area. Uncertainty must be acknowledged here and a precautionary approach taken to avoid impacts to bowhead whales.

006-099

Pg. IV-117, 1st paragraph: In the penultimate sentence, MMS suggests that uncertainty about impacts on baleen whales can be reduced through required monitoring. While in theory this is true, industry showed in 2006 the difficulty that can be experienced in monitoring. Operators refused to fly manned planes in offshore areas, had difficulties in deploying acoustic monitoring devices, and were challenged when flying aerial surveys in nearshore areas. There are no suitable alternatives yet developed to replace monitoring with manned aircraft. If industry cannot or is not going to monitor impacts in offshore areas, which is essentially most of the planning area, then uncertainty will not be reduced “through requirements of monitoring”, as stated in this section of the DEIS. MMS must acknowledge the limitations of monitoring in offshore areas of the Chukchi Sea.

006-100

Pg. IV-118, Principle or Assumption at the top of the page: MMS must state that the bowhead hunt is protected under the MMPA, and appropriately revise the last sentence. Instead of saying that the response of bowhead to oil and gas activities will be heightened because of hunting, the sentence should say that oil and gas activities may affect the ability of subsistence whalers to hunt bowheads unless proper mitigation measures are applied.

006-101

Pg. IV-118, Principle or Assumption at the bottom of the page: Maintaining the monitoring and mitigation measures in Lease Sale 193 as developed for the recent PEA is a positive step. In addition to requiring the monitoring and mitigation measures, MMS should also describe in the Final EIS how it intends to ensure that industry is complying with the measures.

006-102

Pg. IV-123, Paragraph 4: In addition to the lack of data on total energy exposure, there is a large data gap with respect to mysticete auditory anatomy and hearing. It is suspected, from differences noted at the gross anatomical level, that mysticetes perceive sounds quite differently from odontocetes (H. Thewissen, personal communication).

Pg. IV-126, Paragraph 3: Long-lasting increases in hearing thresholds may also impair the ability of marine mammals to produce sounds properly.

Pg. IV-131, 1st paragraph: The sentence that begins “For the group of 20 whales at a distance of approximately...” needs a reference. Richardson et al. (1995a) is a book summarizing information about marine mammals and noise, not necessarily a specific study of marine mammals. Therefore, there must be a different reference. Without that reference it is difficult to put this sentence in context or to adequately evaluate it.

006-103

Pg. IV-133, last paragraph: The first part of this paragraph should also note that Inupiat hunters from Kaktovik were unable to harvest any bowhead whales during a year with seismic activity near the village. The hunters reasonably attribute the lack of successful harvest to the active seismic operations.

006-104

Pg. IV-135, 2nd paragraph, last sentence: References are needed for many statements in this section of the DEIS. The last sentence needs to be modified. It now states “results indicated that bowheads tended to avoid the area around the operating source, perhaps to a radius of about 20 to 30 km. In reality, whales did (not perhaps) avoid an area of a radius of 20 km around an active seismic vessel and may have started reacting at distances of up to 35 km.

006-105

Pg. IV-135, 3rd paragraph: Again, references are needed, but presumably the authors are referring to Richardson (1999 and chapters therein). This paragraph in the DEIS is not justified by the report. Richardson (1999 and chapters therein) states that their results are preliminary because there are few data. Additionally, the results could easily be evaluated completely differently. The last sentence of the paragraph states “within 12 to 24 hours after seismic operations ended, the sighting rate within 20 km was similar to the sighting rate beyond 20 km.” Unfortunately the DEIS does not also provide the information from that same report that the sighting rate within 20 km was statistically lower than beyond 20 km even 96 hours after seismic operation. It is just as valid to evaluate the results as suggesting that whales did not re-occupy seismic areas a full 96 hours after the cessation of seismic exploration. Given that the study did not collect data beyond 96 hours, whales may have avoided the area even longer. As suggested in pervious comments to MMS, this study should not be cited as evidence that whales re-occupy an active seismic area within 24 hours. The data do not support the conclusion.

006-106

Pg. IV-139: The Scientific Committee of the International Whaling Commission reviewed impacts from seismic operations on marine mammals at its 2006 meeting. The recommendations from that IWC review should be included in the Final EIS. There were several recommendations related to bowheads and the effects on bowheads. These recommendations included the need to better understand the high sensitivity of bowheads to low levels of industrial sounds, document areas important for bowheads in regions within which seismic operations are proposed, and develop a better understanding of the biological significance of impacts from seismic activities.

006-107

Pg. IV-143, 3rd complete paragraph: MMS correctly states that there are insufficient data to accurately predict the area impacted by seismic vessels and their supply vessels. Without these data, MMS should not be allowing seismic vessels to operate in the

Chukchi Sea. It is not possible to mitigate impacts if data on the zone of influence of seismic vessels are not known.

Pg. IV-150, 1st complete sentence: “Behavioral studies have suggested that bowheads habituate to noise ...”. MMS only provides one reference. If there have been additional and more recent studies that have suggested bowheads habituate to noise, references should be provided. If not, MMS must revise this paragraph. It should also be noted that Inuit hunters have been aware for millennia that bowheads are very sensitive to human produced sounds. These long-term observations provide evidence that bowheads do not habituate to noise.

006-108

Pg. IV-162, Noise generating activities: References are needed for the 3rd and 4th paragraphs. The last paragraph is not quite accurate. Inupiat hunters are concerned about any type of anthropogenic sound, not just noise from drilling ships. The concerns are not just about drillships and icebreakers, but also about any sound that is generated by industry. The paragraph should be expanded.

006-109

Pg. IV-163, 2nd complete paragraph: The reference given in this paragraph is outdated as are the results found in Richardson et al. (2004). The more recent reference is Richardson (2006), which incorporates recommendations from the North Slope Borough Science Advisory Committee. The revised results show that bowheads are deflected by industrial sounds associated with Northstar Island.

006-110

Pg. IV-163, Vessel and Aircraft Traffic, 1st paragraph, last sentence: MMS suggests that vessel and aircraft traffic for production activities will be similar to levels for exploration. This is not the case. Production activities occur in one area over many years compared to exploration that is mobile (seismic) or temporary (exploratory drilling). Thus, vessel and aircraft traffic for production will occur repeatedly in the same location. These two situations are fundamentally different and will impact cetaceans differently. MMS must address these differences in addition to discussing the similarities.

006-011

Pg. IV-163 to 164: The paragraph that overlaps these two pages addresses the potential for the development of facilities for liquefied natural gas. This is confusing. In both the 5-year DEIS and Lease Sale 193 DEIS, the scenarios put forth by MMS only include oil development and not natural gas. MMS must be consistent throughout the DEIS. If natural gas is a part of the development scenario, the discussion and analysis of that component of the scenario should be clear.

006-112

Pg. IV-164, Abandonment: The 1st paragraph in this section suggests that marine mammals could be killed or injured during decommission of development wells. Yet the next paragraph suggests that overall the impacts are expected to be low. One of these paragraphs requires clarification.

006-113

Pg. IV-165, Paragraph 2: This paragraph mentions that bowheads are unlikely to be affected by drilling muds and cuttings that may cover portions of the seafloor because the area affected would be inconsequential compared to the available habitat. Bowhead prey

is a patchy resource, and depending upon where any release occurs, there could be effects. MMS must ensure that these materials will not be dumped in important habitats for marine mammals.

Pg. IV-165, 4th paragraph: The statement that “most of the calving of bowhead whales” occurs between Bering Strait to Point Barrow is largely correct, however it should be noted that calves are seen by St. Lawrence Island hunters, females with term pregnancies are taken at Barrow in spring (and would likely calve further east in the Beaufort Sea), and that neonates have been seen in the Canadian Beaufort Sea (Koski, 1993). In the appropriate section, it should be noted that the character of the neonate skin is quite different than an adult, being thicker (~3.5 cm) and softer. Hence, it could be more susceptible to injury from oil contact.

006-115

Pg. IV-166. There is no reference to Albert (1981), NRC (2003) or Lambertson *et al.* (2005). These are major omissions since all these references suggest far more deleterious effects from oil exposure to bowhead whales than postulated by MMS in this DEIS.

006-116

Pg. IV-166, Paragraph 2: The embryotoxic and teratogenic effects of oil are mentioned, but needs to be discussed in greater detail. Depending upon species and season, a large segment of a given population could be exposed and reproductive effects could be felt *at the population level* in the event of an oil spill.

006-117

Page IV-166, Paragraph 3: The last sentence states that “Marine mammals also can be affected indirectly after a spill due to oil and cleanup disturbance and damage to prey resources. This issue deserves far more discussion.

006-118

Pg. IV-168, Paragraph 4/bullets: Bowheads could also be affected by oiling of eyes/conjunctival membranes (in addition to skin).

006-119

Pg. IV-173, Food Source: MMS contends that any amount of zooplankton killed in an oilspill would be small compared to the prey sources available in the eastern Beaufort Sea. Unfortunately the reference provided is relatively old. It was published before the more recent data highlighting the importance of zooplankton advected from the Chukchi Sea to the western Beaufort Sea. MMS funded this study (see Lowry et al. 2004) and should use the results in the analyses of impacts for Sale 193. If an oilspill occurred in the Chukchi Sea, a substantial portion of prey used by bowhead whales could be impacted. This impacted prey would likely not be compensated for by eastern Beaufort Sea zooplankton. Furthermore, the 4th paragraph in this section suggests that phototoxic effects of oil contamination and sunlight could cause ecosystem disruptions. This statement is contradictory to the 1st paragraph in the section. Clarification is needed.

006-120

Pg. IV-174, 3rd paragraph: It is purported by marine mammal scientists that killer whales were impacted by the Exxon Valdez oil spill. MMS chooses only the literature about humpbacks that suggests there were few impacts from the oilspill to whales but does not include killer whales in the analysis. A discussion of impacts to killer whales from the Exxon Valdez oil spill is needed.

006-121

Pg. IV-174, 4th paragraph: Analyses from Northstar show that bowheads are responsive to low levels of noise, mostly vessel traffic noise (Richardson 2006). MMS must include those results in any discussions about impacts to bowheads from vessel traffic instead of just the old studies that were not designed to quantify impacts, and therefore show fewer impacts.

006-122

Pg. IV-174, last paragraph: This last paragraph on the page is not realistic. When an oilspill occurs there will be many overflights. The analyses provided by MMS in this section primarily examined the effects of a single overflight. A more realistic assessment is needed.

006-123

Pg. IV-175, Extraordinary Circumstances: From all information included in the previous section, it can be inferred that an oilspill could potentially be catastrophic to bowhead whales, especially if it occurred in the spring lead system. To prevent this potential catastrophe, MMS should develop and analyze potential stipulations designed to avoid such spills during spring migration. One approach would be to shut down pipelines during the spring.

006-124

Page IV-175, Paragraph 3: MMS first acknowledges with respect to the spring lead system that the agency “is uncertain of the potential severity of impact should a large oil spill occur within such a system, especially if spring migration were underway and hundreds of females were calving in or near those leads”. MMS then describes situations in which bowheads would be at particular risk in the event of a large spill. No mitigation measures are described, however, to address those situations and severe risks. This is a significant shortcoming of the document and of the proposed action. MMS seems perfectly willing to proceed with leasing despite identified significant risks and significant unknown risks.

006-125

Pg. IV-175, last paragraph: MMS references observations of bowhead aggregations by Tracey (1998). This study occurred in Beaufort Sea. It is unclear what the relevance of the frequency of such aggregations in the Beaufort Sea is to the likelihood of such aggregations occurring in the Chukchi Sea. This section should be reconsidered by MMS.

006-126

Pg. IV-176, Paragraph 2: MMS notes that spill response is effective for solid ice situations. Unfortunately, the Chukchi Sea planning area does not have a “solid ice season”. The ice in the Chukchi Sea is constantly moving, especially in the planning area. Thus research in other places with solid ice is not terribly relevant to the Chukchi Sea. Further, MMS states that research on spill cleanup in broken ice is “ongoing”. Broken ice occurs in the Chukchi Sea during the majority of the year. Plans for oil and gas development should not progress until the technology to clean up oil spilled in the Chukchi Sea is developed. This is essential given MMS’s estimate that there is a 40% chance of a large oil spill.

Pg. IV-176, Probabilities of contacting an oil spill: MMS does not provide an estimate of the probability of bowheads coming into contact with spilled oil. MMS has calculated an

006-127

estimated chance of a large oilspill. The number of bowheads that migrate through the Chukchi Sea twice a year is known. Therefore, MMS should be able to estimate the chance of oiling bowheads.

Pg. IV-178, Summary and Conclusions: MMS states “Our primary concern related to these activities [which include production] is that they could potentially produce sufficient noise and disturbance that bowhead whales will avoid an area of high value...” It is unclear why oilspill effects are not also included.

006-128

Pg. IV-183, Vessel Presence and Noise: MMS does not discuss the Spectacled Eider critical habitat in Ledyard Bay. Even though this section is not about threatened species, the Ledyard Bay area is important to many non-endangered and non-threatened species of birds, especially King and Common eiders. A thesis that MMS recently funded shows that King Eiders use this area considerably (Phillips 2005). Additional studies are also available. MMS must include the most current information in the analyses of impacts.

006-129

Pg. IV-185, IV.C.1.g(2)(b) Collisions with Vessels and Aircraft. Last paragraph. MMS should also address the issue that aircraft could cause displacement of birds (i.e. potentially displacing birds from feeding areas, nesting areas or breeding areas, which could mean failed nests or could cause separation of adults and young.)

006-130

Pg. IV-187, IV.C.1.g(3)(a)3) Spatial Extent. MMS must provide more specific information about the spatial extent of impacts, instead of simply referring to spatial extent in relative terms, such as “relatively large”.

006-131

Pg. IV-188, IV.C.1.g(3)(a)4) Environmental Factors. MMS must be more specific about the extent of impacted areas. MMS must also take into account other factors such as the size of oil spills or the season. It is inappropriate for MMS to say that oil spills could result in a relatively small impacted area, when not all the factors are evaluated. Further, if there is a spill, the area impacted will be greater, not “could” be, with conditions of strong currents or high winds.

006-132

Pg. IV-191, Increased Subsistence Activity: The assumption that subsistence activity will increase if a permanent road is constructed is not valid, unless MMS has data to show otherwise. In Nuiqsut, hunters have abandoned areas previously used for hunting because of oil and gas infrastructure. Hunting near infrastructure is not viewed as safe or appropriate for subsistence activities.

006-133

Pg. IV-191, Increased predator populations: The National Research Council (NRC) (2003: reference in DEIS) report discussed at length the increase in predator numbers related to oil and gas infrastructure and the impacts to tundra nesting birds. MMS should include a discussion about the NRC results and recommendations in this EIS.

006-134

Pg. IV-192, Paragraph 3: Should add “exposure to harmful vapors” to the reasons for deaths in seabirds.

006-135

Pg. IV-194, Paragraph 3: Insert a paragraph about what oil does to incubating eggs. In a study by Couillar and Leighton (1989), pathological changes and decreased body weights were found in chicken embryos exposed to Prudhoe Bay Crude Oil (PBCO). Embryos exposed to 10 or 20 μ l PBCO developed marked ascites or subcutaneous edema, extensive liver necrosis, dilation of the heart, and cellular casts and mineralization in renal tubules.

006-136

Pg. IV-194, Paragraph 4: A source should be provided for the statement: "Benthic habitats that support marine invertebrates...would not be expected to experience substantial adverse effects following an oil spill". It is unclear where these data come from and what were the water temps/ice conditions. Caution must be used when extrapolating from oil data from temperate areas.

006-137

Pg. IV-197, Paragraph 3: MMS must add some language that indicates it has factored in the fact that oiled birds (contacted by oil) late in the summer are unlikely to be able to migrate due to 1) the physical presence of oil on feathers and/or 2) toxicity from oil ingestion/exposure. These birds may not die directly from the oil, but they will certainly die as a result of not being able to migrate prior to fall/winter weather.

006-138

Pg. IV-197, Chronic low-volume spills, 2nd paragraph: This paragraph states there will be 178 small crude oil spills during the life of this project. MMS's recent 5-year DEIS estimated there would be ~160 small spills as a result of actions associated with all lease sales held in the next 5 years. If this is a discrepancy, it must be explained.

006-139

Pg. IV-201, Anticipated impacts of the proposed action to marine and coastal birds: MMS does not provide any estimates of how many birds might be impacted by actions associated with lease Sale 193. Such estimates are needed so that decision makers can weigh the full range of potential impacts and the public can make appropriate comments to aid decision makers.

006-140

Pg. IV-204, Loons, 1st sentence: There are few to no data on loon use of the Chukchi Sea. MMS should provide references, if available, when making statements about the paths used by loons for migration.

006-141

Pg. IV-205, 1st paragraph: MMS must provide references throughout this section. Statements and conclusion are made but there are few citations to the source of the information. As an example, it is stated that: "Long-tailed ducks are uncommon farther offshore." The source and age of this information must be made clear.

006-142

Pg. IV-206, 1st complete paragraph: It is suggested that the "worst-case scenario" would involve a spill that reached Kasegaluk Lagoon. While this would be devastating, it is likely that a greater number of birds, including both species of eiders that are threatened, would be impacted if a spill occurred in the spring lead system. Hundreds of thousands of birds could be oiled during spring migration.

006-143

Pg. IV-206, King Eiders: As with other portions of this section, few references are provided. This is troubling in part because MMS seems to ignore studies that it has funded. Phillips (2005), with support from MMS, tracked King Eiders with satellite transmitters. These birds used the Chukchi Sea, that information is not described here.

006-144

Pg. IV-207, Pacific Brant: The Pacific Brant population is relatively low and may be decreasing. There is enough concern that agencies have restricted sport hunting and are considering a restriction of subsistence hunting. MMS must provide that type of information here. Additional impacts from oil and gas activities could lead to further declines of Pacific Brant, further restrict hunting opportunities, and potentially lead to a consideration of listing under the ESA.

006-145

Pg. IV-208, Lesser Snow Geese: While no references are provided, it does not appear that MMS has used the most current data. See Ritchie et al. (2006).

006-146

Pg. IV-210, Conclusion. The conclusion here is flawed. While impacts to nearshore habitats would be devastating to birds, impacts to offshore habitats, including the spring lead system, could be equally or more devastating. The entire Beaufort Sea populations of King, Common, Spectacled and Steller's eiders, as well as numerous other species, could be impacted by an oil spill in the spring lead system. In the penultimate paragraph, MMS states that the "most recent data are between 15 to 30 years old, making accurate analysis difficult." While this is true for some species, MMS seems to have avoided using the most recent data that are available and has not assessed impacts for species with good estimates of numbers and distribution. The final EIS should include the most recent data and quantitative assessments of impacts to species for which current data exist.

006-147

Pg. IV-226, 2nd paragraph: We understand that Geraci is the "recognized expert" on the subject of direct effects of oil contact to cetaceans. The statement "*He (Geraci, 1990) concluded that although there have been numerous observations of cetaceans in oil after oil spills, there were no certain deleterious impacts*" may be true; however, the Borough still maintains that direct contact of bowhead whales with oil could cause serious health effects such as those hypothesize by Albert (1981). For unknown reasons, some bowhead whales have much longer "fringe hairs" on their baleen plates than others (Figure 1). Some exceed 30 cm in length. In such cases, it does not seem physically possible that baleen could function properly if fouled by a heavy crude oil.

006-148



Figure 1. Photograph of the “inside” of the mouth of a bowhead whale showing the entire baleen rack in situ (looking posteriorly from lingual aspect). Note the length of the baleen fringe hairs that in this case are only of moderate length.

Neither mysticete nor odontocete whales seem to consistently avoid oil, although they can detect it (Geraci, 1990). However, in captivity, bottlenose dolphins avoided an oiled area (Geraci, St. Aubin, and Reisman, 1983). Geraci (1990) reported that fin whales, humpbacks, dolphins and other cetaceans have been observed entering oiled areas and behaving normally. After the Exxon Valdez Oil Spill (EVOS), Dall’s porpoises were observed 21 times in light sheen, and 7 times in areas with moderate to heavy surface oil (Harvey and Dahlheim, 1994). Geraci (1990) summarized available information about the physiological and toxic impacts of oil on cetaceans (Geraci, 1990:Table 6-1). He concluded that although there have been numerous observations of cetaceans in oil after oil spills, there were no certain deleterious impacts.

006-149

Matkin et al. (1994) reported that killer whales had the potential to contact or consume oil, because they did not avoid oil or avoid surfacing in slicks. In the 2 years following the EVOS, significant numbers (13) of individual whales, primarily reproductive females and juveniles, disappeared from the AB pod. This mortality was significantly higher than in any other period except when killer whales were being shot by fishers during sablefish fishery interactions (Matkin et al., 1994). Harvey and Dahlheim (1994) observed 18 killer whales, including 3 calves, and saw the pod surface in a patch of oil. Dahlheim and Matkin (1994) also reported seeing AB pod members swim through heavy slicks of oil. Dahlheim and Matkin (1994:170) concluded that there is a spatial and temporal correlation between the loss of the whales and the EVOS, but there is no clear cause-and-effect relationship.

006-150

Migrating gray whales show only partial avoidance to natural oil seeps off the California coast. After the EVOS, gray whales were seen swimming through surface oil along the

006-151

Alaskan coast. Laboratory tests suggest that gray whale baleen, and possibly skin, may be resistant to damage by oil. However, spilled oil, and the chemical dispersants used to break up surface oil and cause it to sink, could negatively affect gray whales by contaminating benthic prey, particularly in a primary feeding areas (Wursig, 1990; Moore and Clarke, 2002). Any perturbation, such as an oil spill, which caused extensive mortality within a high-latitude amphipod population with low fecundity and long generation times would result in a marked decrease in secondary production (Highsmith and Coyle, 1992). For example, populations of amphipods off the coast of France were OCS EIS/EA MMS 2006-060 October 2006 (IV-227) reduced by 99.3% following the *Amoco Cadiz* oil spill in 1978 (~70 million gallons). Ten years after the spill, amphipod populations had recovered to only 39% of their original maximum densities (Dauvin, 1989, as cited in Highsmith and Coyle, 1992). Bering/Chukchi Sea amphipod populations, with their longer generation times and lower growth rates, probably would take considerably longer to recover from any major population disruption (Highsmith and Coyle, 1992).

006-151

Pg. IV-227, Last paragraph: The number of whales affected would also depend on the age of whales present, as calves are likely to be more significantly impacted than adults.

006-152

Pg. IV-230, 3rd paragraph: Belugas are vulnerable to oil spilled throughout the spring lead in the Chukchi Sea, not just near Barrow. These animals migrate from the Bering Sea to the Beaufort Sea during the spring.

006-153

Page IV-233, Paragraph 5: The fact that there are so many unknowns related to where and how beluga whales migrate and spend their time emphasizes, again, that additional baseline data critical to any responsible leasing program are needed before embarking upon this lease sale.

006-154

Pg. IV-246, IV.C.1.i.(1) Conclusion: MMS is correct in pointing out that disturbance to terrestrial animals will occur from aircraft and road traffic but this EIS essentially ignores the impact of terrestrial oil spills to animals. Further, it is possible for a large proportion of any one of the 3 caribou herds on the western North Slope to be influenced by any offshore or onshore spills that could occur during the insect relief season. Large aggregations of caribou are known to wade into coastal waters during mid July to early August.

006-155

MMS must define 'effects' relative to 'significant impacts' (e.g. paragraph 2 and 3) and provide a reference or describe how a '4km displacement' of caribou, bear, and muskoxen was derived.

006-156

Pg. IV-246, IV.C.1.i(3)(a): The literature cited in this section is not current. There should be some discussion concerning how the TCH will respond to overflights given that it is a 'naïve' herd, i.e., one that has been exposed to little aircraft traffic. MMS must describe how the conclusion was reached that caribou reactions to disturbance will be brief. The statement that reaction times of 'a few minutes to no more than 1 hour' will not have effects on caribou herd distribution must be supported. The reference to "...hoofed-

006-157

mammal populations in North America...” begs clarification. Does this mean that dairy cattle are ‘tolerant’ to aircraft? Haskell et al 2006 is cited throughout, yet the citation is not in the bibliography.

006-157

Pg. IV-250, IV.C.1.(4)(b): The BLM has required that pipelines be elevated a minimum of 7 feet (BLM 2005) in the NPR-A, rather than 5 feet. See Joly et. al. (2006) and Noel et. al. (2004) for recent reviews of road disturbance to caribou. (*in Wildlife Society Bulletin*).

006-158

Pg. IV-251, IV.C.1.i(4)(c): There should be some discussion and associated references regarding changes in snowmelt patterns due to the dust shadows that roads create. It is unclear how this could impact distribution of arctic fox and water birds. Potential problems associated with invasive plant species along linear corridors should also be discussed.

006-159

Pg. IV-252, IV.C.1.i(4)(d)2.: This section completely ignores the problems associated with a spill in the summer when caribou, musk oxen, and bears are growing their winter coat. A spill (from a barge, pipeline, or well blowout etc.) could impact a large percentage of the caribou population because the animals are gregarious and often wade out into coastal waters during the insect season.

006-160

Pg. IV-310, Paragraph 4: MMS should consider that a spill that contacts bowhead habitat does contact the whales.

006-161

Pg. V-5, V.B.: MMS has only included a limited number of human activities in their cumulative effects analysis. Not included are the Red Dog Mine and the associated Port Site, located along the Chukchi Sea coast; potential development of significant coal mining operations south of Point Lay; scientific studies, especially as there will be an increase in research in the future because of International Polar Year activities and on global climate change; international shipping; and expanded commercial fishing activities; among other human activities.

006-162

Pg. V-16, Water Quality: MMS must consider other cumulative effects, including climate change. Many climate change scientists predict large-scale changes in Arctic seas, which may affect water quality. International shipping through the Arctic also must be considered as increased shipping could lead to all manner of hazardous material spills, large and small.

006-163

MMS concludes that Sale 193 will produce little cumulative effects even though there is a 40% chance of a large oil spill. This analysis is flawed. If there is a development (as MMS assumes in the cumulative case), a 40% chance (as MMS analysis points out) of an oil spill will lead to substantial and widespread effects due to both the spilled oil and clean-up operations.

006-164

Pg. V-20 to 21, Lower trophic-level Organisms: It is unclear how MMS can arrive at a conclusion that Sale 193 will contribute little to the cumulative effects on lower trophic-

006-165

level organisms. There has been no drilling in the Chukchi Sea since 1991. Effects from new exploration and development will be substantial.

Pg. V-24, 4th paragraph: The 1st sentence of this paragraph is misleading. MMS states that available information does not indicate that past and present activities have resulted in long-term cumulative effects on bowhead whales. Aside from the NRC (2003) review, there have been no studies to assess cumulative effects on bowhead whales. Further, there have been no studies to assess the longevity of the effects that have occurred. MMS must be more prudent and careful to assure that their summaries and conclusions reflect the existing data and limitations of the studies that have occurred.

006-166

Pg. V-24, Introductory information...: Previously in the cumulative effects section, MMS has assumed that there will be a development. The 1st sentence in this section suggests that “specific perturbations (large oil spills, ...) are uncertain,...” yet MMS’s own analysis estimates a 40% chance of a large oil spill. A 40% chance of an oil spill from lease Sale 193 is a substantial likelihood.

006-167

Pg. V-25 and 26: Bowhead whales have occasionally become entangled in crab gear and have been hit by ships. Some of these instances have led directly to the deaths of animals. MMS must acknowledge and include these sources of mortality in the cumulative case.

006-168

Pg. V-25 to 27, Subsistence Hunting: MMS must mention in this section that the Marine Mammal Protection Act protects the subsistence hunt for marine mammals, including the hunt for bowheads.

006-169

Pg. V-28 to 29: The paragraph that spans these two pages must be revised. There is ample evidence that the arctic climate is changing, as opposed to MMS’s qualified statement that “if climate changes occur...”. Further, MMS can quantify predictions about climate change, international shipping, and commercial fishing contrary to the assertion that prediction of effects is not possible. There exist data that can be used to predict impacts to bowheads through (1) changes in climate and the resulting impacts to ice cover and zooplankton, (2) the potential of commercial shipping, including the possible number of ships transiting the Arctic, and (3) expanding fishing. MMS should use those data.

006-170

Pg. V-29, Commercial fishing, marine vessel traffic and research activities: MMS states that “based on available data, previous incidental take of bowheads apparently has occurred only rarely...”. This statement is simply not true. NMFS has issued IHAs for vessel traffic and research activities because takes were expected and did to occur. MMS should use data and results from those IHA reports. Additionally, MMS can use data and results from impacts from vessel traffic associated with BP’s Northstar production island to assess cumulative impacts from general vessel traffic and research activities.

006-171

Pg. V-30, 1st paragraph: MMS must use the most recent data and analyses in the assessment of cumulative impacts, instead of using outdated information (e.g. Clapham and Brownell 1999). The 1st sentence in this paragraph does not acknowledge the results

006-172

from Richardson (2006) on impacts to bowheads from vessel traffic associated with Northstar. Bowheads respond to very low levels of sounds from support vessels. It is unlikely that bowheads respond differently to oil and gas vessels compared to research or general marine traffic.

006-172

Pg. V-29 to 31: The international polar year (IPY) and research on climate change will lead to an increase in the number of research vessels conducting icebreaker trips to the Chukchi and Beaufort Seas. There are already plans for US, Canadian, Chinese, and Japanese icebreaker cruises into the Chukchi Sea in 2007 and 2008. MMS must include these activities in their cumulative effects section.

006-173

Pg. V-31 and 32, Pollution and Contaminants: Toxicologists have documented that organic contaminants have moved toward the poles because the contaminants become volatile in warmer climates and are transported to colder areas. With increased global warming, this effect would be exacerbated. MMS should address this contribution to cumulative effects.

006-174

Pg. V-32 Offshore oil and gas . . . : Oil and gas exploration (and possibly development) are occurring in the Canadian Beaufort Sea and potentially in the Russian Chukchi Sea. MMS must address these types of activities in the cumulative assessment.

006-175

Pg. V-33, Potential impacts of noise from production facilities: MMS has not used the most recent and complete data and analyses. Northstar impacts have most recently been addressed in Richardson (2006). These results show that bowheads are very sensitive to very low levels of industrial sounds. The most recent results from Northstar need to be included in this section. Additionally, MMS has conducted surveys for bowheads for many years. The Bowhead Whale Aerial Survey Program (BWASP) data have not been included here, and must be. Recent results from BWASP show that bowheads are seen less often in an area north of Prudhoe Bay, the area of the greatest and longest amount of industrial activity on the North Slope. MMS has not yet provided an explanation of those results and needs to. The BWASP results and a likely explanation for the lower sighting rate near Prudhoe Bay must be included in this section of the EIS.

006-176

Pg. V-35, 4th paragraph: "There is no indication that human activities have caused long-term displacement in bowheads." This assertion by MMS is not true. The above-mentioned BWASP results indicate that bowheads have been displaced over the long-term from north of Prudhoe Bay. MMS must address these data in the EIS. They are directly relevant to potential impacts from development in the Chukchi Sea.

006-177

The 5th paragraph on this page states "Native hunters believe that there is potential for increased noise to drive whales farther from shore..." Not only do Native hunters believe this, but they have experienced it firsthand, and the scientific literature also shows these results. Richardson (2006) shows that bowheads are driven farther from shore due to industrial activities associated with Northstar. MMS must include this information in their cumulative assessment.

006-178

The 6th paragraph on this page must be revised. Recent investigation (funded by MMS) about bowhead feeding in the Beaufort Sea shows that bowheads depend on zooplankton advected into the northern Chukchi and western Beaufort seas in addition to resources obtained in the eastern Beaufort Sea. MMS must include this recent analysis in the cumulative effects section of the EIS. A large oil spill in the Chukchi Sea has a large potential to impact an incredibly important food resource for bowheads. Given the uncertainty in bowhead use of the Chukchi Sea planning area for foraging, MMS should use extreme precaution if they allow oil and gas activities in the Chukchi Sea.

006-179

Pg. V-36, 2nd paragraph: Oil and gas activity in Canada and perhaps Russia occurs in the range of bowheads. MMS must acknowledge and include these activities in the assessment of cumulative impacts.

006-180

Pg. V-36, final paragraph: This paragraph is misleading. There are no data to describe the impacts from oil and gas activities from the mid-1970s through the mid-1990s on the bowhead whale population. True, the population has increased, but impacts from oil and gas are unknown, thus, it is not appropriate to conclude there were no impacts. It is plausible that impacts may have reduced the increase in the bowhead population. Further, because bowheads are so long-lived, impacts to their physical or reproductive health from the 1970s and 1980s might not yet be realized.

006-181

Pg. V-37, 1st paragraph: MMS concludes that impacts from industrial activity would result in “no more than temporary adverse effects and less than stock-level effects.” Unfortunately there are no data to support this statement. Little is known about how bowheads use the Chukchi Sea, therefore there is no possible way to conclude effects will be temporary or less than stock level.

006-182

Pg. V-40, Endangered and Threatened Birds: MMS should provide a summary here of the cumulative impacts to endangered and threatened birds.

006-183

Pg. V-40, Marine and Coastal Birds: It is not appropriate for MMS to avoid discussing cumulative effects as they do in the 1st sentence of this section. MMS must discuss cumulative effects from seismic activities and other anthropogenic activities in this section. This discussion is especially important because seismic vessels in 2006 intruded into the critical habitat that is designated for Spectacled Eiders but used by many other birds as well. It is reasonable to expect that seismic and support vessels will intrude into this area in the future.

006-184

Pg. V-41, Seismic Surveying: “No significant effects to . . . marine mammal populations are expected from planned seismic activities.” This conclusion is not warranted. Little is known about distribution, population size or habitat use of the Chukchi Sea by marine mammals. If very little is known, then concluding there will be no significant impacts is not reasonable.

006-185

Pg. V-41, Other Marine Mammals: In this section MMS discusses cumulative effects from seismic surveys and climate change. Beluga, walrus and seal populations that occur

006-186

in the Chukchi Sea all migrate to the Bering Sea where there is a large amount of human activity. Further, they also migrate past the Red Dog Mine port site. That site may also become the port facility for a very large proposed coal mining operation adjacent to the Chukchi Sea. MMS must also assess these cumulative effects in addition to the others we have identified above.

006-186

Pg. V-42, Conclusion: MMS suggests that, “close attention and effective mitigation practices . . . are warranted” for non-endangered marine mammals. This is a true statement, but no mitigation measures for any marine mammals other than bowhead or gray whales have been proposed to protect other marine mammals from physical harm or seismic noise. MMS should develop mitigation measures to reduce impacts to other marine mammals.

006-187

Pg. V-54, Vegetation and Wetlands: A more detailed description of the impacts to invasive plants is required. As written, the section downplays the potential effects of invasive species by assuming that many plants are not capable of withstanding the environmental conditions along the North Slope. This assumption is tenuous at best, especially given accelerating arctic warming. It is quite possible that the potential changes to plant community structure from invasive species could be permanent. At a minimum, MMS must suggest possible monitoring efforts and mitigation scenarios to address these problems.

006-188

Pg. V-65, Beluga whales, seals and other marine mammals: This assessment is not sufficient. MMS states, “cumulative impacts [to other marine mammals] will focus primarily on effects of climate change.” For their cumulative impact assessment, MMS must also focus on other anthropogenic effects for these important subsistence species.

006-189

Pg. V-73, Conclusion: MMS’s conclusion is not warranted nor supported by data or analysis. It is acknowledged that an “unlikely” large oil spill would disrupt subsistence harvest patterns, but that sounds from a drilling rig in the migratory path of bowheads would be “a far more significant effect”. It is not clear how MMS could come to this conclusion. Given that spilled oil could not be cleaned up in the Chukchi Sea for about 8 months of the year, the estimate of a large oil spill is 40%, and lessons of ongoing effects from the Exxon Valdez oil spill, MMS’s conclusion is unwarranted and inappropriate. Sound from industrial activities is indeed a grave threat, but a large oil spill in the Chukchi Sea would have much broader and lingering effects.

006-190

Pg. V-73, last paragraph: Conclusions in this paragraph are unfounded. Because bowheads, belugas and other marine mammals migrate through the planning area, these animals would be tainted regardless of where they were hunted. A large oil spill in the planning area would impact all communities that harvest the marine mammals that migrate through the planning area. Thus, the communities outside the planning area would not be able to provide bowhead, beluga or other marine mammals to communities closet to an oil spill. This section needs to be revised.

006-191

Appendix A.1 Oil Spill Analysis

In general, there appears to be substantive new analysis and research on the subject of oil spill probabilities, statistics (e.g., confidence intervals), and trajectory models. We are pleased to see that these and other recommendations from the Borough's Science Advisory Committee (SAC) (SAC-OR-130) report on oil spill estimates were used in this section.

Pg. A.1-1 We concur with the SAC finding that use of the more robust database of onshore Alaska North Slope historic spills is most appropriate for arctic OCS spill analysis in most cases. We also concur that one of the most likely sources of a spill will be pipelines – either onshore or offshore – as recent spill events on the North Slope suggest.

Pg. A.1-2. 5th paragraph. MMS' estimate that the probability of an oil spill from exploratory activities is "very low" is based on 35 wells, which compared with the thousands drilled elsewhere seems very low and could cause statistical bias.

006-192

Pg. A.1.5, 1st paragraph. The statement that the spread of oil in the landfast ice would "not be anticipated until breakup" overlooks "break out" events. These events have been documented in the local Traditional Ecological Knowledge (TEK) as well as in the scientific literature. With arctic warming, it becomes even more unlikely that landfast sea ice in the Chukchi or mid-Beaufort seas will remain stable in the future (George et al., 2004).

006-193

Pete Sovalik recounts an incident on the ice near Cross Island in November (year not given) where large waves shattered the landfast ice on a calm day. Hunters were cut off and set adrift for five days on the ice before the ice congealed sufficiently to allow them access to shore.

" It was good weather. Fine, calm and sunshine.....The last part of November, I go out.....The ice on the other side of the lead looks funny. Moving up and down. What happen? I start wondering what happen that things look like that. Finally, in the middle of the lead big waves show up. Big waves. It was fast. Waves coming toward me like that. I'm too late....I don't know what [caused it], maybe an earthquake? I couldn't travel anymore. Can't travel. The ice all broken. Smash up like paper.. The ice was about two feet thick between the old ice like we have here.....About four or five hours steady pretty well up and down like that. Getting smaller, smaller, smaller. Finally it stop. The water calm down." (Pete Sovalik UAF Oral history Tape H88-26-03).

Pg. A.1-12. Section C.3. Many of the references for oil trajectory simulations appear to be quite dated (e.g., 1980s) regarding ice movement vectors, etc. We assume there are more recent references, models and data available, which would be more appropriate here. We understand that ice physics has not changed but certainly the persistence and

006-194

amount of ice cover has. Are the most current data on sea ice distribution used in the models? What will be the effects if summer sea ice vanishes entirely as some researchers predict may occur within two decades? W. Maslowsky, pers. comm.

Pg. A.1-13 to14. In general, the models indicate that the probability that a large spill will contact land in the NE Chukchi is quite low; however, this seems counter-intuitive given the amount of driftwood and beach litter along these shores. Further explanation and justification for MMS's conclusions are needed.

006-195

A particularly sensitive area with respect to oil contact is the spring lead system along the Chukchi Sea. A large body of evidence suggests that nearly the entire BCB bowhead whale population migrates through these regions ID-20-23. Table A.2.-54 suggest that oil contact is as high as 34% (ID-22, P9). In our opinion, oil contact with the spring lead system where a large portion of the BCB population is vulnerable to oil exposure, is a "worst case" scenario. Based on the analysis in Haldiman and Tarpley (1993) and NRC (2003), direct effects of oil contact to bowhead whales could be quite detrimental. That is, contact with the eye, skin, oil ingestion and particularly the baleen could be extremely harmful to an animal like the bowhead that has the most highly developed baleen apparatus of any cetacean. Similarly, more recent analysis by Lambertson et al., (2005) of the functional morphology of the bowhead whale mouth (feeding apparatus), suggests that the animal would be seriously challenged by oil and marine debris ingestion. They provide strong evidence through direct observation that the bowhead mouth is far more complex than a simple filtering mechanism, and has mechanical and hydrostatic properties that would be affected by oil and debris ingestion, leading to an energetic drain to the animal. We strongly suggest that findings from this publication be referenced here and in other sections of the EIS such as Sections III and IV.

006-196

Conclusion

The North Slope Borough's preferred alternative is that no offshore drilling or development be permitted in arctic waters. We are opposed to the placement of industrial facilities in the marine environment. We are willing to work with MMS, however, to allow development of OCS resources in areas where all drilling and infrastructure development could be accomplished from shore. Given what we know about the far offshore location of oil resources in the Chukchi Sea, however, development exclusively from shore locations there does not now seem feasible. We believe, therefore, that the Final MMS 2007-2012 OCS Leasing Program should not include any lease sales in the Chukchi Sea planning area, and that the No Action Alternative should be adopted for Sale 193 if this sale-specific review process will be concluded independent of the 5-Year Program planning process.

In the absence of a halt to leasing in the Chukchi Sea or a restriction to development of OCS reserves only from onshore locations, we support the exclusion from leasing of all areas critical to subsistence. It is not entirely clear how the proposed exclusion of "nearshore tracts, the Chukchi Polynya, and tracts near Barrow" under the Sale 193 Proposed Action and the current MMS 5-year OCS leasing program compares with the

Corridor I and II deferrals, and the 25-mile Chukchi coastal buffer proposed under the 2007-2012 OCS Leasing Program. We support adoption of whichever area is larger, or the greatest area realized by overlaying them all, since it appears that some extend farther offshore than others in different areas.

The Final EIS must cite current research, offer adequate support for all conclusions, eliminate all contradictory statements, and clearly and consistently define all terminology.

We thank you for considering these comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Edward S. Itta", with a horizontal line extending to the right from the end of the signature.

Edward S. Itta
Mayor

cc John Goll, MMS
Johnny Aiken, Director, NSB Planning
Taulik Hepa, Director, NSB Wildlife
Harold Curran, NSB Law Department
Karla Kolash, NSB Mayor's Office
Andy Mack, NSB Mayor's Office, Government Affairs

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MMS Responses to North Slope Borough Comments

NSB 006-001

The MMS believes that the current alternatives, with the standard stipulations and ITL clauses, offer an effective range of options that meet NEPA requirements and the goals and objectives of the OCS Lands Act to offer Federal offshore oil and gas resources for lease and possible exploration and development in an environmentally safe manner.

NSB 006-002

The MMS will conduct a document search and remove qualifying language as appropriate and simply state the numeric outcomes of individual analyses. Where uncertainty exists, this will continue to be stated in the individual analyses.

NSB 006-003

The MMS has used the best available science for the Lease Sale 193 analyses to support the decisionmaking process as outlined in the CEQ regulations (CEQ 1502.22). Where applicable, the EIS acknowledges the uncertainties associated with significant resources occurring in the frontier environment. Information that is available for use in conducting various analyses are provided in the bibliography.

NSB 006-004

We have reviewed the EIS to ensure that relevant and comprehensive literature review has been accomplished for individual analyses. The MMS acknowledges that, despite its concerted efforts, some references may have been unintentionally missed or not included.

NSB 006-005

See the response to comment **Barrow 003-13** on threshold levels.

The MMS extended an invitation to the NSB in May 2006 specifically to discuss the issue of threshold levels for subsistence resources, sociocultural systems, and environmental justice. We have had no reply to this invitation as yet.

Human health issues are discussed in the Section III and IV under Sociocultural and Environmental Justice. Dr. Aaron Wernham, acting on behalf of the Alaska Inter-Tribal Council and the NSB, provided suggested text changes to these sections of the draft EIS as they pertain to health. Many of these suggestions have been incorporated in the final EIS. The MMS supports recent North Slope research initiatives in this area and suggests that this research effort be coordinated with other State and Federal land managers on the North Slope through the vehicle of the interagency North Slope Science Initiative to develop appropriate North Slope-wide health impact assessment protocols.

Ultimately, the most effective strategies to protect human health will depend on developing a monitoring strategy that identifies and tracks important regional health indicators and continuing to develop a more detailed understanding of the ways in which the determinants of health are impacted by development. In turn, this information may inform efforts to both refine existing mitigation measures and develop new measures that target health outcomes and health determinants specifically.

NSB 006-006

We believe that the scope of the cumulative analysis is appropriate for this EIS and is in accordance with the provisions of NEPA regulations to keep EIS's concise and no longer than absolutely necessary (40 CFR

1502.2(c)), to evaluate actions at a level of detail appropriate to focus issues relevant to the decisionmaking process. While the level of detail for this cumulative impact analysis is less broad than that of the 2007-2012 5-Year Program EIS, it is considerably more focused for the level of detail necessary for an individual lease sale. This approach is in keeping with NEPA (40 CFR 1502.20) involving the use of a tiered approach of analyses.

Past and present activities associated with the South, Northeast, and Northwest NPR-A have been considered in this analysis. The MMS acknowledges and includes present NPR-A activities and infrastructure into the Lease Sale 193 cumulative impact analyses but does not include a particular scenario for the various planning units of the NPR-A. The selection of possible scenarios associated with the future of NPR-A development is far too speculative for MMS to include into the cumulative impact analysis for this lease sale.

The MMS has included Nikaitchuq prospect in the Beaufort Sea in the cumulative analysis for Lease Sale 193 (see Section V.B.3. and Table V-1). The drillship Kulluk purchased by Shell was not specifically mentioned in this document because the MMS does not base scenarios on specific industry capital. Exploration activities associated with the Beaufort Sea prospects were considered in this analysis, and it is likely that the drillship Kulluk could be used for exploration within these areas. Description of the Kulluk and associated operations (including potential impacts) would be analyzed in detail within Shell's Exploration Plan Environmental Assessment stage of analyses.

The Red Dog Zinc Mine was considered in the cumulative case for the Lease Sale 193 as well as in the EIS for the 2007-2012 5-Year Program. The MMS recognizes that Northwest Alaska has extensive bodies of ore that might be developed if world metal prices were favorable and extensive coal deposits could someday be mined economically. The MMS information indicates that no firm plans to develop any new mines for ore or coal, although those resources generally are considered in long-term regional planning for Northwest Alaska (U.S. Army Corps of Engineers, 2005). As a result, any long-term plans for the development of coal mines within the geographic vicinity of the Chukchi Sea are considered outside the scope of cumulative impacts for Lease Sale 193.

The MMS considered the OCS activities in the Canadian Beaufort at the programmatic stage of analysis during the 2007-2012 5-Year Program EIS. At present, no process is in place to acquire meaningful information regarding Russian commercialization and industrialization in the high Arctic. While MMS acknowledges the existence of various industrial activities, these activities are not well understood and, as a result, fall into the speculative category of activity as defined in Section V of this EIS.

This EIS presents general discussion regarding impacts to specific arctic resources as a result of arctic warming. However, given the complexities of the processes associated with global warming, a comprehensive discussion and "Full Analysis," as mentioned in the NSB's letter, is neither possible nor appropriate within the confines of a NEPA analysis. The recent publications by the Intergovernmental Panel on Climate Change present a comprehensive discussion of global climate change impacts. An assessment of global climate change on the United States is given in a 2000 report entitled *Climate Change Impacts on the United States: The Potential Consequences of Climate Variability and Change, Overview* prepared by the National Assessment Synthesis Team (2000).

NSB 006-007

This comment was addressed in Section V.C.8.c(3) (page V-51 of the draft EIS). The MMS believes that its analytical approach and its effects, bottom lines for subsistence resources, sociocultural systems, and environmental justice are valid.

See also the responses to comments **Point Lay 001-008** and **Barrow 003-030**.

NSB 006-008

The text has been changed to delete this statement.

NSB 006-009

The Executive Summary has been revised to adopt the language quoted by the commenter (page IV-340 of the draft EIS).

NSB 006-010

The MMS acknowledges the impact of numerous meetings and documents reviews on the planning staff of the NSB and the even more limited manpower available in smaller communities. The accelerated MMS leasing timetable and an increase in the number of seismic survey and exploration permits has taxed the agency, as well.

For further discussion concerning oil spill, cumulative, and psychological impacts, see the discussion on at IV.C.1.m(4)(b), Effects from a Large Oil Spill. See also the responses to comments **NSB 006-007**, **Barrow 003-030**, and **Point Lay 001-008**.

NSB 006-011

See the response to comment **Barrow 003-017** concerning human health impacts.

NSB 006-012

Security for sabotage and other terrorist type activities is covered by the Office of Homeland Security through the U.S. Coast Guard. Studies have indicated that the burial of a pipeline will reduce the risk of sabotage to close to zero. Facility security on the onshore portion of the North Slope is conducted by the operating company. Offshore, the company will be responsible for security with the U.S. Coast Guard establishing a safety/security zone to limit the approach distance to the facility.

NSB 006-013

This comment combines two paragraphs. The section above assumes the project proceeds to full development, where construction of infrastructure and other facilities could have effects across a large geographic area. As an example, the construction of a new road to connect a shore base to existing infrastructure to the east could result in an estimated incidental take of 235 spectacled eiders via loss of nesting habitat and displacement (Appendix C, page 50 of the draft EIS). The calculation of this hypothetical scenario is predicated on habitat densities and other factors that are largely unavailable for other species.

NSB 006-014

See the response to comment **NSB 006-010** on impacts to communities.

NSB 006-015

The MMS has reworded the paragraph in the Executive Summary to place summary information into context and diminish the appearance of a contradictory statement.

NSB 006-016

For a discussion of psychological and local capacity stresses, see the response to comment **NSB 006-010** impacts to communities.

NSB 006-017

The MMS has removed the reference of “190 billion cubic feet of natural gas” from the Executive Summary.

NSB 006-018

See the response to comment **NSB 006-009**.

NSB 006-019

The MMS addresses energy conservation and the use of alternative fuel sources at the program level. The 2002-2007 5-Year Program EIS addresses the use of alternative fuels. The MMS believes that this is in keeping with CEQ 1500.4 concerning paperwork reduction. The Lease Sale 193 contribution to greenhouse effects can be found in Section V.C.2.b, Global Climate Change.

NSB 006-020

The MMS appreciates the comment. To request a copy of the draft EIS either write to Minerals Management Service, Alaska OCS Region, 3801 Centerpoint Drive, Suite 500, Anchorage, Alaska 99503-5823, or call (907) 334-5200 or toll free at 1-800-764-2627. The draft EIS is on the MMS webpage at <http://www.mms.gov/alaska>.

NSB 006-021

Mating may start as early as January and February, when most of the population is in the Bering Sea, but has been observed as late as September and early October (Koski et al. 1993; C. George, cited in IWC, 2004b). Spring migration northward from the Bering Sea is thought to occur after the peak of breeding, which probably occurs in March-April (IWC, 2004b). Post-peak breeding may occur during the spring migration. The first pulse migrants are observed around April 9-10 at Barrow and typically are dominated by juveniles (Koski et al. 2004, cited in IWC, 2004b). Large whales and cow/calf pairs are seen in late May (May 15-June) at Barrow. Post-peak breeding may occur in the Chukchi Sea. The sentence “It also functions as important habitat of the endangered bowhead whale...region.” should read “It also functions as important seasonal habitat of the endangered bowhead whale, which migrates, engages in post peak breeding, calves, feeds, and rears newly born calves in the region.”

NSB 006-022

Gray whales and beluga have been added to the general list of fauna using the Chukchi Sea.

NSB 006-023

The intent of Stipulation 1 is to protect new, currently unknown seafloor resources that are identified during the ancillary activities necessary to develop an Exploration Plan or a Development and Production Plan, or resources that are identified during conduct of activities under an approved plan. Several types of surveys and geotechnical studies are necessary for lessees/operators to develop appropriate plans for proposed exploration or development activities or are required before approval of permit applications. As an example, high-resolution surveys are required for archaeological resource “clearance” of proposed activity areas. If a hard-bottom habitat that could support a benthic community is identified at the site during high-

resolution site-clearance survey work, then the lessee/operator would be required to modify their proposed operations to mitigate the potential impacts, if their operations have the potential to impact that resource. The MMS may require the lessee or operator to complete more extensive surveys to determine the full extent of the resources. Typically, however, the mitigation is avoidance—that is, relocating the proposed activities away from the identified resource. Plans submitted for approval include mitigation to protect known resources and the environmental reviews identify necessary mitigation, which become conditions of approval.

NSB 006-024

The text of Stipulation 4 has been changed to include the text changes for polar bears, ice seals, and the Ice Seal Commission, as suggested. The MMS is discussing internally the March 1 cut-off date suggested by the NSB.

NSB 006-025

The paragraphs on Barrow whaling have been changed to include the comments on Smith Bay and ice seals; the paragraphs on the Point Lay beluga hunt have been changed to include the additional hunting times and locations provided; and the text in Stipulation 5 has been changed to specify other marine mammals.

The NMFS has objected to MMS adopting the language of its MMPA standard of “no unmitigable adverse impacts.” The MMS invites the NSB to contact NMFS over this issue and to raise it again during any scheduled meetings concerning threshold levels for subsistence resources and sociocultural systems.

NSB 006-026

The heart of our inspection program is to ensure that operators are in compliance with current lease stipulations and regulations. To assist with this, MMS has developed a comprehensive list of potential incidents of noncompliance that is used to evaluate an operation during an inspection. In the event an operator is found to be out of compliance, the onsite inspector has the authority to require immediate correction of the problem up to and including the shut down of the operation being conducted. The operator has a defined length of time to correct the problem, after which they are allowed to continue operations. Depending on the severity of the incident, the MMS can seek a civil penalty (monetary fines) from the operator or refer the operator for criminal prosecution.

NSB 006-027

The referenced statement is not a finding or conclusion that seismic will not cause undue harm to aquatic life. The statement is a requirement on the permittee that their operations *shall not* cause undue harm to aquatic life, create hazardous or unsafe conditions, or unreasonably interfere with other uses of the area. This requirement reflects the OCS Lands Act constraint on technologies permitted for use on the OCS.

NSB 006-028

The EIS acknowledges that some marine mammal species react to sound levels below 160-dB rms. In the Programmatic Environmental Assessment (PEA) for 2006 arctic seismic surveying, MMS took a cautious approach in analyzing impacts to all resource areas where uncertainty existed (i.e., data on distribution). This approach support the requirement in NMFS-issued IHA’s that a 120-dB rms isopleth be implemented in the presence of 4 or more bowhead cow/calf pairs (to further protect important pair bonding, nursing, etc.) and a 160-dB rms isopleth for aggregations of 12 or more bowhead or gray whales (as aggregating whales likely indicate that feeding is taking place). As discussed in the PEA, the development of these additional isopleth restrictions was based on work by Malme et al. (1984), Clark et al. (2001), and Richardson et al. (1999). The specific requirements for the 120-dB and 160-dB restrictions are being evaluated by MMS and NMFS in an EIS on seismic surveying in U.S. Arctic waters and in this EIS for

proposed Sale 193. These analyses will consider information developed during the 2006 seismic surveying and the new acoustic criteria to be implemented upon completion of a final EIS on acoustic guidelines being prepared by NMFS.

Legal authorization to take marine mammals with Level B Harassment under the MMPA will be a condition of approval for seismic surveys under G&G permit in the Chukchi Sea Planning Area.

NSB 006-029

Ramp up is a standard mitigation measure accepted by the scientific community and the resource agencies. Although not empirically proven, anecdotal evidence on the displacement of marine mammals by sounds and logical reasoning indicate that ramp up is a reasonable mitigation measure. The EIS text will be revised to clarify the status of ramp-up as a mitigation measure.

NSB 006-030

The EIS examines a number of reasonable combinations of mitigation strategies. The various exclusion and safety zones considered in the mitigation alternatives are for all marine mammals, except for those measures specifically applicable to bowheads during migration and subsistence whaling. Monitoring is an integral part of the exclusion and safety zones applicable to all marine mammals.

Pacific walrus are closely associated with sea ice. Because seismic surveys cannot be performed in sea ice, the impacts to the Pacific walrus are reduced *de facto*. In addition, MMS relied on the biological expertise of FWS biologists who determined that, based on the best available data on walrus response to vessels and aircraft, the mitigation measures proposed were appropriate to protect walrus from harm. The MMPA authorizations from both FWS and NMFS must be obtained by permittees before seismic operations can begin. These authorizations may impose additional and possibly more restrictive mitigation measures. The combination of the mitigation measures in the MMS-issued G&G permits and those, if any, imposed under MMPA authorizations will ensure that there are no more than negligible impacts to marine mammals, and there will be no unmitigable adverse impact to subsistence uses.

The specific requirements for the 120-dB and 160-dB restrictions are being evaluated by MMS and NMFS in an EIS on seismic surveying in U.S. Arctic waters and in this EIS for proposed Sale 193. These analyses will consider information developed during the 2006 seismic surveying and the new acoustic criteria to be implemented upon completion of a final EIS on acoustic guidelines being prepared by NMFS. Based on presentations at the 2006 Open Water Meetings, industry is funding research that could lead to reduction of noise levels associated with seismic operations and improved monitoring.

NSB 006-031

This comment is in reference to the summary of impacts presented in Section II. The full analyses, with all of the citations reviewed and considered by MMS subject-matter experts, are presented in Section IV.

NSB 006-032

The indicated reference will be added to the sentence. We will review the information again and clarify this statement and what information supports it. The EIS analyses are based on a thorough review of the best available information to date regarding the marine wildlife in the Chukchi Sea. At times, the best available information is older or sparse. At times, the best available information is preliminary information, which is considered by MMS experts with other information in the appropriate context. The EIS notes where information is lacking for a particular resource. When information gaps are found, MMS takes steps, such as the initiation of studies, to address them. This comment is in reference to the summary of impacts presented in Section II. The full analyses, with all of the citations reviewed and considered by MMS subject-matter-experts, are presented in Section IV.

NSB 006-033

This comment is in reference to the summary of impacts presented in Section II. The full analyses, with all of the citations reviewed and considered by MMS subject-matter experts, are presented in Section IV.

The EIS examines a number of reasonable combinations of mitigation strategies. Monitoring is an integral part of the exclusion and safety zones. The specific mitigation and monitoring requirements are being evaluated by MMS and NMFS in an EIS on seismic surveying in U.S. Arctic waters and in this EIS for proposed Sale 193. These analyses will consider information developed during the 2006 seismic surveying and new acoustic criteria to be implemented upon completion of a Final EIS on acoustic guidelines being prepared by NMFS. Based on presentations at the 2006 Open Water Meetings, industry is funding research that could lead to reduction of noise levels associated with seismic operations and improved monitoring. For example, Shell and ConocoPhillips have sponsored test demonstrations of unmanned aerial systems (UAS; drones) and some use of this monitoring technique may be used on a test basis during 2007.

In addition, Stipulation No. 4 Industry Site-Specific Monitoring Program for Marine Mammal Subsistence Resources requires lessees to monitor marine mammals during ancillary activities and exploration drilling.

NSB 006-034

This statement appears in the summary of impacts presented in Section II. The full analyses, with all of the citations reviewed and considered by MMS subject-matter experts, are presented in Section IV.

This conclusion statement references MMS significance thresholds presented in Section IV.A.1. In compliance with NEPA and CEQ regulations and guidance, MMS's significance thresholds are based on consideration of both intensity and context of potential impacts. Specifically for bowhead whales, our significance threshold has been defined in the context of population-level impacts. The 2006 Arctic Region Biological Opinion from NMFS resulted in a nonjeopardy opinion for OCS activity effects to bowhead whales. Both MMS and NMFS experts have concluded that impacts from OCS activities will not result in population-level impacts that could jeopardize the stock of the endangered bowhead whale.

NSB 006- 035

This comment is in reference to the summary of impacts presented in Section II. The description of the resources with citations is provided in Section III and the full analyses with citations are presented in Section IV. The data from the MMS Bowhead Whale Aerial Survey Program (BWASP) is incorporated into the description of the resources and the analyses. The data from the BWASP is cited by the author(s) of the reports: see Monnett and Treacy, 2005 and Treacy, 1997, 1998, 2000, and 2002 in Sections III.B.4.a(1) and IV.C.1.f(1).

NSB 006-036

This comment is in reference to the summary of impacts presented in Section II. The full analysis is presented in Section IV.C.1.f(1). The likelihood of prolonged exposure of bowhead whales to freshly spilled oil in open water is expected to be small for several reasons, including: (1) because bowhead whales avoid anthropogenic sound sources, few whales are expected to be near activities from which large spills could occur; (2) bowheads whales would be expected to exit an area where they contact oil; and (3) noise from oil-spill-response activities is expected to deter bowhead whales from coming into the area affected by a spill.

NSB 006-037

This comment is in reference to the summary of impacts presented in Section II. The full analysis presented in Section IV.C.1.f(1). The MMS believes that the data do support the conclusion that impacts

from noise associated with routine OCS activities are temporary and non-lethal. The MMS is unaware of credible information to the contrary.

The 40% likelihood for spill occurrence is a conditional probability, with the condition being the production of 1 billion barrels (Bbbl) of oil. The MMS estimates that the likelihood of 1 Bbbl being produced as a result of proposed Sale 193 is about 10%.

NSB 006-038

No monitoring plan is capable of documenting all of the impacts to marine mammals. The monitoring requirements used in 2006 have been used successfully by NMFS for many years. During that time, there have been no documented cases of injury to marine mammals due to seismic operations.

NSB 006-039

Additional explanatory text has been included in the final EIS.

NSB 006-040

The summary conclusion in Section II relies on the detailed analysis and conclusions presented in Section IV.C.1(m)(4) and the characteristics analyzed in Table IV.C-2. Please note that the table provides a more detailed explanation. Effects from routine activities are attributed primarily to the proximity of onshore infrastructure development activities to the community (Wainwright in the example). Effects to communities further removed from the site of the development are not expected to exceed the significance threshold.

NSB 006-041

See the response to comment **NSB 006-040**.

NSB 006-042

Leasing would not occur within the Corridor I Deferral Area if Alternative III is selected by the Secretary of the Interior for the configuration of Chukchi Sea Lease Sale 193. Potential industry bidders would not be expected to request permits to conduct 3D exploration seismic surveys over blocks that would not be offered for lease. Subsequent to a lease sale and exploration drilling resulting in identification of an oil field, a lessee might propose additional 3D seismic surveying to further delineate the field. This additional surveying conceivably might include area within the Corridor I Deferral Area, if the potential extent of the field reaches into that area. Further, operators would be required to complete high-resolution site-clearance seismic surveying along any proposed pipeline route if commercial quantities of hydrocarbons are identified and development and production is proposed.

NSB 006-043

The statement "air quality of the Chukchi Sea area is well within the NAAQS standards" describes the existing air quality of the Chukchi Sea. As discussed in the EIS, the Chukchi Sea is considered a pristine area for air quality, because there are few industrial sources and no sizeable population centers nearby.

The USEPA established annual and 24-hour NAAQS for fine particulate matter (PM_{2.5}) for the first time in 1997. Table III.A.6 shows measured air pollution concentrations at Prudhoe Bay from 1986-1996. Data are not included for PM_{2.5} in the referenced table, because the originating air-monitoring programs were conducted prior to USEPA establishing PM_{2.5} standards. The table shows that NAAQS was met in an area of the most significant source or industrial emissions in Alaska, the Prudhoe Bay/Kuparuk/Endicott oil-production complex. The reference to the table has been corrected in the Final EIS.

NSB 006-044

The MMS acknowledges that the hunt for bowhead whales is closely managed and that because the quota for the hunt is tied to the population size and population parameters (IWC, 2003a; NMFS, 2003b), it is unlikely this source of mortality will contribute to a significant adverse effect on the recovery and long-term viability of this population.

The concern being identified in the text referenced in the comment is *noise and disturbance* associated with hunting in the calving, migration, and feeding areas. The sentence has been revised to make this distinction clear. Text from the 2006 Arctic Region Biological Opinion (ARBO) from the NMFS has been added to the EIS section to clarify the discussion.

The MMS analysis does not support the conclusion that effects from seismic sound, vessel traffic, development and production, and oil spills could lead to mortality of bowheads, the slowing of population recovery, or a population decline. The 2006 ARBO from NMFS resulted in a nonjeopardy finding for OCS activities in the Chukchi and Beaufort seas, including activities that may result from proposed Chukchi Sea Sale 193.

NSB 006-045

The missing citation has been added to the bibliography.

NSB 006-046

As stated in the text, George et al. (2004) suggested that the recovery of the BCB bowhead whale stock is in part due to the relatively pristine habitat in which it lives. The antithesis is also true—an industrialized habitat could halt the recovery of the BCB population, or even lead to a population decline.

Section III, Existing Environment, presents the past and current population abundance and does not speculate on what could occur. The EIS presents, discloses, and analyzes reasonable alternatives for the oil and gas lease activities that could occur in the Planning Area. This analysis takes into account the fact that MMS and industry are required to avoid, minimize, monitor, and mitigate industry impacts that would jeopardize the recovery and survival of endangered bowhead whales.

NSB 006-047

George et al. (2004) confirms bowhead migration occurs in pulses some years and has been added to the citations accordingly. The MMS appreciates the comprehensive 1978-2001 dataset for spring migration past Barrow. Koski et al. (2004, as cited in IWC, 2004b) provides further confirmation in more recent years.

The MMS agrees the last sentence is confusing. “Their” references the cow/calf pairs in the previous sentence. The sentence has been revised.

NSB 006-048

The text has been revised to correct and clarify the information.

NSB 006-049

Our review of the literature indicates that Braham et al. (1984, as reported in Moore and Reeves, 1993) stated that Eskimo whalers report that smaller whales precede large adults and cow/calf pairs on the fall migration. The MMS welcomes the opportunity to continue to review and incorporate other information and would be happy to consider any additional information related to fall migration of bowhead whales provided by the NSB.

NSB 006- 050

The EIS acknowledges and discusses the limits and uncertainty of the available information in Section IV.C.1.f(1)(a).

As indicated in the response to comment **NSB 006-048**, the EIS acknowledges information that indicates that the northeastern Chukchi Sea may be an important feeding area of bowhead whales.

NSB 006-051

The text has been revised to clarify the information.

NSB 006-052

This typographical error has been corrected.

NSB 006-053

The comment **NSB 006-147** concurs that updated species information for the Chukchi Sea is largely unavailable. Our literature reviews focus on published scientific literature, which likely would not identify references such as the one provided in comment **NSB 006-058**. We would appreciate receiving any additional references the NSB can provide that are relevant to the analysis, but we point out that our intent is to evaluate the significance of environmental consequences, not necessarily the numerical quantification of those impacts (see also the response to comment **NSB 006-140**).

NSB 006-054

We agree that certain segments of the yellow-billed loon population are vulnerable to spill impacts from the proposed lease sale. This has been considered in the analysis in Section IV.C.1.g(6)(a). We concur with comment **NSB 006-140** that there are few to no data on loon use of the Chukchi Sea.

The analysis describes how the yellow-billed loon was petitioned for listing under the Endangered Species Act several years ago and the USDOJ, FWS has not acted on the petition but has instead focused on protection of North Slope nesting areas using an interagency Conservation Agreement. We address this issue by recommending the incorporation of the Conservation Agreement provisions into terrestrial components of oil/gas development, should they ever be proposed.

NSB 006-055

We concur that long-tailed ducks are vulnerable to oil spills during migration and have stated so. Section IV.C.1.g(4)(a)2) describes the percent chance that spilled oil would contact specific polygons that represent important long-tailed duck habitats. Section IV.C.1.g(6)(a) describes the potential direct spill impacts to long-tailed ducks.

NSB 006-056

Section IV.C.1.g(6)(a) states that the king eider population is relatively large and stable. We have revised this section to provide the latest population status information.

NSB 006-057

We believe this section accurately conveys that the Chukchi Sea coast does not support a large number of nesting brant, but rather that it is more important to large numbers of postbreeding brant during molt and

migration. We reported results from a June 2005 aerial survey; however, additional information would be needed to compare/update the extent of seasonal use as previously described during dedicated studies conducted in August 1989.

NSB 006-058

We sought to describe how lesser snow geese used the project area. Our search of published literature did not identify the Ritchie et al. report to the NSB. We have since obtained a copy of this annual report (Ritchie et al., 2006) and have incorporated relevant information into the final EIS.

NSB 006-059

The amount and detail of information needed for a NEPA decision depends on the decision it is intended to support. The MMS agrees that more detailed information would be necessary for the NEPA evaluation and decision on proposed development activities. The MMS would determine the adequacy of the available information at the time a development and production plan is submitted. In the meanwhile, MMS has a robust Environmental Studies Program that is initiating various baseline information studies in the Chukchi Sea Planning Area.

NSB 006-060

See the response to comment **NSB 006-059**.

NSB 006-061

The suggested change has been made throughout the EIS.

NSB 006-062

This information and citation are already presented in Section III.B.7.a(1).

NSB 006-063

As suggested, text has been added to Section III.B.7.a(1) of the EIS.

NSB 006-064

As suggested, text has been added to Section III.B.7.a(1) of the EIS.

NSB 006-065

The suggested change has been made.

NSB 006-066

The statement has been removed.

NSB 006-067

The suggested citation has been added.

NSB 006-068

The suggested reference has been reviewed and cited.

NSB 006-069

The suggested references were reviewed and range information has been updated.

NSB 006-070

The suggested reference was reviewed and the distribution and population information has been updated.

NSB 006-071

The text in the draft EIS on page IV-2, last paragraph, first sentence has been modified.

The text in section IV.A.4a(1) states:

We estimate the chance of one or more large pipeline spills is 26%, and the chance of one or more large platform spills is 19% for Alternative I - the Proposed Action over the production life of the project. The total is derived from the sum of the platform, wells and pipeline mean number of spills. The chance of one or more large spills total is 40% for Alternative I - the Proposed Action over the production life of the project. For Alternative I - the Proposed Action, the percent chance of one or more large spills total ranges from 27-54% at the 95% confidence interval over the production life of the project.

The information presented on page IV-45 under Water Quality (Sec. IV.C.1.a(6)) was inaccurate, and the text has been replaced with the correct information.

NSB 006-072

A reference has been added to clarify that these are the combined probabilities cited in Section IV.A.4a(2) and are the results of the oil-spill-trajectory analysis discussed in Appendix A and listed in Table A.2-75.

NSB 006-073

As offshore activities move to more remote locations, industry will be required to have oil-spill-response equipment in close proximity to the operating area to reduce the time between a release and the onset of response activities. This could include spill-response barges anchored near the facility and larger caches of spill-response equipment stored at the facility to ensure that response operations begin as soon as possible.

NSB 006-074

The NEPA does not require the use of significance thresholds for analysis in an EIS. The MMS attempts to incorporate the best available information at the time of the preparation and analysis of the lease sale EIS and has developed significance thresholds specific to individual resources as tools to capture potential impacts, both positive and negative. The MMS is always willing to further consider new scientific information to better define existing significance thresholds. However, MMS uses the best available science and information, as well as professional judgment by staff biologists, geologists, and engineers as to the application of the existing information in developing an appropriate analysis. The MMS believes that the existing information that is available supports analyses with adequate detail to inform the decision makers at the lease sale stage of the OCS Oil and Gas Program.

NSB 006-075

See the response to comment **NSB 006-074**.

NSB 006-076

Different drilling assumptions were used in the 2002-2007 Programmatic EIS and the Sale 193 draft EIS. Evidently, the average well depth assumed for the previous document was slightly deeper than assumed for the later document. However, “up to 60” wells having an average discharge of 610 tons was used for the 5-Year Programmatic analysis. For the present analysis, it was assumed that an average of 695 tons of drilling waste would be generated by each of 7-14 exploration and delineation wells. The differences in these two documents stem from the development assumptions. The previous analysis was based on the full economic potential, whereas the current analysis is based on a more reasonable level of activities according to historical trends. Although there are other differences between the two documents, only comments directed to the possible deficiencies in this Sale 193 draft EIS, are, or can be addressed by this document. We cannot change what was published in 2001. See also the response to comment **NSB 006-096**.

NSB 006-077

The text has been revised to clarify artificial island status regarding production facilities.

The text has been revised to clarify the information regarding sound attenuation, whale response, and relative importance. Appropriate review of the noted more recent reference, Richardson (2006) will be included.

NSB 006-078

This statement is supported by the assessment within Section III.A.5, Water Quality, which discusses the existing water quality.

NSB 006-079

The text has been reworded to provide consistency within the information presented.

NSB 006-080

The MMS acknowledges that significant impacts on subsistence resources and harvest patterns, sociocultural systems, and environmental justice would result from a large oil spill.

See also the responses to comments **Barrow 003-022**, **Barrow 003-029**, and **NSB 006-009**.

NSB 006-081

The MMS oversight and compliance inspections will occur throughout the life a project. Lessees must conduct operations and maintain and operate equipment and facilities in accordance with MMS regulations and approved plans and permits. Lessees are required to maintain records of equipment and facility maintenance and testing and to submit reports to the MMS on a scheduled basis throughout the life of the project which are monitored by the MMS for regulatory compliance. Lessees are required to review and update an oil spill response plan every two years or within 15 days of any changes to the oil spill response capabilities described in the approved plan, or changes to the activity that affect the worst-case spill response scenarios. Lessees must exercise (demonstrate) their oil spill response capabilities at least every three years. MMS is required by law to inspect each facility at least once a year. It is the Alaska Region’s practice to conduct onsite inspections of the lease operations and oil spill response organizations referenced in an approved oil spill response plan more often.

NSB 006-082

The NSB requested references to the effects on benthic communities. The section referenced in the comment is about water quality rather than benthic communities. A reference has been added to the section about effects on benthic communities and other lower trophic-level organisms. A paragraph referencing the water quality section has been added (Sec. IV.C.a (4)(a) on draft EIS page IV-39).

NSB 006-083

A timeframe reference is presented in the next sentence which states: Conditions typically return to ambient conditions within hours to days, depending on the amount, composition, and frequency of the disposed material.

NSB 006-084

The estimated mean spill number, for Alternatives I, III, and IV ranges from approximately one-third to one-half (0.33-0.51) of a large oil spill. This is calculated by adding the estimated mean number of pipeline and platform spills over the life of production. To elaborate on this process, we divide large oil spills in to two major categories, pipelines and platforms, and estimate the mean number of spills from each. For Alternative I, the Proposed Action, we estimate 0.30 pipeline spills and 0.21 platform (and well) spills for a total over the life of Sale 193 production of 0.51 spills. That is approximately one-third of a pipeline spill and one-fifth of a platform spill for a total of approximately one-half a spill over the production life of Alternative I. Because the estimated mean number of spills, adding together both platforms and pipelines, is slightly greater than one-half over the life of the project, we defined a spill as unlikely.

The MMS understands that in reality a large spill is either 0 or 1; there is no such thing as a fractional spill. For purposes of analysis we assume 1 spill of either 1,500 or 4,600 bbl and estimate the impacts from such a spill on social, economic, and environmental resources.

We understand the NSB's views regarding the probabilities of spill occurrence. In Section IV.A.4, we have included additional explanatory statements. Regardless of the chance of one or more spills occurring, we do assess the effects of oil spills on various environmental, social, and economic resources.

NSB 006-085

Within Section IV.A.4.a, the assessment describes that the analysis simulates two general scenarios, one in which oil is spilled into open water and one in which oil freezes into ice and melts out in 50 % ice cover. The assumption is that open water is June through October, and a winter spill melts out in June.

NSB 006-086

The question of addressing the assessment of tar balls was initially discussed in-house MMS, within the preliminary scoping discussions of the possible effects resulting from Chukchi Sea OCS activities. The issue was not identified within any community nor agency prescoping/scoping meetings. On preliminary review of existing scientific data and information relevant and applicable to the arctic conditions and to bowhead whales in particular, it was decided that the oil-spill assessment would address spills as single causalities, and treat all resulting states of spilled oil the same, as the worst-case scenario.

NSB 006-087

The MMS will review and inspect all portions of operations conducted by an OCS operator. Permits are required for all well operations as well as for production and pipeline activities.

NSB 006-088

The text has been changed to state the percent chance of one or more large spills occurring. The reader is referred to the responses to comments **Anchorage 005-004** and **NSB 006-084**, as well as Appendix A of the EIS.

NSB 006-089

The MMS believes this statement is general in nature and is merely trying to capture, in general terms, the characteristics of oil-spill dispersion within different sea conditions. The MMS recognizes that a multitude of variables exist, all of which would and could directly affect the behavior of an oil spill in the arctic environment.

NSB 006-090

The text has been changed to state the percent chance of one or more large spills occurring over the production life of Sale 193. Please note this is not the chance of one large spill occurring. The reader is referred to the responses to comments **Anchorage 005-004** and **NSB 006-084** as well as Appendix A of the EIS.

The sentence that the NSB objects to must be read in context. The paragraph summarizes the effects of an oil spill on air quality, not water quality. The context of the sentences is to summarize the potential effects to the shore from an offshore oil-spill fire (i.e., soot fallout). Potential contamination would be limited because of the distance that an oil-spill fire, either set intentionally or accidentally, would be from the shore. Under the Proposed Action, exploration, development, and production, excluding pipelines, would be at least 8 nautical miles offshore, allowing for dispersion and settling of soot particles before contacting the shore.

NSB 006-091

This section is a brief introductory summary of the effects rather than a detailed assessment. References are provided in the detailed sections; for example, references for the effects of discharges on lower trophic level organisms are provided in Section IV.C.1.c (3)(a)2).

The text on effects of discharges has been modified to indicate “relatively” low effects at “deep” offshore locations.

The NSB requested references for the statement that water circulation under the winter ice cover is slow. As noted above, references are provided in the detailed sections after the summary. In this case, Section IV.C.1.e(3)(a)2 refers to a study by Woodgate, Aagaard, and Weingartner (2005) on the exchange rate of water on the Chukchi shelf throughout the year. The summary of the information from Woodgate, Aagaard, and Weingartner was clarified, specifying that the measurements are for the entire water column, including the upper part under the ice cover.

NSB 006-092

This section is a brief introductory summary of the effects rather than a detailed assessment. References to recolonization rates are provided in the following detailed section about possible disturbance from production projects (Sec. IV.C.1.c(4)(a)1). It and Section III.B.1.b summarize information and recent references for recolonization rates.

The text has been revised to explain that disturbance probably would be monitored by the pipeline company, MMS, or the U.S. Army Corps of Engineers.

NSB 006-093

Information on the clean up of spills in ice-covered waters is provided in Section I.A.5, and a reference to that section has been added.

NSB 006-094

A statement was added to the EIS section explaining that the 193 EIS conclusion is similar to the conclusion in the draft EIS for seismic surveys in the Chukchi Sea, and that the exploration would occur under standard stipulations. The location of the stipulations on the MMS web site was provided also. See also the response to comment **NSB 006-095**.

NSB 006-095

The NSB requested further explanation of the process for assessing proposed seismic surveys. A statement was added to the EIS section, explaining that the exploration would occur under standard stipulations, and the location of the stipulations on the MMS web site. See also the response to comment **NSB 006-094**.

NSB 006-096

The assumptions in the 5-Year Program EIS are not necessarily the same as used later for Sale 193, so direct comparisons cannot be made. For the 5-Year EIS, offshore areas were compared on the basis of their full economic potential, whereas the scenario for Sale 193 was based on more realistic assumptions regarding the first commercial development in this unproven area. The full economic potential is calculated by computer assessment models that simulate the discovery and development of all prospects that might occur in an area. In the real world, companies who are constrained by sound business practices and cash flows will certainly not drill hundreds of wells to test all of the prospects identified. Also, industry would probably not pursue projects that are only marginally profitable (many of the prospects are too small to consider for development). Computer models provide estimates of the total endowment of potential oil and gas resources, but they cannot determine the location or timing of future commercial projects. A scenario, such as the one used for Sale 193, provides a reasonable framework for the analysis of potential environmental impacts associated with realistic commercial activities. No one can accurately predict future leasing patterns or the location of future discoveries. It is misleading to apply simple math to such a complex situation, so it is not reasonable to argue whether future exploration will involve 60 as opposed to 70 wells. To-date, five exploration wells have tested some of the largest identified prospects in the Chukchi. Because small prospects will probably not be economic to develop, our estimate of 60 future exploration/delineation wells is viewed as optimistic.

NSB 006-097

The intent of Stipulation 1 is to protect currently unknown seafloor resources that are identified during the ancillary activities necessary to develop an Exploration Plan or a Development and Production Plan, or resources that are identified during conduct of activities under an approved plan. Several types of surveys and geotechnical studies are necessary for lessees/operators to develop appropriate plans for proposed exploration or development activities or are required before approval of permit applications. As an example, high-resolution surveys are required for archaeological resource "clearance" of proposed activity areas. If a hard-bottom habitat that could support a benthic community potentially important to rare fish species is identified during site-clearance surveys, then the lessee/operator would be required to ensure their proposed operations avoided potential impacts to these resources. The MMS may require the lessee or operator to complete more extensive surveys to determine the full extent of the resources. Typically, however, the proposed activities would be moved away from the identified resource to avoid impacts. Plans submitted for approval include mitigation to protect known resources and the environmental reviews identify necessary mitigation, which become conditions of approval.

NSB 006-098

See the response to comment **NSB 006-029**.

NSB 006-099

The statement in this specific section is simply meant to identify that the analysis will take into consideration the potential effects from the Proposed Action on “key habitat types” for the bowhead whale. The uncertainty regarding bowhead whale distribution and life-history traits in the Chukchi Sea is noted in the assumptions that follow. The MMS believes this issue is adequately addressed as written, and no changes are needed to the specific section referenced in the comment above.

NSB 006-100

The MMS and NMFS believe that uncertainty about impacts on baleen whales and the effectiveness of required mitigation measures can and will be reduced through required monitoring. The EIS examines a number of reasonable combinations of mitigation and monitoring strategies. The specific mitigation and monitoring requirements also are being evaluated by MMS and NMFS in an EIS on seismic surveying in U.S. arctic waters. Based on presentations at the 2006 Open-Water Meetings, industry is funding research that could lead to improved monitoring. Effective monitoring is likely to require a combination of approaches and technologies. Additional text has been added to the EIS to acknowledge and discuss the limitations of current monitoring approaches. See also the response to comment **NSB 006-030**.

NSB 006-101

The section noted in the comment above covers potential effects to bowhead whales and not subsistence harvest activities. Potential impacts to subsistence are instead covered in Section IV.C.1.1. However, MMS has ensured that the language in Section I.C.3 clearly describes the statutory requirements of the Marine Mammal Protection Act to ensure that the MMPA IHA’s do not result in an “unmitigable adverse impacts to subsistence.” Otherwise, MMS believes the paragraph cited in the comment above is appropriate as written.

NSB 006-102

Monitoring for the bowhead whales would be covered by the IHA/LOA through NMFS and FWS.

NSB 006-103

The MMS agrees this statement needs a reference. The reference Reeves, Ljungblad, and Clarke (1983) has been added to the end of the paragraph.

NSB 006-104

Kaktovik whalers did not harvest a bowhead whale in 1985 and 1987. Both years had seismic operations in the area. However, Kaktovik whalers were successful in harvesting whales in all other years from 1981 to present. Several of these years had multiple seismic operations conducted in the area, demonstrating there is not a one-to-one correlation between seismic activity and unsuccessful hunts. Other factors such as weather, ice conditions, or other vessel traffic can have significant effects on the hunt. A conclusion that the seismic operations resulted in an unsuccessful hunt cannot be made without knowing the other factors that also could have resulted in an unsuccessful hunt.

NSB 006-105

The MMS believes the statement is appropriate as written. Although available information indicates that bowhead whales can respond to seismic survey noise within 20-30 km, there also are studies where no specific response was apparent at closer ranges (see Ljungblad et al., 1988; Fraker et al., 1985; Richardson et al., 1995). Given these results, it is appropriate to state that bowheads tend to avoid seismic survey noise at these distances, but we cannot state with certainty that they “would” always avoid the noise at these distances.

NSB 006-106

The MMS believes this paragraph is appropriate as written and the interpretations from Richardson (1999) and Miller et al. (1997) are accurately written.

NSB 006-107

The text has been revised to update the information.

NSB 006-108

This statement specifically states that: “Behavioral studies have suggested that bowheads habituate to noise from distant, ongoing drilling or seismic operations (Richardson, Wells, and Wursig, 1985), but there still is some apparent localized avoidance (Davis, 1987).” The emphasis here deals with “distant” and “ongoing” drilling and seismic noise. Richardson, Wells, and Wursig (1985) cite a number of studies that support this statement. Other sections throughout the bowhead whale analysis within this document and within the conclusions also show that bowhead whales tend to avoid seismic noise at closer ranges. The MMS believes the paragraph is appropriate as written.

Traditional and local knowledge is a rich source for information in the Chukchi Sea areas, and the EIS references information obtained from such sources. Local knowledge also was obtained during MMS public hearings on the Draft Proposed 5-Year Program (2007-2012) and previous MMS-prepared NEPA documents. The traditional and local knowledge gathered represents some of the best information available to complete the EIS. The MMS welcomes the opportunity to continue to receive and use traditional and local knowledge about the Arctic Ocean and the subsistence resources it supports.

NSB 006-109

For paragraph 3, the reference should be Richardson et al. (1995). The fourth paragraph has been changed to reflect the additional Inupiat concerns noted in the comment above.

NSB 006-110

The text has been revised to update the information.

NSB 006-111

The comment raises valid points regarding marine vessel and aircraft traffic. Although the total number of trips might be similar, the frequency and location certainly would be different. During exploration, vessel and aircraft trips would be more frequent; however, the trips would be to different locations during the summer months. During development/construction, trips would be even more frequent, but they would be to only one location over a period of a few years. During the production stage, trips would be less frequent but would be to the same site over decades. In terms of adverse impacts, more frequent trips perhaps would be more disruptive, but the effects would be temporary. In contrast, less frequent trips to the same

production facility would cause lower levels of disturbance, but they would occur over longer periods of time.

NSB 006-112

A discussion of possible gas-transportation strategies is beyond the scope of the present analysis and will be removed from the document. There are many conceptual strategies on how to commercialize the gas resources stranded in northern Alaska. However, this NEPA analysis is focused primarily on reasonably foreseeable activities and cannot analyze all possible commercial options, particularly when these gas resources have not been discovered yet. When (or if) the present conditions change, future analysis will be expanded to treat both oil and gas production.

NSB 006-113

Abandonment activities involve plugging wells, decommissioning pipelines and removing production platforms and equipment. Exploration and delineation wells would be “plugged and abandoned” when they fail to encounter commercial quantities of oil. Successful exploration and delineation wells would be converted to production wells whenever possible to minimize field-development costs. Ultimately, all well components (casing and control equipment) are removed from a prescribed depth below the seafloor. The methods used to decommission wells depend on whether the wells are on-platform or off-platform (e.g., subsea wells).

NSB 006-114

Refer to Sections I.C.7, The Clean Water Act, and I.E.9, Discharge and Pollution Regulations. The USEPA has the authority to issue national Pollutant Discharge Elimination System (NPDES) permits to regulate discharges into waters of the U.S. so as not to have environmental consequences. The NPDES discharge is not part of this action, and the USEPA must consult with NMFS and FWS on effects of that program on marine mammals. Under the NPDES General Permit, exploration wells may result in drilling mud and cuttings discharged into Chukchi Sea waters and deposited on the ocean floor in localized sites. Such deposits would become assimilated into the ocean floor sediments and ecosystem dynamics within 1-2 years (Hurley and Ellis, 2004). It is unlikely that such microscale and short-term localized events would be of consequence to pelagic zooplankton productivity of a magnitude to impact bowhead whale foraging requirements in the comparatively very large Chukchi Sea. Habitat availability for whale foraging is dynamic. Pelagic zooplankton production and distribution is dependent on current transport and not localized factors as small as a single exploratory well waste-discharge zone. Oil and gas development and production activities require individual NPDES permits that specifically identify discharge allowances and required operational practices for each facility. Refer to Section IV.A.2.g, Estimates of Drilling Wastes and Their Disposal.

NSB 006-115

Please refer to Section III.B.4.a(1)(d) for the discussion and verification of the calving you note in your comments. It is noted that calving is likely to occur in mid-May to mid-June between the Bering Strait and Point Barrow. Reese et al (2001) said this is consistent with other observations in the region, including (a) relatively few neonate-cow pairs reported by whalers at St. Lawrence island, (b) many neonates seen during the whale census in late May, (c) relatively few term females taken at Barrow, (d) taken females with term pregnancies appeared close to parturition (and would reasonably calve further east an unknown distance in the Beaufort Sea), and (e) most of the herd believed to have migrated past Barrow by late May. The statement in Section IV.C.1.f(1)(g) is correct in asserting that “most” of the calving for this population occurs between the Bering Strait and Point Barrow.

The MMS acknowledges that bowhead neonate skin is not as thick as older bowheads. It could be more susceptible to injury from oil contact; however, there is not conclusive research documentation to indicate this is the case for cetacean skin, neonate or older animals. Geraci and St. Aubin (1990) concluded that a

cetacean's skin is an effective barrier to the noxious substances in petroleum. These substances normally damage skin by getting between cells and dissolving protective lipids. In cetacean skin, however tight intercellular bridges, vital surface cells, and the extraordinary thickness of the epidermis impede the damage. The authors could not detect a change in lipid concentration between and within cells after exposing skin from a white-sided dolphin to gasoline for 16 hours in vitro. White-sided dolphin skin may or may not be comparable to neonate bowhead skin, but it is thinner and softer than older bowhead whale skin and may offer a reasonable comparison.

NSB 006-116

The intent of the section the comment refers to is to provide general information about potential effects of oil on marine mammals. Rigorous discussion of potential adverse effects of oil on bowhead whales can be referenced in the Biological Evaluation (BE) for the Programmatic EA Arctic Ocean Outer Continental Shelf Seismic Surveys 2006, which was also adopted as the BE for the Chukchi Sea Lease Sale 193 consultation, and this discussion does include the references noted. Actual documentation of effects of oil on bowhead whales and other large cetaceans is scarce, and much of the potential effects identified are hypotheses, based on analogous situations, that are not confirmed by experiments or direct observation, and that are uncertain, and often controversial. There are no data on cetaceans to determine, with certainty, the probability of lethal or sublethal effects on individuals or populations.

NSB 006-117

See the response to comment **NSB 006-116**.

NSB 006-118

Additional discussion has been added as requested.

NSB 006-119

The text has been revised to add eyes and conjunctive membranes to bullet item 4.

NSB 006-120

Bratton et al. (1993) referenced bowhead whale summering grounds and not specifically the eastern Beaufort Sea in comparing or compensating for the potential zooplankton prey base that could be lost to a large oil spill in either the Chukchi or Western Beaufort seas. The MMS recognizes the implications of Lowry, Sheffield, and George (2004) of the importance of advected zooplankton prey into the Chukchi and Western Beaufort Sea from as far as the Bering Sea. There are many factors that influence whale exploitation of advected prey. The dynamics of biomass productivity, timing, and rate of transport via currents (water and wind); recruitment/replacement rate of biomass; and dilution and depth of effective mortality rates over time and space in case of an event are understandably difficult to measure and predict or gauge. The MMS reaffirms that zooplankton populations would not be permanently affected, as plankton undergo annual productivity cycles and do not occur totally as isolated residential populations. Local plankton populations, especially in shallow depth nearshore where vertical migration is limited can experience mass PAC/phototoxic related mortality of local relatively short-term ecosystem consequence. This is considered very small in relation to the bowhead ecosystem components related to prey availability, distribution, and productivity available in the Chukchi and Beaufort seas.

NSB 006-121

Additional discussion has been added as requested.

NSB 006-122

The MMS believes the information currently provided in this paragraph is appropriate as written and has also updated the paragraph with results from Richardson (2006).

NSB 006-123

The MMS agrees, and a more descriptive discussion has been added to the assessment.

NSB 006-124

The MMS is cognizant of the potential seriousness of oil spills if they occur in the spring lead system during the time period that bowhead whales are calving, breeding, migrating, and staging. Specifics of spill-prevention and cleanup plans, technical application of leak detection and pipeline shutdown, location and specifications of pipelines construction, type of hydrocarbon product transported via pipelines would be covered in more detailed site-specific analysis as would the mitigations and technical requirements for specific development and transport of production products. You are correct that it is MMS's obligation to reinstate consultation with NMFS relative to bowhead whales and develop and analyze appropriate measures to avoid spills during migration. This will be an integral part of any Development and Production Plan analysis.

NSB 006-125

See the response to comment **NSB 006-124**.

NSB 006-126

The relevance of noting that such large aggregations of bowhead whales occur in the Beaufort Sea could reasonably infer that such aggregations and composition (cows and calves) potentially also could occur in the Chukchi Sea. Language to this effect has been included in the text. Similar stimuli and subsequent behavior of aggregating bowheads likely would be consistent whether they are in the Beaufort Sea or the Chukchi Sea. Until further survey data verify whether such aggregations occur in the Chukchi Sea, the indications that aggregations are likely in the Chukchi Sea are from the aggregation behavior exhibited and documented in the Beaufort Sea.

NSB 006-127

The objective of the OSRA is to estimate relative oil-spill risks associated with production and transport of oil and gas from the proposed lease areas and not intended to develop and implement a model to develop specific scenarios, progressions of site specific spill events, and to probability of resource effects. The time periods identified as VULNERABLE in Tables A.1-14 indicate the risk periods for bowhead whales to experience exposure to oil from spill events represent "relative" risk in terms of temporal degree of risk as in Vulnerable or not vulnerable. Tables A-2-1 through-2-5 indicate the probability of a large oil spill originating from particular locations to contact certain ERA's within various time periods following a spill event. If bowhead whales are present in the specific ERA during the Vulnerable period as indicated in Table A.14, the probability of oil exposure (whale oiling) would be the same as the probability of the spill materials contacting the ERA as modified by a number of variables, including the continuity of the spill materials, ice conditions, amounts of oil bound by ice, age and form of free floating oil on the water surface, proportion of the ERA affected by the materials, and others. Probability estimates for bowhead whales oiled could vary from small probabilities to presenting a substantial oiling probability to a large percentage of the stock and with potential for population-level effects. Other variables that further modify probability of oil exposure include seasonal migration timing and speed, seasonal nonmigrating whale distribution and movement, bowhead whale sex and group age structure, behavior, type(s) of oil exposure, prey availability and distribution, availability of alternate nonaffected routes or escape routes, origination point of spill relative to the active ice zones, and many other situation-specific variables that do not lend

themselves to a estimation of consistent probability of bowhead whale oil exposure. Oil-spill-response activities could become a factor in the probability of whales moving into oil-exposure areas. There are some data deficiencies about migratory patterns and nonmigratory movement, distribution, and abundance of bowhead whales in the Chukchi Sea that would complicate rigorous analysis for all ERA's and OSRA hypothetical scenarios.

The MMS Alaska OCS Region uses the OSRA in the EIS prepared for the lease sale. Analysts preparing the EIS identify ERA's at risk from large oil spills based on experience, knowledge, and available data. Site-specific analyses to estimate probability for bowhead whales contacting oil-spill materials incorporating OSRA and bowhead whale distribution and abundance were not done by MMS, and we do not think it would be warranted given the layers of uncertainty that would pertain. While such analyses would be possible and would provide an estimate of chances of oiling bowhead whales, these would be based on assumptions regarding a wide array of significant variables that are unknown: location, date, ice, weather conditions, etc. Analyses could require time-dependent bowhead whale-density estimates; possible application of density models such as Amstrup, Durner, and McDonald (2001) generated for polar bears; OSRA information; date; ice conditions; and other factors as noted above.

Such analyses, however, would yield an estimate of numbers of whales exposed to oiling and the comment is specific to estimating the chance or "probability" of oiling, not numbers.

NSB 006-128

Oil spills in themselves do not produce noise and human activity-induced disturbance such as vessel and air traffic and equipment deployment and personnel on site. Required oil-spill-response activities could occur during exploration, development, and production phases. Large spills probably would be associated with development and production phases, and response to large spills could entail substantial noise and disturbance such that bowhead whales would avoid an area of high value. The MMS has added to the bulleted statements list.

NSB 006-129

Use of the Ledyard Bay Critical Habitat Area by king eiders was described in Section III.B.5.f(3), King Eider. This section is now correctly identified as Section III.B.5.f(4) in the final EIS.

Section III.B.5.f of the draft EIS described spring use of offshore leads of the Chukchi Sea by common eiders and other waterfowl. Some of these are in Ledyard Bay. Later in the summer, Kasegaluk Lagoon and Peard Bay seemed more important to common eiders than Ledyard Bay.

We believe the implementation of mitigation measures specific to Ledyard Bay (particularly in regards to seismic and exploration activities) reflects our understanding of the ecological importance of this area.

NSB 006-130

We believe the preceding subsection (IV.C.1.g(2)(a)3 Support Aircraft Noise) is the appropriate location for including these additional impact types. We have revised the final EIS accordingly.

NSB 006-131

The use of the term "relatively" is intended to mean "in comparison to." This term is often used to note the potential scale of an impact when the absolute extent cannot be determined or merely represents one end of a broad range.

NSB 006-132

“Season” would be considered under other environmental variables. The MMS acknowledges there are numerous other environmental variables such as season, ice conditions, ice gouging of the ocean floor, temperature of air and water, etc. Size of spill is not an environmental factor, and “spills” as used herein refers to any spill large or small. “Relatively small” impacted area is used as a comparative mode to the same size spill under conditions that may disperse spill materials more widely and at faster rates. “Could be” terminology also accounts for conditions and situations where environmental factors actually assist in containing a spill in a smaller area, for example, winds opposing the current direction or containing a spill against an ice barrier.

NSB 006-133

We concur there may be some uncertainty regarding how individual communities will make use of new roads that may be constructed near them. For purposes of analysis, and lacking access controls or specific routes, we presented use of new roads by local people as a probability (“likely would”), rather than dismiss the possibility that any use would occur. This impact topic originated in recent Section 7 consultations as a subsistence-hunting issue, and we believed the use of these roads warranted some attention (USDOJ, FWS, 2005c, Final Biological Opinion for Northeast NPR-A). We have revised this section to state that there is the potential that local hunters would use new roads.

NSB 006-134

This potential impact is discussed in Section IV.C1.g(3)(f). Although not specifically addressed as a mitigation measure for this phase of the leasing process, recommendations to address this issue were described in the Biological Evaluation (contained in the draft EIS, now available at http://www.mms.gov/alaska/ref/Biological_opinionsevaluations.htm or from MMS), and are anticipated to be addressed in a future EIS and Section 7 consultations for threatened birds. We clearly identify a goal of minimizing the potential for enhancing predator populations that could arise from future construction of infrastructure and associated developments.

NSB 006-135

We have revised the text to include the suggested phrase. Inhalation of hydrocarbon vapors is included two paragraphs later in this section and is a complete topic two sections later.

NSB 006-136

This paragraph indicates that returning adult birds could contaminate eggs or young. We have acquired a copy of Couillar[d] and Leighton (1989) and incorporated relevant information on how oil contamination could harm embryos within bird eggs into the final EIS.

NSB 006-137

See the response to comment **NSB 006-136**.

NSB 006-138

The draft EIS described many of the ways that oil can affect birds. For purposes of analysis, the draft EIS assumed that any bird contacted by oil would die, whether immediately by direct exposure or eventually when indirect/secondary contact (e.g., contaminated foods or parental care) impairs fitness. We believe the most important point of this section was to evaluate the significance of all effects (mortalities) resulting from an accidental spill(s).

NSB 006-139

In the Sale 193 EIS, we use the Alaska North Slope record of small spills (<1,000 bbl). We expect the same companies and regulators to participate offshore in the Chukchi Sea as those that are now operating on the onshore Alaska North Slope. We expect similar but not exact environmental conditions. We believe it is reasonable to assume that the rate in the Beaufort Sea will be similar to the rate on the Alaska North Slope. In addition, the NSB Science Advisory Committee recommended using the Alaska North Slope spill record. The MMS Alaska OCS Region has adopted that recommendation.

In the 2007-2012 5-Year Program EIS, Table IV-4 is mislabeled. The last row of the table under scenario elements should read ≥ 1 and < 50 bbl. For the same size category in Sale 193 EIS (≥ 1 and $< 1,000$ bbl), we estimate approximately 46 spills (Appendix A, Table A.1-30). This is in contrast to 110 listed in Table IV-4 of the 2007-2012 5-Year Program EIS. Again, the difference is that one document considers one planning area, and the other considers two.

NSB 006-140

The objective of an environmental analysis is to evaluate the significance of an anticipated impact. Significance criteria, as identified in the draft EIS, are based on the number of generations until a population recovers from an impact, not on an absolute number of birds impacted. The same number of birds affected could be a large proportion of one species, but the same number could be a relatively small proportion of another. We believe the consistent use of significance criteria realistically conveys the relative magnitude of anticipated impacts per alternative on coastal and marine birds.

Fauchild et al. (2002) concluded that the use of restricted survey data in extrapolating and predicting the distribution of seabirds may be misleading. They recommended restricted survey data should mainly be used to identify vulnerable populations on a regional scale. Given the range of impact types and the range of population densities, both of which vary according to year, season, location, and other environmental factors, MMS does not believe the calculation of such numbers would be meaningful to the public or decision-makers as it would imply precision where little exists.

NSB 006-141

Section III.B.5.f(1) attributes this conclusion to Divoky, 1987.

NSB 006-142

General biological information for long-tailed ducks is detailed in Section III, Affected Environment, and is not necessarily duplicated in the subsequent Section IV, Environmental Consequences. Section III.B.5.f(2) contains information and references on long-tailed ducks.

NSB 006-143

Section IV.C.1.g(4) is the first of several sections that evaluate oil-spill effects. There are sections on summer spills and winter spills and the calculated percent chance that either would contact important environmental resource areas. The percent chance that a winter spill would contact the spring lead system is considerably lower than a spill reaching similar areas during the summer (see Sec. IV.C.1.g(4)(a)2)). The total number of birds affected under some potential oil spill scenarios could exceed 100,000, but impacts are described by individual species and season, depending on available information.

NSB 006-144

The biology of king eiders is described in the Description of the Affected Environment in Section III.B.5.f(4). Much of this detailed information is not duplicated later in the environmental consequences section, Section IV.

NSB 006-145

The Proposed Action has little to do with the present status of the brant population, which appears to be negatively influenced by other factors, including hunting.

Our analysis (Sec. IV.C.1.g(6)(a)) described the potential impacts to brant nesting and molting along the Chukchi Sea coast. Some impacts are anticipated during the seismic and exploration phases of the lease area, generally resulting from aircraft activity. Overall, however, this section concludes that "...the loss of as much as 45% of the Pacific flyway population of brant [from an oil spill] would be a significant adverse impact and recovery from such an impact would take many generations to occur, if it occurred at all."

NSB 006-146

We sought to describe how lesser snow geese used the area. We were unaware of the reference provided. Our search of published literature did not identify the Ritchie et al. report to the NSB. We have since obtained a copy and have incorporated pertinent information into the final EIS and the reference into the bibliography.

NSB 006-147

See response to comments **NSB 006-140** and **NSB 006-143**.

NSB 006-148

The MMS acknowledges there is evidence that would indicate bowhead contact with oil could cause health effects.

NSB 006-149

These are references that compliment those referenced in the draft EIS in evaluation of marine mammals associated with oil. The MMS, however, acknowledges there also is evidence that would indicate bowhead contact with oil could cause health effects.

NSB 006-150

The MMS has added information to reflect the significant impacts the EVOS had on fish-eating resident killer whales in Prince William Sound, mainly the AT1 and AB pods (see also the response to comment **NSB 006-121**).

NSB 006-151

Please refer to Section IV.C.1.a(10) regarding the requirements MMS-approved Oil Spill Response Plan (OSRP) development and implementation. Evaluation of chemical dispersants and impacts of their use on benthic communities and marine life using benthic organisms as food would be a consideration in the development/approval of each operator's OSRP. In response to this comment, MMS has reviewed the references noted in the comment regarding amphipod recovery capability.

NSB 006-152

While MMS recognizes the vulnerability of different age and sex classes of whales and the greater potential severity of impacts to younger animals, the actual number of whales affected would remain the same; the degree of impact would differ, not the number exposed.

NSB 006-153

The paragraph has been edited.

NSB 006-154

See the response to comment **NSB 006-059**. The analysis in this EIS used the best information available at this time. The MMS will continue to incorporate new information as it becomes available.

NSB 006-155

The text has been edited.

NSB 006-156

“Significant” effects are defined in Section IV.A.1. The citation ‘Cameron et al., 2005’ has been added in reference to the 4-km displacement.

NSB 006-157

Haskell et al. (2006) was added to the bibliography.
Section IV.C.1.i(3)(a) was edited to address the comment.

NSB 006-158

Section IV.C.1.i(4)(b), Effects of Pipelines, has been edited to address the comment.

NSB 006-159

The text has been added to Section IV.C.1.i(4)(c).

NSB 006-160

Section IV.C.1.i(4)(d)(2), Effects of a Large Oil Spill, has been edited to address the comment.

NSB 006-161

To consider a large oil spill that contacts bowhead whale habitat does contact whales would make false assumptions that 100% of the whale habitat is occupied 100% of the time by whales. Spills can occur, disperse, and be cleaned up during periods when no whales are present in that habitat area due to a wide variety of reasons and result in no oil contact with whales. There may be areas considered whale habitat that are used with relatively rare frequency. Direct or indirect contact of oil and whales may or may not occur depending on the specifics of a given spill event.

NSB 006-162

See the response to comment **NSB 006-006**.

NSB 006-163

The water quality section seeks to define the present water quality of the Chukchi sea area, identify those active process/forces that have a major contribution in defining water quality, and identify possible negative impacts that could result from oil and gas operations. The water quality section is based on reasonably foreseeable impacts and effects. Presently, climate change and the resulting effects on water

quality in the Chukchi Sea in a reasonably foreseeable future does not have general scientific consensus as to probability, effects, or impacts. International shipping through the Arctic and possible resulting spills/release cannot be reasonably anticipated nor quantified. Both issues were considered during scoping of the water quality sections; however, neither issues was brought forward within the discussions due to the lack of scientific data and/or sufficient scientific consensus; and the conjectural nature/tendency of any discussion of these topics.

NSB 006-164

The MMS recognizes that these are value judgments. However, the oil-spill analysis is predicated on the <10% chance of finding an economically producible field. Should an economically producible field be found, then the oil-spill analyses provide probabilities of spill occurrence.

The assumptions for the analysis of oil spills assume one large spill occurs and a distribution of smaller spills. The oil-spill-occurrence estimate is provided for the decisionmaker to consider. The oil-spill-occurrence estimate is a Poisson distribution based on the mean number of spills. For the Proposed Action, there is approximately a 60% chance of no spills occurring over the 27-year production life of the Proposed Action. There is approximately a 31% chance of one spill, 8% chance of two spills, and a 1% chance of three spills over the life of the Proposed Action. The chance of 0 spills is greater than the chance of one, two, and three spills added together (chance of one or more large spills).

This oil-spill-occurrence analysis was then applied to each of the resources that potentially could be impacted. The MMS does not agree that these analyses are flawed.

NSB 006-165

The NSB paraphrases the conclusion of the cumulative assessment for lower trophic level organisms, implying that the conclusion states that the proposed sale “will contribute little to the cumulative effects.” Actually, the conclusion states that the cumulative level of effects would be moderate. The cumulative level of effect has not been changed because lower trophic-level organisms, unlike seabirds and marine mammals, do not migrate through adjacent lease areas.

NSB 006-166

The first sentence of the paragraph simply states that available information does not indicate that the cumulative effects have had “any long-lasting physiological, or other adverse effect(s) on the population.” However, the remaining sentences in the paragraph go on to accurately reflect the uncertainty that exists in assessing any cumulative effects on this bowhead whale population. MMS believes the paragraph is appropriate as written.

NSB 006-167

The sentence in question uses the term “uncertain” in association with the effects as a result of particular events occurring (oil spills, exposure to noise, shipping, etc.). The sentence does not place a value judgment on the likelihood of one of the events occurring. As a result, the MMS believes the term “uncertain” was appropriately used in context to the subject matter.

NSB 006-168

The MMS believes this section is appropriate as written. Section V.C.6(a)6 does reference that incidental taking of bowhead whales by commercial fisheries has occurred but rarely, and it also notes that ship strikes have occurred. The section then incorporates by reference the NMFS’ Arctic Region Biological Opinion (NMFS, 2006a) which also reviews this information.

NSB 006-169

The section noted in the previous comment covers potential effects to bowhead whales and not impacts to subsistence-harvest activities. Potential impacts to subsistence are covered in Sections IV.C.1.1 and in Section I.C.3 (see also the response to comment **NSB 006-101**).

NSB 006-170

This section covers the ways that climate change may affect bowhead whales. The section also states that “more” changes are likely to occur and in no way suggests that climate change is not taking place. It also emphasizes the uncertainty that exists and how this impacts any definite analysis on potential impacts to bowhead whales. The MMS believes the section is appropriate as written.

NSB 006-171

MMS agrees and has revised Section V.C.6(a)6.

NSB 006-172

Richardson (2006) is a report summarizing results from the 2005 acoustic and marine mammal monitoring program for the Northstar facility. The report does not get into details of how bowhead whale react to sound but rather summarizes whale calls and noise levels from Northstar and associated activities (i.e., vessels and barges) and ambient noise levels. Therefore, inclusion of this reference is not entirely applicable for the above comment. In addition, MMS acknowledges in this paragraph and through other places in its analysis that vessel traffic can affect bowhead whales, especially close vessel approaches. The MMS, therefore, believes this issue is already adequately addressed.

NSB 006-173

Section V.B, Activities We Consider in the Cumulative-Effects Section, includes “activities other than oil and gas, including sport and subsistence hunting and fishing, scientific surveys, and marine transportation...,” which would subsume those activities conducted under the auspices of the International Polar Year (IPY). The analysis explicitly addresses the potential cumulative effects from the entire range of research cruises and other activities without specific reference to individual projects or events such as the IPY.

NSB 006-174

The possibility, degree, and extent of negative impacts to water quality in the Chukchi Sea that may result with increased global warming does not have reliable or widely accepted scientific data; as such, any discussion of global warming and the resulting effects on Chukchi Sea water quality would be purely conjecture, and not relative or appropriate discussion for the water quality assessment for oil and gas operations within the Chukchi Sea OCS.

NSB 006-175

See the response to comment **NSB 006-006**.

NSB 006-176

The MMS agrees and has updated this section with the Richardson (2006). The draft EIS does incorporate information from the MMS BWASP study that has been published to date (i.e., Treacy, 1998, 2002; Monnett and Treacy, 2005). However, this information is mostly relevant to bowhead whale presence in the Beaufort Sea, not the Chukchi Sea and, therefore, a detailed description of the BWASP results is not included in this document.

Even though the Northstar facility is on an artificial island in the Beaufort Sea, many of the issues surrounding the facility are applicable to oil and gas development in the Chukchi Sea. North Slope residents have expressed concern that the bowhead whale autumn-migration corridor might be deflected offshore in the Northstar area due to whales responding to underwater sounds from construction, operation, and vessel and aircraft traffic associated with Northstar. Richardson and Thompson (2004) and other researchers working with LGL and Greeneridge Sciences, Inc. undertook studies during the open-water period to determine both the underwater noise levels at various distances north of Northstar and potential impacts on bowhead whales north of the island, as assessed by locations determined by vocalization locations. Blackwell and Greene (2004) summarized that, in the absence of boats, “During both construction...and the drilling and production phase..., island sounds...reached background values at distances of 2-4 km...” in quiet, ambient conditions. During the normal “open water period” in 2001 (June 16 to October 31), there were approximately 989 roundtrip helicopter flights to Northstar. Data from monitoring programs of the Northstar facility from November 2004 to October 2005 found a “statistically significant, but small, deflection effect in the southern part of the bowhead migration route offshore of Northstar (west of Cross Island) at times when noise from Northstar was at its highest levels” (McDonald, Hildebrand, and Wiggins, 2006). However, the latest annual report from the Northstar monitoring program (see Richardson, 2006) found that although noise and oil spills still are a concern to whalers, they have not reported any impacts to their whaling activities from the presence of the Northstar facility. However, some whalers reported avoided close approaches to the facility. Overall, the available data on bowhead locations, coupled with data on noise propagation, indicate that if noise from Northstar is having an impact on whale movements, the effect, if it exists, is not dramatic.

NSB 006-177

As noted in the response to comment **NSB 006-176**, MMS has already included information in the draft EIS currently available to the public (i.e., already published) on the BWASP study results. More information will become available as MMS publishes additional results of these studies, and this new information will then be incorporated into the future environmental analyses and decisionmaking.

NSB 006-178

Richardson (2006) is a report summarizing results from monitoring programs of the Northstar facility from November 2004 to October 2005. The report cited a “statistically significant, but small, deflection effect in the southern part of the bowhead migration route offshore of Northstar (west of Cross Island) at times when noise from Northstar was at its highest levels” (McDonald, Hildebrand, and Wiggins, 2006). However, the report then gave three reasons as to why this deflection (i.e., reduced whale calls in project area) may have occurred, including: (1) natural variations in bowhead whale migratory corridors due to the heavier ice year; (2) higher level of ambient noise from higher mean wind speeds which masked whale calls; and (3) increased presence of non-Northstar barging traffic east of Prudhoe Bay. In addition, Northstar activities actually decreased in 2005 compared to previous monitoring years (i.e., half the number of vessel trips, more use of less impacting hovercraft and helicopters). Overall, Richardson (2006) concluded that, as in past monitoring years, the available data on bowhead locations and noise propagation indicate that if noise from Northstar is having an impact on whale movements, the effect, if it exists, is not dramatic. The MMS believes that no changes are needed to this paragraph.

NSB 006-179

The feeding behavior of bowheads and their food sources are discussed in Section III.B.4.a(1)(e)6). In Section III.B.4.a(1)(e)5), MMS acknowledges the study that shows that some of the feeding in the Beaufort Sea is on prey transported from the Chukchi Sea by advection. The paragraph in Section V.C.6.a(8) has been revised to reflect this.

NSB 006-180

The MMS has included additional information in Section V.C.6.a (8) to address the comment.

NSB 006-181

This paragraph does assert that *available* data do not indicate an impact to bowhead whales but then goes on to strongly qualify this statement by saying that data are inadequate to fully evaluate potential impacts on whales during this period. The MMS believes these statements are accurate and that no changes are needed to this paragraph.

NSB 006-182

The paragraph referred to in the comment is misplaced. The paragraph has been replaced with the appropriate conclusion summary.

NSB 006-183

Section V.C.6.b provides a brief summary of these effects. The reader is also referred to the Biological Evaluation in (contained in the draft EIS, now available at http://www.mms.gov/alaska/ref/Biological_opinionsevaluations.htm or from MMS).

NSB 006-184

This paragraph has been revised to indicate that cumulative effect of seismic exploration on coastal and marine birds in the Ledyard Bay Critical Habitat Area would be mitigated (including not allowing seismic activities within this area after July 1 of each year). The original paragraph was intended to refer to the pending NEPA review of programmatic seismic operations in the Chukchi and Beaufort seas.

The MMS conducts its environmental analyses under NEPA and ESA Section 7 consultations with the USDO, FWS based on mitigation measures that are included for the selected alternative. These mitigation measures are incorporated into future permits resulting from the lease sale. The MMS assumes that the lessees will meet the terms of their permits, and that violations to permit conditions will not occur. Agencies and the public should report perceived violations of permit conditions to our Leasing Division.

NSB 006-185

The commenter is correct in stating that little is known about the distributions, population sizes, or habitat use of the Chukchi Sea by marine mammals, and that it is, therefore, difficult to determine if significant impacts will or will not occur to marine mammals. The text has been revised to reflect this.

NSB 006-186

Additional text has been included in Section V.C.8 to address this comment.

NSB 006-187

Section II.B.4 and Appendix D provide a description of mitigation measures for seismic operations in the Chukchi Sea.

NSB 006-188

The MMS acknowledges in Section V.C.10 that climate change in the Arctic may be the greatest potential contributor to impacts on vegetation and wetlands on the North Slope. Possible negative impacts from

climate change in the Arctic on the ecology of the tundra and potential effects of changes in the permafrost depth were also discussed in the EIS for the 2007-2012 5-Year Program. The recent publications by the Intergovernmental Panel on Climate Change present a comprehensive discussion on global climate change impacts. An assessment of global climate change on the United States is given in a 2000 report entitled *Climate Change Impacts on the United States: The Potential Consequences of Climate Variability and Change, Overview* prepared by the National Assessment Synthesis Team (2000). For the Cumulative Analysis on vegetation and wetlands, the MMS analyzed the overall potential contribution of Lease Sale 193 to the impacts on vegetation and wetlands while recognizing that other factors outside of the MMS's control are also potential contributors to impacts.

NSB 006-189

Other anthropogenic impacts on beluga whales, seals, and other marine mammals are discussed throughout the cumulative effects section for subsistence and in the paragraph following the one cited in the comment.

NSB 006-190

Our intent was not to juxtapose the two effects producing agents but simply to suggest that another and much more likely source of significant long-term impacts to whales and whaling would be the placement of a drilling structure near the bowhead migration corridor. The text has been changed to make this distinction clearer.

NSB 006-191

We disagree with this comment. A spill of the magnitude specified in the draft EIS could not be expected to contaminate the entire migrating populations of bowhead whales, beluga whales, or other marine mammals. We believe that the sentence that states: "Harvesting, sharing, and processing of other subsistence resources should continue but would be hampered to the degree that these resources were contaminated." is articulating the commenter's point: if resources were in fact contaminated in communities far from the spill, then the sharing of the resources that were affected could not occur.

NSB 006-192

The MMS recognizes the limitations of the small sample size of exploration wells in the Beaufort and Chukchi Sea and their associated spill record. Indeed, MMS works vigorously through regulations and inspections to prevent oil spills, which keeps the sample size small. The MMS will continue to collect information on any OCS exploration spills that may occur to update its database of information develop that is reliable and validated. The following paragraph discusses the information available for the larger OCS and includes over 13,000 wells.

NSB 006-193

A reference to information on breakout events has been added to Sections III.A.4.a and III.A.4.f.

NSB 006-194

The trajectory simulations use the vectors from the models discussed in Appendix A.1, Section C.1.f, Current and Ice Information from a General Circulation Model. In the trajectory simulation portion of the OSRA model, many hypothetical oil-spill trajectories are produced by numerically integrating a temporally and spatially varying ocean current or ice field and superposing on that an empirical wind-induced drift of the hypothetical oil spills (Samuels, Huang, and Amstutz, 1982). Collectively, the trajectories represent a statistical ensemble of simulated oil-spill displacements produced by a field of winds derived from observations and numerically derived ocean currents or ice fields. The winds and currents are assumed to be statistically similar to those that will occur in the Arctic during future offshore activities. In other words, the oil-spill-risk analysts assume that the frequency of strong wind events in the wind field is the

same as what will occur during future offshore activities. By inference, the frequencies of contact by the simulated oil spills are the same as what could occur from actual oil spills during future offshore activities. Trajectory models that use historical weather data help establish the range of possible scenarios and are thus very useful in environmental impact assessment.

Historically, there have been heavier and lighter ice years in the time period used for the analysis. If present and future observations of sea ice indicate changes in the overall ice concentration, this will be incorporated into the analysis. If summer sea ice were to vanish in the Beaufort Sea, then hypothetical oil spills would be forced to move by ocean currents and wind. The sea ice model thermodynamics would produce the first-year ice, as it does in the existing runs for parts of the Chukchi Sea. The MMS would modify the seasonal (monthly) definitions, based on wind and ice conditions. The MMS has an ongoing research project on coupled sea ice/ocean modeling in the Beaufort Sea with Dr. Jia Wang (University of Alaska, Fairbanks). Reference to these research projects (Wang and Ikeda, 2000a,b,c.; Wang and Ikeda, In press.; Wang and Jin, 2000, 2001, 2004, 2005a,b,c; Wang, Liu, and Jin, 2002; Wang et al., 2003, 2004, 2005a,b). These references have been added to the bibliography.

NSB 006-195

We assumed a definition of northeast Chukchi land segments (LS) as LS 80-85 (just past Wainwright to Barrow). The OSRA model estimates that launch areas (LA's) 1-13 and pipeline segments (P) 1-11 have a <0.5-3, <0.5-4, <0.5-5, <0.5-7, <0.5-8, and <0.5-10% chance of a spill $\geq 1,000$ bbl contacting individual LS's 80-85 after 3, 10, 30, 60, 180, and 360 days, respectively, during the entire year (Tables A.2-7-A.2-10). The OSRA model estimates that LA's 1-13 and P1-11 have a <0.5-5, <0.5-8, <0.5-11, <0.5-13, and <0.5-13% chance of a spill $\geq 1,000$ bbl contacting individual LS's 80-85 after 3, 10, 30, 60, 180, and 360 days, respectively, during summer (Tables A.2-31-A.2-36). The OSRA model estimates LA's 1-13 and P 1-11 have a <0.5-1, <0.5-1, <0.5-2, <0.5-3, <0.5-6%, and <0.5-7% chance of a spill $\geq 1,000$ bbl contacting individual LS's 80-85 after 3, 10, 30, 60, 180, and 360 days respectively during winter (Tables A.2-55-A.2-60).

The chances of a spill $\geq 1,000$ bbl contacting vary given the location of the launch areas. Generally launch areas and pipelines directly adjacent to land segments 80-85 have higher chance of contact. Generally the chance of contact is greater in the summer season than in the winter season. In stochastic sense oil spills tend to move more north east and south west than directly east or directly south.

If a particular group of land segments are of interest, a stakeholder can request during scoping that a group of land segments be considered in the OSRA. Another way of looking at the conditional probabilities of contact to shoreline in that area includes grouped land segments such as the NPR-A (LS's 76-77, 80-83, and 86-89). The OSRA model estimates that LA's 1-13 and P 1-11 have a <0.5-3, <0.5-7, <0.5-11, <0.5-11, <0.5-21, and <0.5-23% chance of a spill $\geq 1,000$ bbl contacting the NPR-A (LS's 76-77, 80-83, and 86-89) after 3, 10, 30, 60, 180, and 360 days, respectively, during the entire year (Tables A.2-40-A.2-46). The OSRA model estimates that LA's 1-13 and P 1-11 have a <0.5-7, <0.5-17, <0.5-23, <0.5-28, <0.5-30, and <0.5-32% chance of a spill $\geq 1,000$ bbl contacting individual LS's 80-85 after 3, 10, 30, 60, 180, and 360 days, respectively, during summer (Tables A.2-31-A.2-36). The OSRA model estimates LA's 1-13 and P 1-11 have a <0.5-1, <0.5-2, <0.5-3, <0.5-5, <0.5-14, and <0.5-16% chance of a spill $\geq 1,000$ bbl contacting the NPR-A (LS's 76-77, 80-83, and 86-89) after 3, 10, 30, 60, 180, and 360 days, respectively, during winter (Tables A.2-61-A.2-66).

The OSRA model estimates that a large spill from LA's 1 and 2 in the Beaufort Sea (USDOI, MMS 2003a:Table 2-30) have a <0.5-17% annual chance of contacting LS's 22-25 (Skull Cliff to Barrow) within 360 days.

It is generally thought that some of the driftwood in the Beaufort and Chukchi seas comes from the Mackenzie River as well as the Yukon and Kuskokwim rivers (Eggersson, 1994; Dyke et al., 1997). The Yukon and Kuskokwim river driftwood becomes entrained in the Pacific water, which becomes the Alaska Coastal current in the Chukchi Sea. The launch areas in the Sale 193 area range from approximately 11-40 nautical miles offshore. Differences in the contact of driftwood versus oil spills are based on many

different variables, including the location of where the drifting particle starts. Logs may start closer to shore prior to beaching than the Sale 193 launch areas. Further work on driftwood from the Yukon and Kuskokwim rivers would be useful information.

NSB 006-196

Results of the Lambertsen et al. (2005) study are incorporated into the EIS and can be found, in part, in Section IV.C.1.f(1)(g)3c).

NSB 006-197

The MMS acknowledges that oil-spill cleanup in broken-ice conditions presents a challenge; however, there are tactics and equipment capable of recovering or removing oil from that dynamic environment. Oil-spill responders in the Beaufort Sea and Cook Inlet have developed strategies and equipment inventories that can be successfully applied in the broken-ice environment. In situ burning is also a valuable response method that has the potential to remove in excess of 90% of oil from the burn area. Research also continues both nationally and internationally to improve methods of spill response in cold water and arctic environments.

NSB 006-198

For purposes of analysis, the 2007-2012 5-Year OCS Leasing Program assumes two large spills for the Arctic Subregion, which includes both the Beaufort and Chukchi seas. For purposes of analysis, the Sale 193 EIS assumes one large spill and includes only the Chukchi Sea. The difference between the two documents is that one considers both the Chukchi and Beaufort Sea Planning Areas together and the other considers only the Chukchi Sea Planning Area. The estimated mean number of spills for the proposed action is 0.51, which is approximately half a spill. For purposes of analysis, MMS assumes one large spill.

Table IV-4 is mislabeled in the 2007-2012 5-Year Program EIS. The last row of the table under scenario elements should read ≥ 1 and < 50 bbl. For the same size category in the Sale 193 (≥ 1 and $< 1,000$ bbl), we estimate approximately 46 spills (Appendix A, Table A.1-30). This is in contrast to 110 listed in Table IV-4 of the 2007-2012 5-Year Program EIS. Again, the difference is one document considers one planning area, and the other considers two.

NSB 006-199

The mitigation measures are stated in terms of requirements that apply at various decibel levels. Required field verification will determine the zone of influence by providing the distance from the seismic-source vessel at which a specific decibel level is reached.

COMMENTS
of the
ALASKA ESKIMO WHALING COMMISSION
on the
DRAFT ENVIRONMENTAL IMPACT STATEMENT
for
OIL AND GAS LEASE SALE 193, CHUKCHI SEA PLANNING AREA

December 24, 2006

“The Chukchi OCS is viewed as one of the most petroleum-rich offshore provinces in the country, with geologic plays extending offshore from some of the largest oil and gas fields on Alaska’s North Slope. The MMS’s current petroleum assessment indicates that [sic] mean recoverable oil resource of 12 billion barrels (Bbbl) with a 5% chance of 29 Bbbl. Most government and industry analysts agree that this province could hold large oil fields comparable to any frontier area in the world. Thus, it is reasonable to assume that exploration of this area could lead to oil discoveries and offshore development.”¹

“Potential significant impacts to subsistence resources and harvests and consequent significant impacts to sociocultural systems would indicate significant cumulative environmental justice impacts – disproportionate, high, adverse environmental and health effects on low-income, minority populations in the region.”²

¹ DEIS, p. II-28.

² DEIS, p. V-87.

INTRODUCTION

Summary

To anyone observing the actions of MMS and oil and gas majors, all indicators point to extensive, near-term industrial development of the Chukchi Sea and portions of the Chukchi coast. It is equally obvious that without careful environmental analysis and frank discussion of environmental and social impacts, the potentially devastating effects of this development will go unchecked.

Therefore, it is disturbing for the public and decision-makers to be presented with an environmental review that is a study in how to avoid addressing the consequences of a proposed action. Biased assumptions and conclusions, slanted discussion, ignored data, incomplete review, repetition of dated or discredited references, and internal contradictions and inconsistencies predominate throughout this document. Because the issues raised by this DEIS are so extensive, the AEWC can highlight only a few of the more serious ones here. Those noted in these Comments, most of which are discussed in greater detail below, include:

- MMS ignores analytical and substantive requirements of the National Environmental Policy Act, the Marine Mammal Protection Act, the Endangered Species Act, and regulations of the Council on Environmental Quality.
- MMS bases its claimed analysis on irrational assumptions that are at odds with assumptions postulated for this lease sale in the EIS for the Five-Year Program 2002-2007, and with the economic analysis underlying that Program analysis. No explanation for these discrepancies is offered, but the baseless nature of the assumptions renders this DEIS useless for purposes of informing the public and decision-makers of the true potential environmental consequences of the proposed action.
- MMS continues to approve, through its “significance thresholds”, human impacts that include starvation and destruction of communities.
- MMS lifts large portions of the cumulative effects discussion, including conclusions, verbatim from the a document that was prepared for the 2006 – single season – Chukchi Sea seismic program.³ This despite the fact that the current environmental review is supposed to be of impacts – direct, indirect, and cumulative – expected from a leasing program opening the Chukchi Sea to oil and gas exploration and production, with attendant industrial development, over an anticipated life of at least 35 years.

³ Programmatic Environmental Assessment of Arctic Ocean Outer Continental Shelf Seismic Surveys – 2006 (USDOI, MMS, 2006a).

- Recent research results, including some by MMS, highly relevant to this environmental review, are ignored.

Introductory Comments

The AEWC notes that Congress amended the Outer Continental Shelf Lands Act (OCSLA) in 1978 to clarify that in its role as a leasing agency, MMS also is expected to act as a steward of outer continental shelf (OCS) habitat and the coastal environment.⁴

With the publication of the June 2006 Programmatic Environmental Assessment (PEA) for seismic operations in the Chukchi Sea during the 2006 open water season, it began to appear that the Alaska office of MMS finally was attempting to take responsibility for its dual obligations.⁵ Yet, inexplicably, after publication of the PEA MMS appears to have fully relinquished its Congressionally mandated role of environmental steward and to have retreated to the position of facilitator of oil and gas industry plans for the OCS – irrespective of adverse effects to wildlife, habitat, or human communities.

Hence the public and decision-makers are presented with documents such as the current DEIS, which serves as strong evidence of the fact that MMS should not be entrusted with the authority for preparing its own environmental reviews, due to its demonstrated inability to provide an objective perspective on and a reasoned analysis of the impacts of its proposed actions.

The AEWC hereby incorporates by reference: (1) Its comments on the Draft EIS for the Five-Year Leasing Program 2007-2012, dated November 20, 2006; (2) The attached comments of the North Slope Borough Department of Wildlife Management; and (3) The attached December 18, 2006 comments of the Mayor of the North Slope Borough on the National Marine Fisheries Service's Notice of Intent to Prepare a Programmatic Environmental Impact Statement for arctic seismic operations (Mayor's Comments).

Because an issue is not discussed in these comments does not mean that it has not been noted, only that limited time and resources prohibit a full analysis of all the many weaknesses in this work. The AEWC reserves the right to raise additional issues at a future time.

COMMENTS

⁴ OCSLA §18, 43 USC 1344.

⁵ Id.

I The Review and Recommendations of this DEIS Are Inconsistent with Federal Law.

A. MMS Has Not Provided a Thorough, Objective, and Good Faith Analysis of Environmental Consequences as Required by Congress in the National Environmental Policy Act (NEPA).

Courts called upon to review agency environmental impact statements have developed a body of law in this area that conditions approval of environmental reviews on, among other standards, the agency's "objective good faith" in the preparation of the review and whether the resulting statement would "permit a decision-maker to fully consider and balance the environmental factors."⁶ Similarly, courts expect executive agencies to base their environmental reviews on the most recent, independently supportable data, irrespective of its consistency with the agency's preferred outcome.⁷

007-001

In this DEIS, MMS sets forth an incomplete review of the environmental consequences of its proposed action, with arguments, cited studies, and even the very language of the text slanted in favor of its preferred Alternative !. As examples, an assumed large oil spill with an assigned probability of 33-55% is repeatedly referred to as "unlikely"; the "cumulative effects analysis" contains neither analysis nor substantive reference to cumulative effects; the term "insignificant" is used to describe impacts likely to deprive communities of critical food resources for a period of years.

Rather than repeat them here, the AEWC requests that the reader turn to the attached North Slope Borough Department of Wildlife Management comments for a partial listing of statements within the DEIS that are unsupported by data, are missing references, or are based on references to outdated studies.

B. The Marine Mammal Protection Act (MMPA) and Endangered Species Act (ESA) place protection of marine mammals, all endangered species, and subsistence uses ahead of other uses.

The MMPA prohibits the taking of all marine mammals and the ESA adds a further prohibition on the taking of endangered marine mammals. 16 U.S.C. 1371(a); 1538(a)(1)(B), (C). The one form of taking for which Congress has provided a

007-008

⁶ Sierra Club v. Morton, C.A.5 (Fla) 1975, 510 F.2d 813.

⁷ Strahan v. Lennon, D.Mass. 1997, 967 F.Supp. 581, affirmed 187 F.3d 623; Committee for Nuclear Responsibility, Inc. v. Seaborg, C.A.D.C. 1971, 463 F.2d 783, 149 U.S.App.D.C. 380; See also, Mid-Shiawassee County Concerned Citizens v. Train, D.C.Mich. 1976, 408 F.Supp. 650, affirmed 559 F.2d 1220.

categorical exclusion from these statutory prohibitions is taking for subsistence use by Alaska Natives. Id., 1371(b), 1539(e). Other, limited exceptions to these blanket prohibitions exist for certain defined non-subsistence activities, subject to clear specification and careful oversight.

In recognition of the paramount importance of subsistence uses to Alaska Natives, Congress further has provided for a complete prohibition on interference with the availability of marine mammal subsistence resources for taking for subsistence uses by any otherwise federally permitted or authorized activity. Id., 1371(a)(5)(A), (D). By its terms, this prohibition on interference requires that any permitted or authorized activity having the potential adversely to affect the availability of subsistence resources must be modified and implemented so as to ensure that resources remain available for subsistence taking.

007-008

In this regard, it should be noted that Congress places the burden of compliance with this prohibition on the permitted or authorized activity, not on subsistence hunters, and tasks the Secretary with responsibility for ensuring that the terms of the prohibition are met. Thus, Congressional intent behind the statutory standard is not met if hunters must place themselves at extra risk to locate and take subsistence resources due to the presence of industrial activities in proximity to their hunting areas.

In light of the above and the more detailed discussion of statutory and case law in the Mayor's Comments, the starting point for review of potential impacts from Arctic offshore seismic activity is two-fold. First, adverse effects to subsistence uses are prohibited; and second, the protection of endangered marine species and other endangered wildlife potentially affected by the action is given priority in conflicts with seismic and other industrial operations.

The recommendations proffered by MMS in this DEIS are out of line with these federal priorities.

C. Important and appropriate alternatives are not offered.

As noted in the Mayor's Comments, an environmental impact statement under NEPA must include "a detailed statement by the responsible official on * * * (iii) alternatives to the proposed action." 42 U.S.C. 4332(2)(C). This statement must "rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss their reasons for having been eliminated." 40 C.F.R. 1502.14(a). The alternatives analysis "is the heart of the environmental impact statement." 40 C.F.R. 1502.14.

007-009

In the PEA, MMS emphasized, and acknowledges here, the very significant lack of data on use of the Chukchi Sea by marine species and water fowl. "Little site-specific data are available on habitat and use patterns, routes, and timing of specific species using

the arctic environment.” DEIS, p. ES-iii. However, it is known that the Chukchi contains important feeding habitat for bowhead whales,

the Bering and Chukchi Seas are the predominant feeding areas for [bowhead whale] adults and subadults. Some of the feeding in the western Alaskan Beaufort Sea (e.g., west of Harrison Bay) is on prey advected from the Chukchi Sea.

DIES, p. III-48, citing Lee et al. (2005).

Carbon isotope comparisons done on bowhead whale tissue indicates that “most of the annual food requirements of adults and subadults are met from” the Bering and Chukchi Seas. DIES, p. III-50, citing Lee and Schell, (2002).

It also is known that bowhead calving occurs during the spring migration through the Chukchi Sea, that the fall bowhead migration includes lactating females and nursing calves, and that at least some bowhead whales migrate, in the fall, directly through the proposed leasing area. Similarly, the Chukchi is important feeding habitat to endangered water fowl. References available from NSB DWM.

However, as noted by MMS, “little recent site-specific data are available on habitat and use patterns, routes, and timing of specific species using the arctic environment.” DEIS, p. ES-iii.

Thus it is impossible for MMS or anyone else honestly to evaluate the environmental impacts of the proposed action. Nonetheless, throughout the DEIS, MMS attempts to argue that potential impacts will be alleviated by MMS’s stable of mitigation measures. However, these measures are untested in the Chukchi Sea and their effectiveness cannot be assessed because wildlife use of the Chukchi is not well understood. Furthermore, as noted elsewhere in these comments, industry compliance with and agency enforcement of mitigation measures are not assured.

The fact is that the large scale development contemplated in the proposed action should not be allowed to go forward here without a more complete body of research. Given these critical data gaps, and in keeping with NEPA, this DEIS must be revised to include a set of alternatives based on delayed or phased development, timed so as to allow the necessary biological and habitat research to go forward. The AEWG recommends a delay of at least two years in the leasing proposal to allow necessary research to be done and then a phased approach to leasing in keeping with the results of that research and remaining data gaps.

II. This DEIS Does Not Support MMS Assertions That Environmental Impacts from the Proposed Action Are Inconsequential.

In describing the Proposed Action, MMS states that the Chukchi OCS “is viewed as one of the most petroleum-rich offshore provinces in the country . . . MMS’s current petroleum assessment indicates that mean recoverable oil resource of 12 billion barrels (Bbbl) with a 5% chance of 29 Bbbl. . . .most government and industry analysts agree that this province could hold large oil fields comparable to any frontier area in the world. Thus, it is reasonable to assume that exploration of this area could lead to oil discoveries and offshore development.” (Emphasis supplied.) The “Chukchi Sea Sale 193 area includes 6,156 whole or partial blocks covering approximately 34 million acres in the Chukchi Sea.”⁸

Throughout the DEIS, MMS maintains that industry interest in the Chukchi Sea is expected to be low and that development, therefore, is unlikely – less than 10 percent according to MMS. This argument might appear plausible given that, in the past 15 years industrial activity in the Chukchi Sea has been below its 1980’s peak.

However, the public receives this DEIS at the end of a year in which two international oil majors brought extraordinary political pressure to bear on the U.S. Department of the Interior, forcing the agency to open the Chukchi Sea to extensive geophysical exploration without preparation of an Environmental Impact Statement. These two companies were joined by an independent geophysical operator in 2006, and all indications are that a number of operators, in addition to these three, plan to run seismic operations in the Chukchi during the 2007 open water season, ahead of Lease Sale 193. Furthermore, at least one of the company’s has let it be known that it already is developing plans to bring a Chukchi Sea pipeline ashore at Wainwright.

To accommodate industry demands for access to the Chukchi Sea in 2006, MMS prepared a Programmatic Environmental Assessment (see footnote 3). The PEA, and especially its draft, offered an unusually thorough, well reasoned, and scientifically supported analysis, in which MMS identified numerous and extensive gaps in data on the use of the Chukchi Sea by wildlife, including endangered whales and birds. Given this lack of data, both MMS and NMFS imposed strict monitoring and mitigation measures on the geophysical operations permitted for 2006. However, one company sought legal protection from its obligation to meet these requirements, and it is not known whether or not a second company in fact complied with them.

Based on this past behavior and the projections for permitting activity in 2007, it appears that industry interest in the Chukchi Sea at this time meets or exceeds historic levels. This interest is driven by the price of oil, which is up almost 50% from its average level in 2000, hitting record high levels during the past year and retreating only slightly. Moreover, the Organization of Petroleum Exporting Countries (OPEC) has

⁸ DEIS, p. II-28.

moved to reduce supply to ensure that prices remain up, and the rapid expansion of Asian economies leaves little room for downward pressure on prices.

As of this writing, Bloomberg financial news reports that crude oil for February delivery is at \$62.41 a barrel on the New York Mercantile Exchange, with prices up 7.1 percent from a year ago. Oil hit a three-month high of \$64.15 a barrel on Dec. 20. In Bloomberg's weekly survey of analysts for the week of December 18, 2006, 69% of analysts surveyed predicted that oil prices would rise or remain constant over the next year. Some expect to see prices at or above \$70 per barrel within the year. Bloomberg.com, December 23, 2006. The U.S. Department of Energy predicts oil prices for 2007 at \$65.17 a barrel. eia.doe.gov, December 12, 2006.

At publication of the DEIS, in October 2006, oil markets were only three months out from their record of \$78.40 a barrel reached on July 14, 2006. Additionally, in the DEIS, MMS notes that prices were at \$50 per barrel when the Executive Summary was written. DEIS, p. ES-ii. We know, of course, that prices rebounded after the November 2006 elections.

007-003

Despite the fact that all indicators point to intense industry interest in developing the Chukchi Sea's extensive petroleum reserves, as noted above, MMS attempts to downplay potential environmental consequences of development in the Chukchi by, among other unsupported assertions, stating that "there is probably a [less than] 10% chance" that development will take place there. As the preceding discussion demonstrates, this prediction is without support in fact.

Although, if MMS actually believes that the probability of Chukchi Sea development is so low, the public should be asking why tax dollars are being spent in preparation for the proposed lease sale; or in the alternative why action is not being delayed pending the results of research on wildlife use of the Chukchi.

III. As Presented, this DEIS Is Inconsistent, on Key Points, with the Economic and Environmental Analyses Provided for this Very Leasing Action in the Five-Year Leasing Program 2002-2007; No Explanation for this Inconsistency Is Given.

In the economic analysis for the Five-Year EIS, economically recoverable reserves in the Chukchi Sea were estimated to be 6.06 Bbbl, at \$30 per barrel.⁹ As cited in the DEIS, MMS's current petroleum assessment indicates mean recoverable oil

⁹ King, W.E., Economic Analysis for the OCS 5-Year Program 2002-2007: Theory and Methodology, OCS Report, MMS 2001-08, September 28, 2001, Table 1. Total Unleased Economically Recoverable Resources--July 2002.

resources of 12 Bbbl, with a 5% chance of 29 Bbbl.¹⁰ In the Five-Year EIS, MMS further assumes that over 35 years this lease sale will yield 2-8 production platforms, 6-26 exploration and delineation wells, 106-320 development and production wells, 330 miles of onshore pipeline, and 100-260 miles of offshore pipeline. These assumptions are based on an oil price of \$18-\$30 per barrel and an expectation of slow growth. See Five-Year DEIS, Table 4-6b.

Not only has the price of oil doubled from the high-end assumptions of the Five-Year analysis, recent pressure from the oil industry and others to open the Chukchi Sea to exploration ahead of a full environmental analysis would appear to be at odds with the former slow-growth assumptions.

Therefore, the public and decision-makers reasonably would expect MMS, in the current review, to account for these changes and to adjust assumptions accordingly. Alternatively, and perhaps more appropriately given the volatile nature of commodities markets, MMS should be expected to provide an environmental analysis based on high oil price and low oil price assumptions. Yet, in this DEIS, MMS does neither. Rather, it inexplicably slashes the Five-Year DEIS assumptions, postulating that only a single project will be developed in the Chukchi Sea, rather than the 2-8 platforms and hundreds of exploration, delineation, development, and production wells predicted for this lease sale in the Five-Year EIS, at half the current price of oil.

Moreover, MMS here assumes that only 1 Bbbl of oil will be produced as a result of this lease sale rather than a number more in keeping with the 6.06 Bbbl of economically recoverable resources identified in its July 2002 economic analysis, or even the more modest high-end assumption of 2.42 Bbbl used in the Five-Year EIS. Again, all of these values are based on a price of oil at half the current market value.

Despite the irrationality of these assumptions, MMS proceeds to base its entire environmental review on them, rendering this DEIS useless for purposes of informing the public and decision-makers of the true potential environmental consequences of this proposed lease sale.

IV. The Examination of Oil Spill Risk in the DEIS Bears Little or No Relation to the Statistical Analysis Provided for the Five-year EIS and Does Not Bear a Clear Relationship to the Oil Spill Analysis Contained in Appendix A of the DEIS.

The oil spill analysis set forth in the Five-Year EIS predicts, for the Chukchi Sea, one platform spill of 1,500 bbl and two pipeline spills of 4,600 bbl each, for a total of 10,700 bbl over 35 years due to large spills. A spill of 500 bbl or greater is predicted

¹⁰ DEIS, p. II-28

007-004

with a probability of “up to 98%.”¹¹

In the current DEIS, while acknowledging the predicted volumes per spill type, MMS simply “assumes”, without explanation, a single large oil spill of 1,000 barrels or more.¹² The agency then goes on to assign a probability of 33-51% for the occurrence of this single assumed spill, declaring that this probability renders the single assumed spill “unlikely.”

An explanation is needed as to how an event carrying a 33-51% probability is deemed “unlikely.” More importantly, however, an explanation is called for as to how MMS arrived at this 33-51% probability (confidence interval not given) in the first place. In the DEIS, the reader is referred to Appendix A and Table IV.A-4.¹³ These references, however, point to a mean spill number of 0.32-0.77 and a total spill probability of 27-54% at the 95% confidence interval.

Yet, despite the arbitrary nature of this spill assumption and its assignment of a 33-51% probability as proof that a large oil spill is unlikely, MMS goes on, throughout the DEIS to assert the virtually complete lack of damage to the environment or to coastal communities from what it repeatedly terms this “unlikely large oil spill.” In fact, MMS asserts at one point that “while a large oil spill could cause some adverse effects and a number of potentially significant effects, we do not expect these effects to occur, because it is unlikely that a large oil spill would occur.”¹⁴

This is an arbitrary conclusion based on arbitrary assumptions, misleading to both the public and decision-makers.

It is worth noting, further, that while MMS asserts no essential difference in effects between its Alternative I and Alternative III (Corridor I), oil spill probabilities for the Corridor I alternative are assessed at 0.20-0.49 mean number of spills, with an 18-30% chance of occurrence at the 95% confidence level. This is compared with the mean spill number of 0.32-0.77 and the total spill probability of 27-54% at the 95% confidence level calculated for Alternative I of the DEIS.¹⁵ From the perspective of the AEWC and its members dependent on Chukchi subsistence resources to feed their families, this is a significant difference.

¹¹ Five-Year DEIS, Table 4.1.e.

¹² Lease Sale 193 DEIS, p. IV-3.

¹³ Id. at p. IV-24.

¹⁴ Id. at p. ES-v.

¹⁵ See DEIS, Table IV.A-4.

V. Alternative III (Corridor I) Is the Only Rational Alternative Offered by MMS in this DEIS.

Any industrial activity, including seismic operations, that could affect the migration of marine resources, directly or indirectly, through the spring lead system and the Chukchi Polyna cannot be permitted or authorized.¹⁶

The State of Alaska has instituted limitations on oil and gas activity in the spring lead system, at least around Barrow, and environmental conditions have served as a serious hindrance to any such activity in federal waters during spring breakup. However, with the expansion of oil and gas exploration and leasing in federal waters, and changing ice conditions, federal agencies must recognize the importance of the Chukchi Polynya and the current that runs through it, as well as the Chukchi and Beaufort Sea lead system, to both marine resources and subsistence hunters.

007-005

As AEWC whaling captains have testified numerous times over the years, the slightest anthropogenic noise made in the vicinity of spring migrating bowhead whales can cause significant changes in migratory behavior. Observations of whaling captains, as well as observations made by scientists during the spring bowhead whale census, provide evidence that a disturbance occurring during the migration can affect whales far upstream of the disturbance. This may result from communication by the whales initially disturbed, that is picked up and sent back along the migratory chain. It is not known at this time whether this same behavior is followed by other migratory marine species.

It is known, however, that in the Chukchi Sea the current running through the Chukchi Polynya is the major spring migratory corridor for all of the important spring marine subsistence species, including bowhead and beluga whales, polar bears, walruses, and seals, as well as important waterfowl. This is why Chukchi coastal subsistence hunters are adamant that industrial activity not be allowed in or near this current, given the potential for interference with this crucial period during the annual subsistence hunting cycle. Legal support for the hunters' position is found in the MMPA's prohibition on adverse impacts to the availability of subsistence resources.

¹⁶ MMPA § 101(a)(5)(A)(i), (D)(i)(II).

Because the Polynya and spring lead system are dynamic, specific boundaries cannot be placed on them. Rather, they must be protected using temporal restrictions, as the State of Alaska has done. In terms of the siting of permanent facilities, MMS, in its Draft EIS for Lease Sale 193 has proposed a 60-mile buffer, based on testimony given in Chukchi coastal villages, the only rational alternative offered in this DEIS. Moreover, because geophysical and other high energy noise can travel great distances and because the period of marine resource migration through the Polynya and lead system is so critical to the communities that depend on those resources, federal standards for the protection of subsistence uses dictate that geophysical activity be prohibited all together during the spring, unless it can be proven that the sound will not travel into and affect the Polynya and lead system.

007-005

VI. The Cumulative Effects Section of the DEIS Includes a Substantial Amount of Text, Including Conclusions, Taken Verbatim from a Significantly More Limited Review and Report; the Section Contains No Analysis of Cumulative Effects, Only a Review of Various Sources of Impacts, with Each Source Reviewed Separately; Important Data Collected by MMS Is Ignored.

A. A substantial amount of text, including conclusions, is taken from a separate, significantly more limited, report.

Large portions of the cumulative effects section of the DEIS, including conclusions, are lifted verbatim from the PEA, a document that was prepared for the 2006 – single season – Chukchi Sea seismic program. The purpose of the current environmental review is to analyze and report on impacts expected from a leasing program opening the Chukchi Sea to oil and gas exploration and production, with attendant industrial development, over an anticipated life of 30 - 40 years. Thus, the conclusions of a review focused on a single action during a single season, while important to consider, are inappropriate for use as conclusions in the current work.

007-006

B. The cumulative effects section contains no analysis of cumulative effects

The scope of the cumulative effects analysis is spelled out in the Council on Environmental Quality's (CEQ) definition of cumulative impacts:

“Cumulative impact” is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.¹⁷

¹⁷ 40 CFR 1508.7

Using this definition, under NEPA, MMS must account for all direct and indirect impacts of leasing operations in combination with other actions (including their direct and indirect effects) affecting the Arctic Ocean and its resources and habitat.¹⁸ In this regard, it must be noted that the focus of the cumulative effects analysis is different from that of the typical NEPA analysis for direct and indirect impacts. The typical analysis is focused on the specific activity and the resources affected by that activity. A cumulative effects analysis, however, is focused on the affected environment and resources, and identifies all other projects or activities that may also affect those resources – past, present, or reasonably foreseeable.¹⁹

Thus, vessel activity in support of onshore oil and gas development, industrial activity in the Canadian Beaufort and Russian waters, arctic research vessels, and commercial shipping operations all must be included in the analysis, in addition to other arctic OCS oil and gas activities. If the climate of the Arctic continues to warm, commercial fisheries operations also may become a factor.

The starting point for any cumulative effects analysis of industrial operations in the Alaskan Arctic Ocean is the National Research Council's 2003 cumulative effects analysis.²⁰

In the DEIS, however, MMS limits its analysis to U.S. interests only, ignoring development activities in the western Canadian Beaufort – where research indicates abandonment of industrialized areas by bowhead whales – and possible offshore activities in Russian waters. MMS also ignores impacts of the Red Dog Mine and the proposed port expansion in that area.

Even more troubling, however, is the fact that the cumulative effects section of the DEIS contains no analysis of potential cumulative effects. In fact, in its conclusion of the bowhead section, MMS states that "looking at each action separately indicates that there should not be a strong adverse effect on this population." (Emphasis supplied.) The purpose of the cumulative effects analysis is not to look at actions separately, but in combination. Again, as stated by CEQ, "the incremental impact of the action when

¹⁸ 40 CFR 1502.16, 1508.8 (Emphasis supplied).

¹⁹ See Consideration Of Cumulative Impacts In EPA Review of NEPA Documents, U.S. Environmental Protection Agency, Office of Federal Activities (2252A), EPA 315-R-99-002/May 1999. "The cumulative impacts of an action can be viewed as the total effects on a resource, ecosystem, or human community of that action and all other activities affecting that resource no matter what entity (federal, non-federal, or private) is taking the actions."

²⁰ Ibid.

added to other past, present, and reasonably foreseeable future” actions is the focus of the review. Thus, a cumulative effects analysis must account for all direct and indirect impacts of leasing operations ***in combination with*** other actions (including their direct and indirect effects) affecting the Arctic Ocean and its resources and habitat.²¹

MMS has failed to provide a defensible cumulative effects analysis for this DEIS.

C. MMS ignores its own highly relevant data.

In its discussion of impacts to bowhead whales, MMS states that “there is no indication that human activities (other than historic commercial whaling) have caused long term displacement of bowheads.”²² This assertion may be contrary to data collected by MMS.

For close to 30 years, MMS has conducted aerial overflights and counts of fall migrating bowhead whales in the Beaufort Sea. Data from these overflights, recently analyzed by MMS, show an apparent abandonment of a large area near Prudhoe Bay by bowhead whales. Acoustic studies at the nearby Northstar sight indicate that the whales continue to migrate through the area, but these whales are rarely seen during MMS’s aerial surveys. The whales also cannot be found by subsistence hunters for taking for subsistence use, despite the fact that, prior to development, the area was used for that purpose.²³

007-007

Studies of ringed seals indicate that a similar abandonment of the area may be occurring with these marine mammals.

Subsistence hunters believe that the change in bowhead whale behavior in this area is due to vibrations from Prudhoe Bay and other nearby operations extending into the seabed. If this is the case, similar long term impacts should be expected around offshore production operations.

MMS’s aerial survey findings must be investigated to determine whether in fact vibrations that could be creating low frequency sound waves are occurring, or whether the phenomenon is due to some other cause. Whatever cause is identified, this is a critical situation demanding the development of mitigation measures before further industrialization takes place in the arctic OCS. It is possible that engineering techniques might be used to dampen vibrations if that is found to be the cause.

²¹ 40 CFR 1502.16, 1508.8 (Emphasis supplied).

²² DEIS, p. V-35.

²³ Thomas Napageak, Maggie Ahmaogak, pers.com.

The one certainty for MMS is that the data were collected by MMS, thus, ignoring the data is not an option.

CONCLUSION

Despite the opposition of our community to offshore oil and gas development in the ocean that we use to feed our families, it is abundantly clear that the federal government intends to proceed with industrial development in our waters. What is most disturbing to us is that the federal government appears intent on ignoring the potentially devastating consequences of its actions to our communities.

MMS Responses to Alaska Eskimo Whaling Commission Comments

AEWC 007-001

We believe the EIS fully meets NEPA requirements. The MMS acknowledges that certain value judgments are used for the analyses, and that some qualitative language can be unclear if not explained in detail. One example of this is found in reference to oil-spill probabilities. As a result of AEW's comments, the MMS has reworded and better defined the use of the oil-spill-probability numbers. The AEW specifically refers to terms such as "unlikely" used by MMS when describing oil-spill probabilities. These terms have been removed and replaced with the actual percentages associated with oil-spill probabilities. See also the response to comment **Anchorage 005-004**.

AEWC 007-002

Although the Chukchi petroleum province could hold large quantities of oil and gas, exploration efforts to date have not discovered commercially sized oil pools. Additional exploration is needed, and this is the focus of recent industry activities in this area (seismic surveys). From a global perspective, there are many attractive (high petroleum potential) areas that have not been developed due to the lack of exploration effort, technical challenges, distance to market, and regulatory restrictions. It is not guaranteed that oil or gas will ever come from many of these frontier provinces. In mature petroleum provinces such as the Gulf of Mexico or the North Sea, commercial success rates could be higher than 50% during the later stages of exploration. Success rates are defined by the number of discoveries per number of exploration wells drilled. However, in untested frontier areas where the many formidable challenges have not been overcome, success rates typically are much lower. We cannot precisely define a future success rate but, based on previous experience, 10% is a reasonable estimate at this early stage of exploration. So why have a lease sale? Several companies are willing to spend considerable amounts of money, facing high investment risk and low possible success rates, because of the high potential returns if their exploration effort is successful. One mandated obligation of MMS under the OCS Lands Act is to facilitate the timely exploration and development of offshore areas (such as the Chukchi Sea) to meet the future energy needs of the Nation. It is not our role to make business decisions on where or when to explore for new oil and gas resources, but rather to maintain a regulatory regime in which industry can make such decisions in an environmentally safe way.

AEWC 007-003

Investments by the oil industry are influenced partly by commodity prices. However, oil and gas prices are volatile. In mid-2006, oil prices approached \$80 per barrel and apparently were headed much higher. In late 2006 and early 2007, oil prices dropped to near \$50 per barrel and could go lower. This represents a significant change in only a few months. Industry is aware of price cycles and plans its activities according to the timeframe of the activity. For example, leasing might be more influenced by current prices, but development projects that could last decades are based on decades-long price averages. The average price for North Slope crude oil over the last decade is less than \$30 per barrel, and this dampens the enthusiasm for expensive operations (the cost of a single exploration well could be \$50 million or more).

We do not believe that an "intense industry interest" is eminent and driven by continually rising oil prices. In fact, the leasing and exploration efforts both onshore and offshore in northern Alaska are not correlated to price levels. During low oil prices in the late 1980's, exploration activities were far higher than seen in the last decade when prices were much higher. Industry has drilled only three exploration wells in the Beaufort in the last 10 years, during which time oil prices have tripled. We acknowledge that industry interest in leasing, not necessarily exploration, has increased in the last few years. However, only a few companies are involved. This is not an industrywide trend. We have no insight into the corporate decisions of different companies who chose to become active in Alaska at this time.

Leasing is just the first step in the process leading to production, and there is no guarantee that development will occur in this area. However, there are no serious environmental threats associated with the leasing

process itself. The Federal Government receives far more money in the form of bonus bids for leases and tract rentals than it spends preparing NEPA documents, and lease sales clear the way for possible future exploration and development activities. It is the statutory responsibility of MMS to conduct lease sales to expedite the timely exploration and development of Federal offshore lands.

AEWC 007-004

The 2002-2007 5-Year Program final EIS oil-spill estimates used Anderson and LaBelle (2000) as the spill rate basis for the estimates. Since that time the MMS, Alaska OCS Region has moved to a fault-tree method. Both Anderson and LaBelle (2000) and the Bercha fault tree methods have been reviewed by the North Slope Science Advisory Committee (NSBSAC). Based on the recommendations of the NSBSAC the MMS, Alaska OCS Region has continued to use the fault-tree method and have endeavored to make improvements based on the recommendations of the NSBSAC. This is the principal cause of the discrepancy between the 2002-2007 5-Year Program final EIS oil-spill estimates and the Sale 193 draft EIS oil-spill estimates.

The text in Section IV.A 4 has been revised to clarify that 0.33-0.51 is the estimated range of the mean number of spills for Alternative I, III, or IV over the lifetime of production and is not the percent chance of one or more large spills occurring.

The estimated 0.32-0.77 spills are the estimated number of spills using a spill rate of 0.32-0.77 spills per billion barrels at the 95% confidence interval for Alternative I. The estimated chance of one or more spills using the spill rate at the 95% confidence interval is 27-54% at the 95% confidence interval for Alternative I. The detailed results for each of the Alternatives are discussed in Appendix A.1, Section D.1.d.

See also response to comment **NSB 006-084**

AEWC 007-005

The MMS acknowledges that the 60-mile buffer would afford the greatest protection to subsistence resources, and this is why the Corridor I Deferral is analyzed in the EIS. Permitted seismic activity cannot begin until July 1, and MMS does not expect that this start-up date will change substantially.

AEWC 007-006

Comment 007-006a indicates that much of the analysis was taken verbatim from a more limited document, the recently-completed PEA for seismic surveys in 2006. That document analyzed the effect of several surveys conducted over a single year. Furthermore, PEA information represents the most recent and best available information on the effects of seismic surveys on resources in the Chukchi OCS and Beaufort Sea OCS Planning Areas.

The scenario in Table IV.A-2a indicates reasonably foreseeable seismic-survey activity peaking in 2008 and declining until ceasing in 2016. Many of these surveys will be high-resolution site-clearance surveys conducted as ancillary activities resulting from the Proposed Action (lease sale), which cover a much smaller area than high-energy geological and geophysical (G&G) surveys. Effects of the site-clearance surveys are analyzed as part of the Proposed Action in Section IV. The balance is high-energy G&G surveys. Many of these also are examined in Section IV, leaving very few to be analyzed as part of the cumulative effects in Section V. As such, incorporation of the information from the PEA is appropriate as it represents a number of surveys conducted over a short period of time.

Comment **AEWC 007-006b** asserts that we have not examined cumulative impacts from several sources. We disagree with this characterization. Oil and gas development is the largest reasonably foreseeable activity to occur in the area, and this activity dominates discussion of cumulative effects. We have thoroughly documented past, present, and reasonably foreseeable oil and gas activities in Tables V-1 through V-7, to examine the totality of potential oil and gas development on the resources of the area.

Furthermore, we have conducted reviews of various actions in the Canadian and Russian Arctic oceans to determine which activities are reasonably foreseeable. Individual resource sections of the cumulative analysis address the oil and gas projects and other activities that occur in the same location and time when they could contribute to cumulative effects. For example, the effects of Red Dog Mine and port expansion is discussed in the cumulative effects Section V.C.12, Subsistence-Harvest Resources. Similarly, activities analyzed for effects to bowhead whales include historic commercial whaling, subsistence hunting, activities related to offshore oil and gas developments, commercial-fishing and marine-vessel traffic, climate change, research activities, and pollution and contaminants. Activities considered for polar bears include human harvest in Canada and Russia, oil and fuel spills from oil and gas operations in Canada and other locations, climate change, and increased shipping.

AEWC 007-007

The commenter has indicated a sincere concern and tied together a number of qualitative observations that support that concern. The MMS recognizes that there are weaknesses in the BWASP data as well as in other specific information and data elements that would be needed to conduct a rigorous investigation of your concern. To address such weaknesses, MMS continues to conduct studies to gather new data. We also are encouraged that whales continue to migrate through the area in question, in spite of the aerial observers being unsuccessful in finding them during the narrow timeframe in which they have been conducting surveys. We are now aware of your concern and will keep it in mind when proposing new study efforts.

AEWC 007-008

The MMS believes that the Conflict Avoidance Agreement protocols together with its analytical approach, its in-place mitigation, and its bottom-line conclusions concerning effects for subsistence resources, sociocultural systems, and environmental justice are valid.

See also responses to comments **NSB 006-025** and **NAEC 001-010**.

AEWC 007-009

The EIS does examine a reasonable range of alternatives derived from those alternatives identified during the public ongoing scoping process. These alternatives are described in the scoping report, which can be found at <http://www.mms.gov/alaska/cproject/Chukchi193/Scoping%20ReportLS193.pdf>, and are listed in the EIS, including the reasons that they were considered but not analyzed, in Section II.B.2, Alternatives Considered but Not Analyzed. In general we analyzed these areas but did not carry them forward because: (1) some of the areas were already deferred in the 5-Year Program, such as the coastal waters used by beluga; (2) some of the alternatives did not identify specific areas or identified areas outside of the Sale 193 program areas; and, (3) many of the deferrals identified during scoping were based on protecting a single resource, such as walrus, bowhead whale, or critical habitat for Steller's eiders. These areas were mapped and incorporated into Alternative III and Alternative IV. Combining these alternatives resulted in a more comprehensive ecosystem-level approach to the analysis and recognized the interconnectedness of the resources of the Chukchi Sea.

We disagree with the claim that it is impossible for MMS to honestly evaluate the consequences of the Proposed Action and the effectiveness of mitigation. As part of the preparation of the EIS, MMS analysts undertake extensive data gathering. For example, prior to the start of EIS preparation, MMS held the Chukchi Sea Science Update meeting during which recognized experts made a number of presentations to MMS staff on the biological, physical, and social resources of the Chukchi Sea area. Where there is a paucity of information, we inform the reader of that fact and the relevance of the information to evaluating potential effects of the Proposed Action and alternatives. Lack of complete information does not mean that analysis is not done. Recognizing the limits on analysis imposed by the absent information, analysts summarize existing credible and relevant information and evaluate effects based on theoretical approaches or research methods generally accepted in the scientific community.

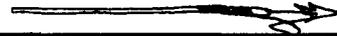
The MMS Environmental Studies Program continues to undertake studies that provide information on the Chukchi Sea, Beaufort Sea, and Arctic Ocean. Please see the Alaska OCS Region website for further details, <http://www.mms.gov/alaska/ess/essp/sp.htm>.



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December 15, 2006

John Goll, Regional Director
Alaska OCS Region
Mineral Management Services
3801 Centerpoint Drive, Suite 500
Anchorage, AK 99503-5820

Dear John:

The Eskimo Walrus Commission (EWC) at Kawerak, Inc. in Nome was formed in 1978. It is represented by 19 walrus hunting coastal communities in Alaska and is a recognized statewide entity working on resource co-management issues, specifically the Pacific walrus, on behalf of Alaskan coastal Yup'ik, St. Lawrence Island Yupik, and Inupiaq communities who rely on it as an essential cultural, natural, and subsistence resource. The EWC works cooperatively with the U.S. Fish and Wildlife Service (FWS) to encourage subsistence hunters' participation in conserving and managing walrus in the coastal communities.

In June 2006, the EWC passed Resolution 06-01 objecting to the proposed seismic testing and offshore drilling in the Beaufort and Chukchi Seas. The EWC continues to express concerns regarding potential detrimental long-term impacts of development in waters critical to Pacific walrus and coastal subsistence walrus hunting communities. We therefore provide the following comments with respect to Chukchi Sea Planning Area, Oil and Gas Lease Sale 193 and Seismic Surveying Activities in the Chukchi Sea, Draft Environmental Impact Statement. Firstly, and most importantly:

- a. The EWC only supports Alternative II (no lease sale) and Seismic Survey Mitigation Alternative 1 (no seismic-survey permits) as the other proposed alternatives may result in significant impacts to walrus and subsistence hunting communities. We encourage the MMS to cancel the proposed lease sale and not to support seismic exploration in this region.
- b. The EWC endorses the comments of our co-management partner the U.S. Fish and Wildlife Service, with respect to their concerns about disturbance and impacts to the Pacific walrus population.
- c. The EWC believes that there has been inadequate official consultation with organizations such as ours in the production of this EIS.

Although the EWC's position is not to support oil and gas exploration, development, or seismic activities in the Chukchi Sea lease sale area, we are also concerned with the preparation and content of the EIS. We feel that the preparation did not involve significant consultation with communities that stand to be impacted from activities related to this EIS, and the content of the EIS is neither sufficient, nor precautionary in its approach when considering development activities. These activities could lead to profound impacts to communities both in and outside of

the lease area, as well as the resources on which they rely for cultural and economic sustenance. In this respect, we have identified the following additional key concerns:

1. Walrus and many of the other fauna of the lease region are migratory in nature. The EIS fails to incorporate potential impacts to communities other than those in the lease area. The EIS should have considered potential impacts to all communities reliant on walrus and particularly Diomede, Shishmaref, Gambell, and Savoonga where walrus represent a significant proportion of the community's subsistence harvest. Similar patterns of impact are likely for other marine mammals such as seals and whale. Any impacts to walrus and other marine mammals will be felt by coastal communities both in *and* outside the lease area.
2. Walrus and many of the other fauna of the lease region are regarded as a shared resource with Chukotka. Walrus and polar bears in particular have brought together communities, researchers, and agencies in efforts to share in activities designed to sustain these species and their role in the health and cultural wellbeing of the region's communities. Based on the shared responsibility to protect walrus that we are committed with our co-management partner, the U.S. Fish and Wildlife Service, we feel that the EIS is remiss in its lack of consideration of Chukotkan needs and concerns. This is particularly important because:
 - a. There has been a profound increase in the need for subsistence in Chukotka communities since the collapse of the Soviet regime, and
 - b. The lack of consideration in this EIS for bilateral partnerships that are being formed between Chukotka and Alaska through bonds of culture, heritage, and concerns for shared resources is not conducive to helping these necessary bonds of trust continue to grow.
3. Walrus and many of the other fauna of the lease region are regarded as particularly vulnerable to climate change. In particular, pagolithic marine mammals such as walrus may be particularly susceptible to impacts from loss of ice. One likely scenario if sea ice continues to retreat past the continental shelf north of Alaska is that walrus will spend more time on land. In this respect, the beaches between Point Hope and Barrow may become much more important for walrus than at present. The increased use of this region by walrus in recent years is alluded to in the EIS and from our hunters. However, the EIS does not fully consider this scenario, despite the clear indications that walrus are already being impacted as a consequence of the extreme retreats of summer sea-ice extent.
4. The EIS should better consider the multiple potential cumulative impacts of climate change and oil and gas activities in a region where climate is clearly having such a dramatic impact. Furthermore, the Cumulative Effects analysis (Section V) does not specifically cover impacts to walrus in a manner that fully contemplates changing habitat use. This is a major omission, especially given the significance of walrus to our local communities and requirements of the Marine Mammal Protection Act.
5. The documentation of the Traditional Ecological Knowledge (TEK) on walrus is limited, incomplete or non-existent in communities located in the Chukchi and Beaufort Seas. This baseline TEK information has been overlooked and not included in the draft EIS studies. However, TEK is critical and necessary as it is an invaluable record of

008-001

008-002

008-003

008-004

008-005

communities' views, practices, and perspectives on their knowledge of walrus and its environment.

6. The EWC does not believe that the Mitigation Plans are adequate. Fundamentally, without knowing the health of the walrus population, as is currently the case, Alaskan Natives and the communities they reside in could lose an essential economic and cultural resource, including the ability to continue successful hunts due to development impacts. The MMS proposes to mitigate this through several avenues. We offer the following as critiques of these measures:

008-006

- a. The site-specific monitoring review period of 30 days is too brief and the pressure to comment is financially and logistically burdensome to an organization, such as EWC, which has limited staff.
- b. The draft EIS is too dependent on industry data gathering. More independent monitoring should be required to determine the full impact of development activities.

7. The EIS frequently indicates that there is little information on the impacts of noise and disturbance to walrus. However, MMS then suggests altitude restrictions and vessel limits to terrestrial walrus haulouts that are not precautionary, particularly based on their lack of data. For example, we believe the 1000 feet flight restriction is inconsistently low considering other restrictions for walrus in Alaska:

008-007

- a. The U.S. Federal Aviation Administration (FAA) offers guidelines for *“Fixed wing aircraft to remain at altitudes greater than 2,000 feet above ground level (AGL) within ½ mile of Cape Seniavin. Helicopters remain at altitudes greater than 5,000 feet AGL within one nautical mile of the Cape.”*
- b. The Alaska Department of Fish and Game (ADF&G) in its 2005 suggestions for aircraft operations around the Walrus Islands State Game Sanctuary offers: *“Since low-flying aircraft can cause major disturbances to walrus haulouts...ADF&G requested all pilots to avoid flights below 5,000 ft Above Ground Level (AGL) within three miles of the island.”*

8. The Executive Summary (ES-iv) indicates that there is an “unlikely event” of a large oil spill (greater than or equal to 1,000 bbl). However, the chance of it happening is reported to be within the range of 33-51%. The EWC does not regard a 51% chance as particularly “unlikely.”

008-008

9. The Executive Summary (ES-iv) reports that if tidal and subtidal sediments were contaminated from a spill, that populations of lower-trophic level organisms could be “depressed for about a year, and small amounts of oil would persist in the habitat for a decade.” Experience in Prince William Sound suggests otherwise, and in the colder Chukchi environment, impacts may persist substantially longer than the sub-Arctic Prince William Sound. Oil from the 1989 Exxon Valdez accident still persists in intertidal and shallow sub-tidal sediments 17 years later and several species are still unrecovered. Walrus rely on benthic fauna and several areas in the Chukchi are known to be particularly productive. Potential impacts to these critical food resources for walrus are clearly not well understood or considered adequately in this document.

008-009

10. The Executive Summary (ES-v) indicates that the “sociocultural systems of Alaskan Native villages should not be affected in the unlikely event of a large spill.” Recognizing the profound importance of subsistence to many coastal communities, and the potential impacts that could realistically impact walrus, we do not support MMS’s statement and believe that it grossly underestimates how critical subsistence resources such as walrus are to communities in the Bering, Chukchi, and Beaufort seas.

008-010

11. The EIS is generally lacking in its consideration of the inability for anyone to respond effectively to an oil spill in this region, and particularly if ice is present. With the regions extensive currents, the potential for spilled oil to be transported over large areas, including over international boundaries is a very realistic scenario.

008-011

Thank you for considering our comments and suggestion for cancelling this lease sale and associated seismic exploration.

Sincerely,
KAWERAK, Inc.



Vera Metcalf, Program Director
Eskimo Walrus Commission

Enclosure: Resolution 06-01

cc: Charles D.N. Brower, Chair, Eskimo Walrus Commission
John Trent, Supervisory Biologist, USFWS
file

Eskimo Walrus Commission
Resolution 06-01

WHEREAS, the Eskimo Walrus Commission was formed in 1978 with representation of 19 walrus hunting communities throughout the Northern, Northwestern and Western Alaska coastal communities; and

WHEREAS, the indigenous peoples of the coastal communities of Alaska have utilized marine mammals for thousands of years; and

WHEREAS, marine mammals seasonally migrate or continuously reside throughout the coastal areas of Alaska; and

WHEREAS, the lands, waters and wildlife of the coastal areas are particularly vulnerable to environmental impacts; and

WHEREAS, the US Department of Interior Minerals Management Service notified the Eskimo Walrus Commission and coastal communities regarding proposed seismic testing and the upcoming lease agreement period for possible offshore drilling in the Beaufort and Chukchi Seas; and

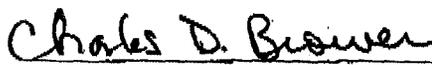
WHEREAS, the proposed sites of seismic testing and possible offshore leasing has been identified for the coastal areas during the migration of marine mammals which could have an adverse impact; and

WHEREAS, seismic testing or offshore drilling could harm the subsistence way of life of the Native peoples who live along the coastal areas of Alaska; and

NOW THEREFORE BE IT RESOLVED THAT the Eskimo Walrus Commission objects to the proposed seismic testing and opposes offshore drilling in the Beaufort & Chukchi Seas of Alaska that marine mammals migrate or live.

BE IT FURTHER RESOLVED that the Eskimo Walrus Commission urges the U.S. Fish & Wildlife and State of Alaska to closely monitor the proposed seismic testing and offshore drilling proposals to ensure it does not occur where marine mammals migrate and/or live.

ATTEST:



Charles D. Brower, Chairman

MMS Responses to Eskimo Walrus Commission Comments

EWC 008-001

The MMS acknowledges the migratory nature of many of the marine mammal species in the Sale 193 area but, based on our analysis of the available information, believes that oil and noise disturbance effects on these species would not produce impacts on the whale, walrus, and seal hunts in Diomedea, Shishmaref, Gambell, and Savoonga. The subsistence impacts section evaluates oil-spill impacts for Kotzebue and vicinity communities, Shishmaref, Wales, and the Russian Arctic Chukchi Sea coastal communities. Oil spills are not modeled or analyzed for the Bering Sea communities of Gambell and Savoonga.

EWC 008-002

The commenter is directed to Section III.C.3.c(3)(h), Russian Northern Chukchi Sea Coastal Communities, where all of these concerns are discussed in detail.

EWC 008-003

The commenter is referred to Section V.C.8.b and III.B.6.a(5) for a discussion of the effects of climate change on marine mammals and the importance of terrestrial haulouts to walruses.

EWC 008-004

The commenter is referred to Section IV.C.8.b and III.B.6.a(5) for a discussion of the effects of climate change on marine mammals and the recent changes in habitat use by walruses. Section IV.C.1.h discusses the potential impacts to walruses from oil and gas activities in the Chukchi Sea.

EWC 008-005

We agree that Traditional Ecological Knowledge (TEK) for walruses would be a rich source of additional information in the Chukchi Sea region slated for leasing activity. While MMS conducts research, hearings, and other face-to-face meetings that document TEK, TEK sources on walruses are scant in the available literature and public testimony and remain difficult to find. The traditional and local knowledge gathered and considered in the EIS analysis represents the best information that has been gathered to date. More will be gathered in the future and will help inform future environmental assessments and decisionmaking.

EWC 008-006

The MMS believes that our required mitigation measures are adequate and appropriate for the decisions to be made at this leasing stage. Additional site- and proposal-specific mitigation measures are identified and become requirements during review and decisions on specific activities proposed by lessees and operators. In addition, mitigation measures are developed through consultation and coordination with other Federal and State agencies such as NMFS, FWS, and the State Historic Preservation Office.

We assume that the “site -specific monitoring review period of 30 days” in the comment is in reference to review of Exploration Plans. MMS acknowledges that this is a short time within which to review an EP and supporting information, which are by nature technical and detailed documents. However, by law, MMS has 30 days in which to approve, disapprove, or require modification of the EP and past experience has shown that 30 days is adequate.

The EIS descriptions and analyses use the best available information. In many instances, the only information is that gathered by industry or their contractors. Further, the MMS Environmental Studies Program provides the solid scientific information needed for critical program decisions that must, by law,

accommodate the delicate balance between the protection of the human, marine, and coastal environments and the Nation's exploration, development, and production of petroleum energy resources and other marine minerals and energy-related alternate uses. Environmental studies are designed to address specific information needs concerning the environmental and socioeconomic state of a region, both before and after OCS activity. Studies provide the information necessary to develop measures to mitigate adverse impacts on the environment.

The OCS Lands Act requires the Secretary of the Interior to monitor the human, marine, and coastal environments of areas to be leased or developed for offshore oil and gas resources. The MMS continually pursues strategies to enhance the planning, development, and implementation of environmental monitoring efforts – both as a means to evaluate the effectiveness of OCS lease stipulations and other environmental mitigation measures, and for research on what additional monitoring may be needed.

EWC 008-007

The MMS agrees with the comment. Determining a specific height at which Pacific walrus will not react to overflights is difficult. Aircraft occasionally cause extreme reactions; however, the variability of walrus response is large and unpredictable (Kruse, 1997). Pacific walrus react differently on icefloes than on terrestrial haulouts, and the level of disturbance depends on the type of aircraft, speed, and direction of the aircraft; the number and age of walrus present; surrounding ambient noise from wind or wave action; and other factors. The MMS in consultation with FWS has reevaluated this issue and determined that 1,500-ft AGL or ASL (above sea level or above ground level) and 0.5-miles lateral distance is an adequate buffer in most cases when walrus are hauled out on ice (Efroymsen and Suter, 2001). This mitigation measure also will ensure that the altitude restrictions for aircraft flying over walrus haulout areas are consistent with those for cetaceans and marine birds, which will make it easier for pilots to comply with all flight-restriction mitigation measures. Section II.B.3 has been updated accordingly.

EWC 008-008

The MMS has reworded the section of the Executive Summary pertaining to large oil spills and has removed the qualitative language associated with the oil spill probabilities.

EWC 008-009

Determining oil-spill effects on walrus prey species is difficult. Clam-patch size and density are highly variable, and such information for high-latitude mollusks is sparse and highly variable (Ray et al., 2006). Walrus feeding may deplete areas of prey quickly and alter community composition (Ray et al., 2006). The large mollusks that walrus feed on are mostly slow-growing species and, thus, vulnerable to overexploitation or other disruptions (e.g., oil spills) to their populations (Ray et al., 2006). Recovery from any disruption would be slow in the cold, seasonally ice-covered Chukchi Sea (Oliver et al., 1985). For example, populations of amphipods (another benthic invertebrate) off the coast of France were reduced by 99.3% following the *Amoco Cadiz* oil spill in 1978 (~70 million gallons). Ten years after the spill, amphipod populations had recovered to only 39% of their original maximum densities (Dauvin, 1989, as cited in Highsmith and Coyle, 1992).

EWC 008-010

In the event that a large oil spill occurred and contaminated essential whaling areas, major additive significant effects could occur when impacts from contamination of the shoreline, tainting concerns, cleanup disturbance, and disruption of subsistence practices are factored together. Oil-spill response, although required and rigorously reviewed, remains an unproven technology under many Arctic conditions. For a discussion of this issue as it relates to subsistence resources and practices, see Section IV.C.1.l(3), Effectiveness of Mitigation Measures.

The Executive Summary has been changed to adopt the language quoted by the commenter on page IV-340 that states: “Disruption of subsistence-harvest resources, such as that created by a large oil spill, would have predictable and significant consequences and would affect all aspects of sociocultural resources—social organization, cultural values, and institutional organization” (Luton, 1985).

See also responses to comments for **Barrow 003-022**, **Barrow 003-029**, **Barrow 003-030**, and **NSB 006-009**.

EWC 008-011

There are viable oil-spill response options for open-water and broken-ice conditions. Oil-spill-removal organizations located on the North Slope and in Cook Inlet have developed oil-spill-recovery equipment inventories and response tactics capable of cleaning up oil in those arduous and challenging conditions. These tactics and equipment would be used in creating a response organization for Chukchi-based drilling operations. Nonmechanical methods such as in situ burning also have been shown to effectively reduce the amount of oil in the environment. There also is ongoing research both nationally and internationally aimed at improving response options in the arctic environment.



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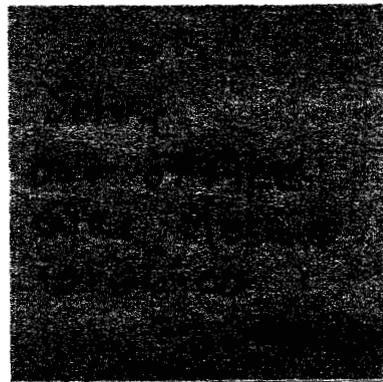
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**U. S. Outer Continental Shelf (OCS)
Minerals Management Service
AOCS Chukchi Sea Planning Area O&G Lease Sale
193
and Seismic Surveying Activities Draft EIS**

COMMENTS

Submitted by:

**Ukpeagvik Inupiat Corporation
Barrow, Alaska
December 23, 2006**



Ms. Renee Orr
Minerals Management Service
Room 3120
381 Elden Street
Herndon, Virginia 20170

Re: Submitted via Public Online Commenting System
<http://ocsconnect.mms.gov>

Dear Ms. Orr;

The Ukpeagvik Inupiat Corporation (UIC) was incorporated in 1973 as the for profit ANCSA village corporation for the native village of Barrow, Alaska.

UIC is supportive of responsible oil and gas exploration and development on Alaska's north slope, namely, within the NPRA, the Foothills, and we also promote opening of ANWR. However, with respect to the proposed sale of leases and subsequent exploration and development of offshore areas in the Chukchi Sea, we are opposed.

The MMS has performed responsibly in prior similar actions, but in this instance, there is a tremendous gap of information and inconsistency in the DEIS issued for comment. There is a vital need for science to be conducted before we can be assured that private industry can enter into this hostile, frontier and extremely precious bio-productive area that is our lifeblood. Indeed, the arctic ocean serves not only Inupiat, but many, many others aside from just us.

The Inupiat people have relied on the arctic seas for their sustenance for millennium, and our culture is derived of whaling and living as one with our environment. The projected forty percent likelihood of oil spill disasters in our oceans is not an acceptable risk that we will tolerate. Your planning is insufficient, and therefore we object. We recommend further public consultation.

The Alaska Eskimo Whaling Commission and the North Slope Borough have already consulted with and cautioned the MMS about the deficiencies in your current planning efforts. UIC concurs with the advice and comments that those two entities have consistently provided to the MMS during Open Water conferences.

In April, 2006. UIC submitted comments regarding the MMS 5 year leasing plan. If our comments were reviewed, it is not reflective in the proposed sale 193 DEIS. As stated in those comments, we reiterate:

“UIC remains open to cooperative interaction with all stakeholders with an interest in progressive, responsible, prudent, and protective development of non-renewable resources, and like utilization of the arctic’s special life sustaining renewable resources.”

Attached, please find specific comments and directed questions that need to be answered.

Respectfully,

Max E. Ahgeak, Land Chief for

UKPEAGVIK INUPIAT CORPORATION
Max E. Ahgeak, President & CEO

cc: distribution

Comments to the AOCS Chukchi Sea Planning Area O&G Lease Sale 193 and Seismic Surveying Activities Draft EIS

Specific Comments: in Table

General comments:

Several times throughout the document, it mentions that a more detailed version exists in a previous EIS, or document. Should this not be a stand-alone report, which includes all information needed to make accurate comments. Not all readers have access to multiple years of MMS documentation. In addition, there is mention of the Programmatic Environmental Assessment (PEA), with the web site listed, but no example references made from it. It would be great if some example notes were pulled from, that document to supplement this DEIS.

Many statements are misleading throughout the document, and do not refer to any scientific evidence. For example, the document mentioned there are many unknowns about a specific effect; however, in the next sentence it will state that impacts would be considered unlikely. There is often no evidence or supporting documentation to back it up. This also misleads the reader into thinking that impacts are minimal, when MMS really cannot validate the potential impact.

Many citations are old, 1980's or early 1990's. It seems as though more recent information exists, but is not being utilized.

A recent study proves that underwater noise at low frequencies breaks the water surface. This should be referenced in the Draft.

Nikbin Darius. 2006. Underwater sound breaks the surface. Physics Web A community website from the Institute of Physics Publishing. October, 2006.
<http://physicsweb.org/articles/news/10/10/14/1>

Godin, Oleg. A. 2006. Anomalous Transparency of Water-Air Interface for Low-Frequency Sound. The American Physics Society. October, 2006.
<http://scitation.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=PRLTAO000097000016164301000001&idtype=cvips&qifs=yes>

MMS makes many references throughout the DEIS that no documentation exists to relate specific activities to a potential impact. Therefore, they often conclude that such activities do not have an impact on potentially affected resources (i.e. no documentation equals no impact). The fact that there is no documentation does not equal no impact, but indicates that more research is necessary to define those impacts. This lack of clarity confuses the reader, and is misleading.

Appendix A.1-2a, b, c, and d maps detail is poor. Maps are an easy and creative way to get a great deal of information across to the reader that is straightforward and necessary. The maps are lacking many details that could help the reader identify where important areas are in relation to the oil spills and breeding bird colonies noted in the text of this document. For example, Cape Lisburne, and Cape Thompson are not listed on the map, however, they are mentioned frequently in the report. The breeding bird colonies, Maritime National Wildlife Refuge, nor NPRA are listed. Other topics that should be added to the maps include known feeding and molting areas. These three very important details tell the reader what important species-specific habitats are where in relation to the ERA's. The scale is inconsistent for all the maps.

009-001

- On Map A.1-2a, ERA 36, 47, and 65 are missing.
- On Map A.1-2d, the Spectacled Eider Critical Habitat should be highlighted. It is one of the most important features on this map, and should be identified as such. The area labeled 74, but it does not appear in the legend.

009-002

009-003

Anthropogenic food appears to have subsidized raven and glaucous gull populations at several Arctic sites. Nest sites on infrastructure also encourage nesting by ravens. As population numbers have increased, common ravens have become predators to tundra-nesting birds on the Arctic coastal plain (USDOI 2004). A section should be included on common ravens increasing in population with increased oil infrastructure, and how they may impact ground nesting birds, with the development of onshore oil facilities and pipelines.

009-004

The Common Raven should be included in section III.B.5 and in section IV C.1.g since this species has the potential to increase its population due to anthropogenic use the North Slope of Alaska. Ravens depredate eggs and young of many if not all tundra nesting birds. Ravens have the capability of reaching offshore facilities such as the Northstar facility to nest, breed, and rear young. It needs to be noted that a pair of ravens have nested on the Northstar facility. Therefore, offshore development may potentially increase raven access to areas (breeding colonies on barrier islands) not previously affected by ravens before. This could be detrimental to many species.

009-005

Lower trophic level organisms are at the bottom of the food chain, and area source of food for many species. This document minimizes the impact to this group of animals, when very little is known in the sale area.

Essential Fish Habitat should be discussed and mapped.

009-006

Global warming - As global warming becomes more of an issue, impacts from loss of habitat will also magnify potential oil exploration and development. Polar bear have been recently documented drowning due to exhaustion from swimming increased distances to get to sea ice. This should be included as a cumulative impact that will increase over time.

009-007

Appendix B Threatened and Endangered Species in Volume 2 is not included in the Table of Contents at the beginning of Volume 2. The Threatened and Endangered Species section is a very important piece of information when identifying potential impacts from the lease sale. The location of this section needs to be apparent to the reader.

009-008

A beneficial addition to this document could include a short description of the equipment to be used, and the methodology of the seismic activity. This could be located in the introduction of the document. If the reader did not have any previous knowledge of seismic procedures, they would be very confused as to how the seismic array looks like, how it works, how far part transects are etc. what are the maximum number of airguns used, how long do the airguns extend down the cable, the duration of the seismic survey, etc.

009-009

Document Title: Comment for MMS Seismic Plan for Chukchi Lease Sale 193

Date: December 22, 2006

Item #	Page # Table # Figure # Specific Paragraph	Comments
	IV pg 64 par 1	To mention that because "die offs" of invertebrates were not seen during recent seismic observations, does not mean that there weren't any impacts to invertebrates. This would be hard to observe. Marine mammals (seals) may have scavenged any remains. And Marine Mammal Observers are not looking for this they are primarily focused on marine mammals, and the boat is moving away from the area impacted, anything killed would be behind the boat.
	IV 65 par 2	Line 13, needs a citation of what work has been done to prove that no gross evident of effects of the discharges on benthos or marine mammals.
	IV 66 par 5	MMS could require seafloor surveys - Seafloor surveys must be completed before any installation of platforms.
	IV pg 67 par 1	Numerous buried pipelines radiating out would disturb a large area and all invertebrate habitat recolonization for > 10 years. Cite this. How does MMS know this?
	III pg 28 par 3	The Chukchi is known to be highly diverse and patchy. These patches should be identified to prevent any potential impacts. Several rare fish species were noted by biologists to occur in the lease sale area. It would be hard to assess the impacts if no knowledge of the area exists. It was stated that no research has been collected on pelagic life stages or species, only demersal fish. I would recommend that fish baseline studies occur to set the stage for monitoring long-term trends and impacts from offshore development.
	III pg 28 par 5	No fish studies have occurred in the last 20-30 years in the Chukchi. Baseline studies should be completed to identify abundance, distribution, population and habitat use of fish before any further seismic activities occur offshore
	IV pg74 par 1	Good to explain how important hearing is to fish – communication, courtship, mating etc...
	IV pg74 par 4	The airgun noise startles the fish, they fall out of rank, grouping tighter. Is this true for all species of fish, or do some react differently? Does the strength of underwater frequency affect the mortality of certain species of fish over other species? If guns are continually going off every 5 seconds, when will the fish get their hearing back, and when will the school reestablish itself? There seems to be many unknowns and baseline research needs to be completed initially before seismic activity should occur.
	IV pg 75 par 2 &3	Why the discussion of squid in the fish resources section. Should this not be in the lower trophic level section? <u>Seismic surveys blamed for giant squid deaths</u> . By: MacKenzie, Debora. New Scientist, 10/2/2004, Vol. 184 Issue 2467 should be cited here.
	IV pg 76 par 2	How would you identify fish presence before ramping up?
	IV pg 77 par 5	Last sentence needs a citation – Adverse effects to the migration....
	IV pg 78 par 3	Second last sentence and last sentence needs a citation. – However vessel noise is expected.... As much as several hundred meters (cite). And back up the last sentence with data.
	IV pg 83 par 1	Adverse impacts would recover in less than 3 generations to fish and their habitats? Cite this.

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009-022

Document Title: Comment for MMS Seismic Plan for Chukchi Lease Sale 193			
		Threatened and Endangered Species	
	IV pg 117 par 1	Uncertainty on potential effects of loud noise on large cetaceans or an oil spill to cetacean calves. There have been scientific studies completed on effects of oil on cetaceans. Cite these studies.	009-023
	IV pg 117 par 3	Bold sentence at beginning of paragraph is too wordy and long.	
	IV pg 118 par 1	Last line – needs a citation. The fact that they are hunted would heighten their response in some instances. When did this occurred was it quantified when response was heightened?	009-024
	IV pg 118 par 2	The population is resilient and robust now because of its ESA listing, and close monitoring. Cumulatively this could change quickly.	
	IV pg 120 par 2	Second last sentence needs a citation. There also are potential pathways....based on data from previous studies. What previous data?	009-025
	IV pg 120 par 3	Cite this sentence. What is the estimable probability of occurrence? What project?	009-026
	IV pg 124 par 3	Half way down the paragraph, where baleen hearing frequencies are listed. It would be good to have the output frequency strength of the airguns referenced here, so people could compare them.	009-027
	IV pg 126 par 4	Last sentence - Typo – There are no instead of not	009-028
	IV pg 129 par 3	Line 3 – a single blast of an airgun is not the same as continuous blasts every 5 seconds during typical seismic operations, so this is not directly comparable to standard seismic activity.	009-029
	IV pg 129 par 3	Sentence beginning with: Bowheads sometimes.... Please define "sometimes"	009-030
	IV pg 130- 131	Reference to old studies (1980's) and findings from early tests of bowhead reactions to seismic noise. It was stated on pg 128 that current airgun output proposed for the Chukchi is greater today than in many of those previous studies. Therefore, comparisons to the previous studies may be questionable.	009-031
	IV pg 131 par 1	Sentence starting with: The authors - should be "Reeves et al. 1983?"	009-032
	IV pg 134 par 2	The size of airguns used for years 1996 to 1998 are discussed, but what about the guns used in recent years? It is stated earlier that the airguns used have a higher output	009-033
	IV pg 131 par	First sentence – How brief ? define brief.	009-034
	IV pg 136 par 1	Last sentence – needs a citation. – Bowheads often tolerate....	009-035
	IV pg 139 par 5	Zooplankton is in the marine mammals section, suggest moving to the lower trophic level section. It is prey for bowheads, but should be discussed in its correct location in the document	
	IV pg 144 par 2	Cite the available information that states current vessel strikes are low	009-036

Document Title: Comment for MMS Seismic Plan for Chukchi Lease Sale 193		
IV pg 144 par 2	Last sentence – cite this- Available data that vessel strikes will not become an important source of injury or mortality	009-037
IV pg 145 par 2	Typo – “area” should be “are accompanied”	009-038
IV pg 145 par 5	Last full sentence – it is highly uncertain that bowhead use could overlap with seismic activities in the Chukchi during the summer – this is not true. We now know that some whales remain in the Chukchi Sea all summer.	009-039
IV pg 147 par 3	Last sentence – certain places due prey resources. The addition of “ due to prey resources”	009-040
IV pg 148 par 1	Third line – However, it is unlikely such an impact – Quantify “unlikely”	009-041
IV pg 148 par 1	Last sentence – The probability of such an accident – Quantify this, and cite it.	009-042
IV pg 161 par 6	Typo – second line – what should be whale ?	009-043
IV pg 162 par 2	Second last sentence - Typo shallow water, not water shallow.	009-044
IV pg 162 par 5	Second sentence -Typo – sale area not sale are	009-045
IV pg 165 par 2	Second last sentence – typo – relation tot he – should be to the...	009-046
IV pg 165 par 3	MMS Should include the 40% probability of a large spill occurring here in this paragraph -	009-047
	Birds	
IV pg 183 par 4	Recent studies have proved that low frequency underwater noise is transmitted through the waters surface through the air. Nikbin Darius. 2006. Underwater sound breaks the surface. Physics Web A community website from the Institute of Physics Publishing. October, 2006. http://physicsweb.org/articles/news/10/10/14/1 Godin, Oleg. A. 2006. Anomalous Transparency of Water-Air Interface for Low-Frequency Sound. The American Physics Society. October, 2006. http://scitation.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=PRLTAO000097000016164301000001&idtype=cvips&gifs=yes	009-048
IV pg 184 par 1	Fourth line down – “visual range” – quantify this.	009-049
IV pg 182 par 2	Second sentence - Spilled oil has the greatest potential for affecting large number of birds due to its toxicity, etc.... loss of feather insulation causing hypothermia should be added here.	009-050

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IV pg 182 par 3	Second sentence - good point to state this throughout this section - that the entire sale area lacks site specific data, and that it is 15-30 years old. This statement should be made several times when potential impacts are described for its validity.	009-051
IV pg 184 par 2	Last sentence - 30km, where did this number come from? Please citation	009-052
IV pg 184 par 4	This paragraph is contradictory - The first two sentences states that seismic impulses can harm or kill diving birds, and the threshold for physiological damage is unknown. The third sentence states that the bird would have to be very close to the airgun to cause injury, if that were possible at all. The first sentence needs to be cited, and states clearly that injury is possible.	009-053
IV pg 185 par 5	Second sentence - High-intensity lights are needed.... etc..to spot marine mammals during the nighttime operations or when visibility is hampered by rain or fog. why would seismic operations continue during poor visibility ? the entire seismic mitigation plan is based on visibility of marine mammals. Sightability at distances where marine mammals may be impacted inside the exclusion zone may be outside the extent of the high intensity lights. If lights must be used, how can the mammal free exclusion zone be monitored? To mitigate for marine mammal impacts and marine bird strikes. Seismic operations should be discontinued when the onset of poor visibility begins. With the long daylight hours during the Arctic summer, this should not be necessary.	009-054
IV pg 185 Par 6	Last sentence should have a citation. How rare are bird strikes, what does the data state?	009-055
IV pg 186 par 1	Second sentence - Cite this - " Direct oiling of marine and coastal birds... etc..	009-056
IV pg 186 par 2	This paragraph should cite the works that compared lightly oiled versus heavily oiled birds returning to the nest. I would also assume that lightly oiled birds would bring oil back to contaminate the nest, not just bring contaminated food to feed the chicks. This impact would be the same whether light or heavily oiled with regards to adults returning to the nest and oiling the chicks.	009-057
IV pg 187 par 5	Typo - Third sentence " Support vessels and aircraft would likely need during then open water period, should be the	009-058
IV pg 196 par 5	First sentence - Where is ERA 15 ? It is not listed on the referenced map A.1-2a. Reference should be to Map A.1-2c. Why is Cape Lisburne and Cape Thompson not listed on any of the maps?. MMS refers to these two areas as breeding colonies, but has not identified them on any maps.	009-059
IV pg 196 par 6	First sentence - The OSRA model predicts a relatively low percent chance - Quantify this, how low?	009-060
IV pg 197 par 1	Third sentence - Environmental Resource Area 49 ... Cite map. This is important since it is the highest area with a chance of an oil spill occurring.	009-061
IV pg 197 par 2	Second sentence - ERA 21-23 and ERA 24/64 are spring..... Again what map are they associated with so the reader can refer to it. Why on the Maps are ERA's titled ERA 45, and sometimes 47.Ice/Sea segment 10. This is confusing because you label ERA's two different ways in these maps. Standardize.	009-062
IV pg 197 par 5	Third sentence - In cold climates, and oils spot the size of a square inch..... - cite this.	009-063
IV pg 198 par 2	this paragraph illustrates the need for some data collection to identify impacts of small spills on birds	009-064
IV pg 198 par 5	Sentence 5 – "The USEPA would need to initiate consultation with the FWS to determine the likelihood that the proposed discharges associated with exploration and production activities would adversely affect marine and coastal birds." – State when MMS would initiate this consultation ?	009-065
IV pg 201 par 3	First sentence – "The potential effects of an oil spill are greater with Murres than most other marine and coastal birds species because a spill could impact discrete colonies, namely those at Cape Lisburne and Cape Thompson." Explain why effects on murres are greater than other coastal bird species.	009-066

Document Title: Comment for MMS Seismic Plan for Chukchi Lease Sale 193		
IV pg 201 par3	Last sentence - the Figure label should be Fig III B7. The addition of "molting area" could be added to the legend to confirm that the large blue area is a flightless period for males and juveniles. The map should also include a symbol showing breeding colonies on both Cape Lisburne, and Cape Thompson	009-067
IV pg 202 par 1	First sentence - Cite this, and quantify it. -with low productivity rates.... recovery would likely take more than 3 generations.	009-068
IV pg 202 par 4	Last sentence - The adverse population impacts from this event would be somewhat.... etc... that a large percentage of the hatching year cohort could be lost... Cite this and quantify " a large percent".	009-069
IV pg 202 par 6	Sentence 5 - Puffins also may incur sublethal effects and either succumb at a later date... etc..... Cite this.	009-070
IV pg 203 par 1	third sentence - Recovery from mortality associated with an oil spill..... take more than 3 generations to occur. Cite this important statement.	009-071
IV pg 203 par 2	last sentence - Given the distribution of these colonies etc... population recovery could occur from surrounding colonies once oiled beach habitats are restored. Cite this, was there a previous situation where a colony was depleted from oil spills, and recruitment from other colonies repopulated this breeding colony. Cite this.	009-072
IV pg 203 par 6	last sentence - This would be an adverse impact to the regional population.. recovery would likely be in fewer than 3 generations. Cite this.	009-073
IV pg 204 par 2	Second sentence - Specific breeding colonies.... show these colonies on the map. black guillemots breed on the barrier islands.	009-074
IV pg 204 par 2	Last sentence - cite this. - Specific breeding colonies on barrier islands could experience extensive mortality... etc.. recovery in fewer than three generations.	009-075
IV pg 204 par 2	yellow billed loons are petitioned to be listed on the Endangered Species List by FWS. They are also considered a sensitive species identified by BLM. This should be addressed in this section.	009-076
IV pg 205 par 3	Third sentence - Spills originating from P11... etc - This should refer to a map in the appendix.	009-077
IV pg 204 par 7	Long-Tailed Ducks. First sentence - Disturbance impacts from seismic surveys would be lowest during the post breeding molting period, because most birds are concentrated in coastal lagoons along the Chukchi Sea. Should this not include it would be highest for oil spills?	009-078
IV pg 205 par 7	Second sentence - Fig III.B.6 should be Fig .IIIB.8	009-079
IV pg 206 par 5	First sentence - this should be cited	009-080
IV pg 207 par 1	First sentence - The King eider population is relatively stable etc... cite this	009-081
IV pg 207 par 3	Last sentence - Impacts to habitat in Kasegaluk... etc.. number of years , and continue to affect brant for a long time - this needs to be quantified. And cited.	009-082
IV pg 208 par 4	Black-legged kittiwake - It seems as though this species should be listed with the rest of the high potential for substantial effects category with the shearwaters and auklets. The first sentence in the fifth paragraph states that the potential effects of oils spills would be similar to other seabirds that nest at Cape Lisburne, and Cape Thompson	009-083
IV pg 220 par 3	third sentence - If a small oil/fuel spill were to occur, it would be easily avoided by marine mammals.- this needs a citation.	009-084

Document Title: Comment for MMS Seismic Plan for Chukchi Lease Sale 193		
IV pg 226 par 2	second sentence - However if mortality.... typo - it would be not be consistent. The first be should be removed?	009-085
IV pg 234 par 3	First sentence - Recent information indicates that..... This sentence needs to be referenced.	009-086
IV pg 241 par 4	Typo - last sentence - 1 year or linger , should be longer ?	009-087
IV pg 249 par 1	First sentence - Potential effects of oil-development activitiesAlso note in this paragraph that muskox concentrate and feed in the riparian areas especially in the winter months	009-088
IV pg 251 par 2	Third sentence – “However, the several square kilometers of caribou and muskox tundra grazing habitat destroyed by onshore development.”... Suggest that baseline studies would be conducted to determine calving areas, or insect relief areas.	009-089
	Mitigation	
II pg 20 .II B.4a#1	Exclusion Zone - what is the approximate distance for the isopleth 180 and 190? How often is it re-evaluated throughout the survey activities? Can MMS make a relative comparison of 180 dB to human hearing. How would that sound to a human, so the reader can relate better to this. Does this exclusion zone ever change throughout the season, or is it fixed?	009-090
II pg 20 .II B.4a#2	Monitoring - How many individuals are monitoring at once? How are Marine Mammal Observer's trained prior to seismic event? How many hours at a time does one individual observe? Is 30 minutes enough time to Determine if marine mammals are present prior to ramp up of the guns? Do some marine mammals stay underwater for longer than 30 minutes?	009-091
II pg 20 B.4a3	Shut down- does this occur instantaneously or is there a ramping down period? Why would any seismic activity occur during the nighttime or poor visibility conditions (fog)? In order to effectively monitor the exclusion zone, visibility should be good.	009-092
II pg 21 B.4A#5	Field Verification- The exclusion zone should be re-evaluated periodically throughout the day when environmental conditions change, and when a new observer relieves the previous observer.	009-093
IIpg 21 B.4a#6	Why and how often would aerial surveys occur?	009-094
	Proposed Sale	
II pg 30 par 1	First sentence - the local effects of produced water would probably be moderate ... etc.. cite this.	009-095
II pg 30 par 4	Last sentence - These construction.... cite how MMS knows that recovery would occur in three generations. There is very little data that has been collected in the Chukchi, and all of it is out of date. How can MMS make this assumption?	009-096
II pg 30 par 5	last sentence - Given a lack of....this sentence proves that baseline studies are imperative to identify rare or unique species, so they do not go unnoticed, or undetected.	009-097
II pg 30 par 6	First sentence - Depending on the timing.... some pink and chum runs could be eliminated. Cite example of salmon colonizing a river system. Reference the following sentence demonstrating that recovery of the species -strays have occurred or will occur and is possible.	009-098

Document Title: Comment for MMS Seismic Plan for Chukchi Lease Sale 193		
II pg 30 par 7	First sentence -need to back this up with data to prove that recovery will occur in less that 3 generations.	009-099
	Threatened birds	
Vol 2 pg 38 par 4	2 typos – Third paragraph – Stellers eiders are so rare in some years that they are not detected al all – should be at all. Next sentence needs a capital I.	009-100
Vol 2 pg 46 par 6	The 2002 BO used common eider.....The result of this methodology indicated that 0.4 spectacled eider and 0.02 Stellers eider would be taken per well-year. This seems to be an underestimation, in that this sale is juxtaposed to the critical habitat of both spectacled eiders and Stellers eiders, therefore there will be more birds to be impacted. There is also going to be more birds accumulating on the west coast from all the north slope breeding individuals and molting birds compared to the Northstar facility location, since they migrate west.	009-101
Vol 2 pg 52 par 4	Second last sentence – If a bird were unable to leave..... enough vapors could cause some damage. Quantify some damage.	009-102
	Cumulative Effects	
V Pg 20- 21	Lower Trophic level Organisms – This seems to be just a regurgitation of the summary, and not much discussion on cumulative impacts oveer time and increased infrastructure development in the sale area. Cumulative Impacts would be moderate and minor. What evidence do you use to back this up?	009-103
V pg 21	Fish Resources – Third sentence The cumulative effect of exploratory discharges.... This need to backed by data.	009-104
V pg 21 par 3	Second last sentence – A probable large oil spill likely would impact certain spawning and rearing habitats for decades. The sentence prior to this states that the effects would be moderate. Define moderate, this does not seem to be a moderate effect.	009-105
V pg 22 par 2	Essential fish habitat would be minimal does not seem sufficient. Describes how MMS came to these conclusions, and cite other papers. What about climate change.	009-106
V pg 22 par 2	Fourth and third last sentence under EFH – Overall, the cumulative level would be minimal to moderate. The next sentence states that A large oil spill would likely would impact certain spawning and rearing habitats for decades. The second sentence implies that cumulative impacts would be more than moderate.	009-107

Responses to Ukpeagvik Inupiat Corporation Comments

UIC 009-001

Environmental Resource Area 10 is described as the Ledyard Bay Spectacled Eider Critical Habitat on Map A.1-2d. A map depicting this area was inadvertently left out of the Biological Evaluation (Appendix C), but is now available at http://www.mms.gov/alaska/ref/Biological_opinionsevaluations.htm or from MMS.

UIC 009-002

See response to comment **UIC 009-001**.

UIC 009-003

See response to comment **UIC 009-001**.

UIC 009-004

This potential impact is discussed in Section IV.C1.g(3)(f). Although not specifically addressed as a mitigation measure for this phase of the leasing process, recommendations to address this issue are described in Appendix C (page 50 of Appendix C, now available at http://www.mms.gov/alaska/ref/Biological_opinionsevaluations.htm or from MMS) and are anticipated to be addressed in future EIS's and Section 7 consultations for threatened birds. We clearly identify a goal of minimizing the potential for enhancing predator populations that could arise from future construction of infrastructure and associated developments.

UIC 009-005

See response to comment **UIC 009-004**.

UIC 009-006

As described in Section III.B.3, Essential Fish Habitat for the Chukchi Sea consists of all marine and freshwaters that serve as spawning/rearing/or migration habitats for salmon. EFH is described and mapped by in the final EIS for Essential Fish Habitat Identification and Conservation in Alaska, prepared by NMFS (2005), and available from NMFS in Juneau, Alaska or online at <http://www.fakr.noaa.gov/habitat/seis/efheis.htm>.

UIC 009-007

This comment is addressed in Section V.C.8.c(3) (draft EIS page V-51).

UIC 009-008

The MMS has included a more comprehensive Table of Contents at the beginning of Volume II in order to make appendices easier to find.

UIC 009-009

The EIS includes a description of 3D/2D exploration seismic surveys and high-resolution site-clearance seismic surveys in Section IV.A.2.b. A brief definition of seismic surveying has been added to the introduction as suggested.

UIC 009-010

The comment is similar to one from the NSB. See response to comment **NSB 006-094**.

UIC 009-011

The comment is an objection to a statement made without supporting references. The statement has been removed, but this does not affect the conclusion of the section, which is based on the supporting materials that remain.

UIC 009-012

As stated by 30 CFR 250.214(f), each proposed well requires an assessment of any seafloor and subsurface geological and manmade features and conditions that may adversely affect your proposed drilling operations.

UIC 009-013

The comment is a request for a citation concerning the benthic recolonization rate. The section is referring to a summary of the rates found in Section III.B.1. The information is in Section III.B.1.b. To avoid confusion, the additional information has been provided and the relevant reference in Section III.B.1.b (Conlan and Kvittek, 2005) has been added. The changes do not change the conclusion of the section.

UIC 009-014

We used the best available information to complete our analyses. As new information becomes available, we incorporate it into our decisionmaking process. The MMS Environmental Studies Program is considering whether support for additional survey work is warranted.

UIC 009-015

See the response to comment **UIC 009-014**.

UIC 009-016

Sound is an important component of the marine environment and has a bearing on impacts from seismic surveys.

UIC 009-017

The response of some fish species are described in Section III, Affected Environment. This section describes how some species may react differently than others. While research on the reaction of fish to underwater sounds has not been conducted on all species that may be present in the Chukchi Sea, enough has been completed to draw reasonable conclusions. Effects on fish are dependent on sound intensity, and the analysis is predicated on the concept that if the sound is harmful, the fish will move away from the source before injury occurs. The ramping-up of airguns procedure is believed to allow fish an opportunity to move away from a sound source before it reaches full intensity. Based on existing information, these movements are considered to be temporary and localized.

UIC 009-018

Squid are evaluated in this section as they are typically considered a fishery resource, similar to crab, shrimp, etc. The Fish Resources section typically precedes the Fisheries/Essential Fish Habitat section.

Our literature reviews identify articles published in scientific journals and did not identify the popular article in NewScientist magazine. While squid infrequently wash up on shore in Barrow, it is unclear if the observations of squid mortality in Spain were directly attributable to the seismic testing, that seismic-survey parameters near the Spain mortality event would be similar to those proposed in the draft EIS, or that giant squid are common in the Chukchi Sea.

UIC 009-019

Fish presence is not determined prior to ramping up. The purpose of ramping up is to initiate airgun firing with the lowest sound source and then slowly increase to the full airgun strength. Starting at the lowest intensity is believed to warn fish of the sound source and provide them an opportunity to leave the immediate area before sounds increase to the point that physical injury would occur.

UIC 009-020

This conclusion is based on how sound radiates from a moving seismic survey source vessel, especially when the vessel is closer than 20 miles from shore (see Sec. IV.C.1.d(2)(b)).

UIC 009-021

This information can be found in Section IV.C.1.d(2)(b)3.

UIC 009-022

The adverse impacts associated with the described activity would be localized and temporary. Federal and State oversight during permit review also would minimize these impacts to the greatest extent practicable. Despite mitigation, there could be short-term displacement of some fish from areas of in-water work, and small areas of habitat could be affected. These impacts would be limited to one season, and any fish lost are anticipated to be quickly replaced by subsequent reproduction/recruitment.

UIC 009-023

This specific section of the draft EIS is meant to provide an overview of the principles and assumptions underlying the bowhead whale analysis. More detailed information on effects from noise and oil spills on bowhead whales, including results from available studies, can be found in Sections IV.C.1.f(1)(b) and IV.C.1.f(1)(g).

UIC 009-024

The referenced paragraph does not refer to a specific study. The possibility that disturbance from oil and gas industry operations might have more of a cumulative impact on bowheads because they are also hunted seasonally is only one of many possibilities considered here.

UIC 009-025

A citation has been added to Section IV.C.1. The citation references the documents on the Northstar and Liberty development projects.

UIC 009-026

See response to comment **UIC 009-025**.

UIC 009-027

The requested information has been added to the text.

UIC 009-028

The typo has been corrected.

UIC 009-029

The commenter has misread the statement. The four controlled tests conducted by Richardson, Wells, and Wursig (1985) involved the use of a single airgun (as opposed to an array of multiple airguns), not single firings.

UIC 009-030

The use of the word “sometimes” simply reflects that the study results showed some reactions by bowheads and at other times no reactions. The entire paragraph does provide an adequate overview of the study results. The MMS believes the use of the word “sometimes” is appropriate.

UIC 009-031

The incorporation of results from previous studies is appropriate. The draft EIS should use the best available information in its analysis. In some cases, this involves studies that have occurred some time ago. More importantly, MMS’s assessment does acknowledge that airgun arrays and sizes are different than in the previous studies, and any statements regarding comparisons between these studies and potential effects from the Proposed Action are appropriately qualified as such.

UIC 009-032

The sentence has been revised.

UIC 009-033

Additional information has been provided in the text as requested.

UIC 009-034

The MMS uses the term “brief” as defined in the Merriam-Webster dictionary as “short in duration or extent.”

UIC 009-035

The MMS has removed the last sentence from this paragraph. However, please note that the discussion beginning on the bottom of page IV-136 and continuing through page IV-138 (draft EIS) does describe several studies that concluded bowhead whales appear to be less sensitive to seismic noise in their summer feeding grounds than during the fall migration.

UIC 009-036

Thank you for the comment. The MMS prefers to leave the discussion on zooplankton where it is currently found.

UIC 009-037

The citation has been added as requested.

UIC 009-038

The typo has been corrected.

UIC 009-039

The statement reinforces that little is known about bowhead use of the Chukchi Sea in the summer, and that it is highly uncertain as to the extent of overlap between seismic activity and bowhead whales in the summer. It does not suggest overlap does not occur but rather stresses that there is uncertainty about the extent of any overlap. The MMS believes the statement is appropriate as written.

UIC 009-040

The typo has been corrected.

UIC 009-041

Likely is a common term used throughout many environmental documents and is meant to qualify rather than quantify the potential for an effect.

UIC 009-042

See the response to comment **UIC 009-041**.

UIC 009-043

The typo has been corrected.

UIC 009-044

The typo has been corrected.

UIC 009-045

The typo has been corrected.

UIC 009-046

The typo has been corrected.

UIC 009-047

The probability of oil spills is discussed in Section IV.A.4.

UIC 009-048

Oleg Godin has recently developed a theory about how low-frequency sounds originating in water could transfer into the air environment. His predictions may be undergoing laboratory experimentation, but we could not identify a published scientific article where they have been verified. Furthermore, seismic

surveys use high-frequency acoustics. As a consequence, we do not believe that, should his theory be verified, the relevant findings would be pertinent to the draft EIS.

UIC 009-049

We believe the context of the use of this term by Lacroix et al. (2003) is line-of-sight or, in other words, the birds could see the seismic vessels.

UIC 009-050

The phrase has been added to the sentence as requested.

UIC 009-051

We believe we have reiterated this point where appropriate in the impact analyses.

UIC 009-052

This sentence refers to potential fish displacement away from a seismic vessel, which is described in Section IV.C.1.d(2)(b)2), Impacts to Behavior.

UIC 009-053

This paragraph points out that seismic airgun noise has the potential to harm birds, particularly their hearing, but there is no information indicating under what conditions (i.e., sound intensity, distance, etc.) this would occur. The draft EIS assumes that signal intensity would be greatest close to the airgun source, but that birds tend to physically move away from vessels in a manner that prevents them from being in close proximity to the airgun array. Seismic surveys have been conducted all over the world, including the Chukchi Sea, and we are unaware of any physical injuries to seabirds being reported.

UIC 009-054

The use of high-intensity lights during seismic surveys is primarily to conduct safe operations on the aft deck of a vessel. The MMS and NMFS do not require their use to monitor the exclusion zone for the presence of marine mammals at night or during foggy conditions. This is because they would be more of an attractive nuisance for birds, including the threatened Steller's eider (i.e., they would cause bird collisions with vessels and cause injuries and mortalities), than an effective tool for detecting marine mammals.

Seismic surveying requires an essentially ice-free operational environment, which means that the window for surveying is very short. Because of this, seismic surveys attempt to operate 24 hours a day, 7 days a week. Continuous operation of the airgun array is expected to deter marine mammals from entering the exclusion zone. In fact, one of the required marine mammal mitigation measures is to keep at least one airgun firing during vessel turns, when normally all the airguns would be shut off. Based on this expectation, surveying is allowed to continue into darkness or in deteriorating visibility conditions (e.g., fog) as long as the airgun array is continuing firing. If the array is shut down for any reason, ramp up to restart the survey cannot be initiated at night or when monitoring the exclusion zone is not possible, for instance when there is fog. Although visual observers are the major component of monitoring the exclusion zone, other methodologies are available for monitoring, including passive acoustic and possibly the use of aerial drones.

UIC 009-055

There is little published information on bird strikes on the North Slope. Much of the pertinent information is described on pages 43 and 44 of the draft EIS, Appendix C (now available at http://www.mms.gov/alaska/ref/Biological_opinionsevaluations.htm or from MMS). The Biological Opinion for the Beaufort Sea Planning Area (see USDOJ, MMS, 2003a) included some unpublished information on bird strikes for the Northstar Island facility (a production platform in the Beaufort Sea) in September/October 2001. Eighteen dead sea ducks were recovered, including 4 king eiders, 6 common eiders, and 8 long-tailed ducks. This indicates that collisions are a concern with threatened eiders. Bird strike information often is difficult to obtain and, while a lack of reports may indicate it is not a frequent event, there is little consistent effort to report such events. The MMS has chosen to require mitigation measures that avoid or minimize bird collisions and the reporting of any bird strikes that do occur.

UIC 009-056

We direct the reader to the more comprehensive description of oil spill effects in Section IV.C.1.g(3)(g), Effect of Large and Small Oil Spills.

UIC 009-057

Our analysis assumed that heavily oiled birds would not be able to return to the nest. Our analysis also assumed that any oiled egg would not hatch viable young. We did not assume, however, that a parent delivering contaminated food would also contaminate the nest.

UIC 009-058

The typo has been corrected.

UIC 009-059

The ERA 15 is shown on Map A.1-2c in Appendix A. the ERA's 14 and 15 are defined as including these colonies (see Table A.1-13, Appendix A). Capes Thompson and Lisburne also are identified as land segments on Map A.1-3b. All of the information was contained within the draft EIS, but the narrative will be changed in future NEPA documents to make it easier for the reader to find it.

UIC 009-060

The spring lead system persists before the summer open-water season and is described in Section IV.C.1.g(4)(a)2), Winter Spill.

UIC 009-061

The ERA 49 is the Hannah's Shoal Polynya as shown on Map A.1-2a.

UIC 009-062

All of the ERA's are shown on Maps A.1-2a to 2d. The ERA's tend to have a unique characteristic, generally important to a specific resource, such as birds. They could, however, represent a seasonally-important habitat that a number of species use (see definitions in Tables A.1-13-15, Appendix A). The ice/sea segment refers to the edge of the pack ice, and was broken into smaller units for analyses.

UIC 009-063

There are literally dozens of examples of this term being used to describe the small amount of oil that can compromise the integrity of seabird plumage. Also described in metric terms (2-3 cm²), or volumetric terms (12.5 mL), or simply a few drops of oil or the size of a coin, nickel, dime, etc. For typical examples see United Nations Environmental Programme (2003) and Montevicchi et al (1999).

UIC 009-064

We concur. A study to collect some of this information is just one of many information needs identified by MMS. The MMS is only able to support a small amount of this research.

UIC 009-065

The USEPA has completed ESA Section 7 consultation with the FWS, issuing a general permit: Authorization to Discharge under the National Pollutant Discharge Elimination System (NPDES) for Oil and Gas Exploration Facilities on the Outer Continental Shelf and Contiguous State Waters. More details on the consultation are available from the FWS, Fairbanks Fish and Wildlife Field Office or on-line at: [http://yosemite.epa.gov/r10/water.nsf/95537302e2c56cea8825688200708c9a/bc30f88057c7455088256c870082cd07/\\$FILE/AKG280000FP.pdf](http://yosemite.epa.gov/r10/water.nsf/95537302e2c56cea8825688200708c9a/bc30f88057c7455088256c870082cd07/$FILE/AKG280000FP.pdf)

UIC 009-066

We have added the citation Piatt and Anderson (1996) to the text and to the bibliography.

UIC 009-067

We have corrected the figure number and added molting area to the legend in this figure. The figure properly identifies the colony locations at Cape Lisburne and Cape Thompson.

UIC 009-068

See response to comment **UIC 009-006**.

UIC 009-069

The ERA 18 is displayed on Map A.1-2a, Appendix A.2. This represents the core of the molting area, where most (not necessarily all) hatching-year juveniles and their male parents would occur during the postbreeding period. A spill reaching this ERA has the potential to affect all murres within it, considered to be a “large percent” of the hatching-year juveniles and their attendant male parents. Providing an absolute percentage would reflect precision where little exists.

UIC 009-070

This is the same general mechanism of mortality provided for all seabird species.

UIC 009-071

There are many similarities between the life-history strategy of puffins and murres. The life history of murres is described in a previous section.

UIC 009-072

Horned puffins have special nesting habitat requirements. Not all coastal barrier islands have suitable burrowing sites or persistent marine debris/driftwood. If there are not enough sites available, some birds may not be able to nest each year. The loss of a number of breeding adults would decrease competition for these limited sites by conspecifics from neighboring unaffected areas, which would allow replacement birds to use these sites and repopulate the colony. Perhaps the best examples of horned puffins recolonizing suitable habitats are from the fox-removal work conducted by the USDOJ, FWS on islands in the Alaska Maritime NWR.

UIC 009-073

This conclusion was based on the size of these populations (estimated to be >100,000). Shearwaters from the Arctic commingle with other populations to breed in the southern hemisphere. Similarly, auklets are at the northern extent of their range in the Arctic, with millions found farther south in the Bering Sea (see Shuntov, 1999).

UIC 009-074

Black guillemot colonies have not been mapped. We assume their breeding distribution is the same as the distribution of barrier islands in the project area.

UIC 009-075

Black guillemots share similar nest-site characteristics as horned puffins. Please refer to our response to comment **UIC 009-072**.

UIC 009-076

We have updated this section in the EIS.

UIC 009-077

We have included map page numbers following pipeline locations in the EIS.

UIC 009-078

This conclusion is based on the seismic-survey vessel activities being physically buffered by offshore barrier islands. If long-tailed ducks were distributed more offshore, they would be in closer physical proximity to vessel activity. Molting long-tailed ducks would be vulnerable to an oil spill when concentrated in coastal lagoons, as described in Section IV.C.1.g(6)(a).

UIC 009-079

The text has been corrected.

UIC 009-080

We have updated the status of common eiders in Section III.B.5.f(3).

UIC 009-081

We have updated the status of king eiders in Section III.B.5.f(4).

UIC 009-082

Oil may persist in estuarine habitats or eliminate/reduce aquatic plants important to brant (see Sec. IV.C.1.j(4)(e), Large spills).

UIC 009-083

Although there are basic life-history differences between kittiwakes and murres and puffins, we concur with this comment and have moved kittiwakes into the higher potential category.

UIC 009-084

The sentence has been removed.

UIC 009-085

The typo has been corrected.

UIC 009-086

The citation has been added (see Sec. III.B.6.c).

UIC 009-087

The typo has been corrected.

UIC 009-088

The text has been revised.

UIC 009-089

Text acknowledging the need for baseline studies has added to the paragraph.

UIC 009-090

The exclusion zone is based on NMFS acoustic criteria for the received levels at which cetaceans and pinnipeds potentially may be injured by noise. The actual size of the zone is very specific to the site where seismic surveys are occurring. Therefore, a standard requirement (noted in #5 on II-21 of the draft EIS) mandates field verification of the exclusion zone size before conducting the survey and each time the survey moves into a new area. In addition, the field-verification techniques must be consistent with NMFS-approved guidelines and procedures.

Although some general comparisons can be made between human and marine mammal hearing, it would be difficult to develop a comparison of sufficient information to equate a received sound level on a marine mammal to a human. Instead, it is best to analyze the potential for impacts per species and even per age, sex, and other factors such as activity engaged in at the time of hearing the noise.

UIC 009-091

The number of observers monitoring at one time varies with a number of factors on a given vessel. These include but are not limited to numbers of observers assigned to a vessel, number of vessels in an operation, phase of and type of activity each vessel is engaged in, the specific time of day and conditions when visibility/sea mammal sightability conditions are suitable, daily work-shift organization and scheduling,

availability of observers and other factors of a specific operation at sea. Operations in high latitudes can extend to 24 hours a day due to extended period of sunlight in summer months. NOAA Fisheries set the specific requirements, data standards and qualification standards for observers and industry/applicant/permit holder is responsible for the training of observers who conduct the monitoring effort. Hours that an individual performs monitoring activities are standardized in most cases to four hours at a time but can vary depending on conditions and fatigue factors, weather, number of observers available, and mission activities of the vessel that demand monitoring activity.

Typically most marine mammals do not stay underwater for more than 30 minutes unless wounded or in response to unusual stimuli. For example, bowhead whales most commonly dive for durations of five to ten minutes and calves breathe more frequently. Dives of up to 15-20 minutes have been recorded. An instance of a wounded bowhead whale remaining submerged for 80 minutes has been reported by Charles Scammon (1874). Thirty minutes is considered a reasonable time under good observation conditions, to determine if sea mammals of a number of species are present within cetacean and pinniped safety radii (which must be visible prior to ramp up operations); and the ramp up procedure is designed to gradually introduce anthropogenic sound levels to the environment to allow undetected marine mammals or those beyond the safety radii to take further avoidance action and move away from the source prior to sound levels reaching harmful levels.

UIC 009-092

Shut-down is essentially instantaneous when power to all of the airgun arrays is shut off. There is no equivalent requirement to ramping down required.

Seismic surveying requires an essentially ice-free operational environment, which means that the window for surveying is very short. Because of this, seismic surveys are conducted 24 hours a day, 7 days a week, if possible. Continuous operation of the airgun array is expected to deter animals from entering the exclusion zone. In fact, one of the mitigation measures required for marine mammals is to keep at least one airgun firing during turns. Based on this expectation, surveying is allowed to continue into darkness or in deteriorating visibility conditions as long as the airgun array is continually firing. If the array is shut down for any reason, ramp up to restart the survey cannot be initiated at night or when monitoring the exclusion zone is not possible.

Although visual observers are the major component of monitoring the exclusion zone, other methodologies are available for monitoring, including passive acoustic, active acoustic, and the use of aerial drones.

UIC 009-093

The radius of the exclusion zone is determined on the distance from the sound source of a specified sound level measured in decibels. Field verification is required to determine this distance. This distance may vary from area to area, reflecting changes in factors such as water depth and seafloor topography. The MMS and NMFS have determined that modeling using a sound-propagation series is sufficient to adjust the exclusion zone for changes in area. The attenuation of sound in the marine environment is not expected to differ substantially during the day within a given area.

UIC 009-094

One aspect of meeting the negligible impact determination under the MMPA for an Incidental Take Authorization is to have a NMFS-approved plan for aerial or equivalent monitoring of the exclusion zone. The details of this plan are provided to NMFS for review before such an authorization is issued. Conducting seismic surveys under MMS permits are then conditional upon receipt by the applicant of an MMPA authorization from NMFS and/or FWS. Therefore, it is not appropriate here how often the survey would occur but again the monitoring plan would need to be sufficient for MMPA authorizations to be issued.

UIC 009-095

The comment is a request for a citation in the introductory summary (Section II), and specifically for the effect of any discharge of produced water. The introductory summary is supported by an assessments of discharge effects in Section IV.C.1.c(4)(a)2). That section has been modified to clarify the analysis. The modification does not change the conclusion. A reference to Section IV.C.1.c(4)(a)2) has been added to the summary at the start of assessment for Lower Trophic-Level Organisms.

UIC 009-096

This section is a summary of more detailed sections later in the document. See the response to comment **UIC 009-022**.

UIC 009-097

We used the best available information to complete our analyses. The MMS Environmental Studies Program may support additional fish survey work in the future.

UIC 009-098

We believe it is commonly understood that a small portion of returning salmon stray from their natal streams. Several clear examples of salmon colonization behavior have been documented, particularly in new streams uncovered by receding glaciers on the Kenai Peninsula or Glacier Bay, Alaska (e.g., numerous papers by Dr. Alexander Milner are listed at <http://www.gees.bham.ac.uk/research/ees/AMM/alaska.htm>). As with many other species, salmon would be expected to expand their distribution as habitat conditions became more favorable, such as in response to climate change.

UIC 009-099

This section is a summary of more detailed sections later in the document. See the analyses in Section IV.C.1.d(3)(d)3), Species-Specific Effects.

UIC 009-100

The typos have been corrected.

UIC 009-101

We used the best available information to estimate the incidental take of threatened eiders. Lacking specific information on the potential differences between the two areas, we used the same variables and methodology that was used for similar developments. Most of the projected incidental take on eiders was attributed to construction of roads and other land-based facilities on the NRP-A. In fact, much of the potential development would occur on the NPR-A.

UIC 009-102

The range of physical damage from inhalation of hydrocarbon vapors includes inflammation and damage of the mucous membranes of the airways, lung congestion, emphysema, pneumonia, hemorrhage, and death.

UIC 009-103

Additional information has been added to the cumulative effects assessment.

UIC 009-104

This information is included in the analyses in Section IV.C.1a(4) Discharges.

UIC 009-105

The draft EIS states: “Overall, the cumulative level of effect on fish resources would be moderate in most cases.” The remainder of that paragraph describes the situations where that is not the case.

UIC 009-106

The EFH pertains to salmon spawning, rearing, and migration habitat. Of all the potential impact categories analyzed for the Proposed Action, only a large oil spill would pose significant impacts to EFH. The EFH is subject to modification by a number of other activities and climate change. The Proposed Action is evaluated according to its relative potential contribution to all anticipated impacts.

UIC 009-107

See response to comment **UIC 009-106**. While it could pose significant impacts to EFH, a large spill is considered a low-probability event.



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December 22, 2006

Via Hand Delivery

Regional Director, Alaska OCS Region
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DEC 22 2006

REGIONAL DIRECTOR, ALASKA OCS
Minerals Management Service
ANCHORAGE, ALASKA

Re: Chukchi Sea Planning Area Oil and Gas Lease Sale 193 and Seismic Surveying
Activities in the Chukchi Sea -- Draft Environmental Impact Statement (OCS
EIS/EA MMS 2006-060)

Gentlemen and Ladies:

This letter and the accompanying attachments provide the comments of ConocoPhillips Alaska, Inc. (CPAI) regarding the Minerals Management Service's (MMS) Draft Environmental Impact Statement OCS EIS/EA MMS 2006-060 (DEIS for Lease Sale 193). The DEIS addresses the potential environmental impacts that may result from MMS' proposed Lease Sale 193 in the Chukchi Sea Outer Continental Shelf (OCS), and a range of alternatives, as well as preleasing seismic survey geophysical permitting. CPAI is a strong supporter of oil and gas leasing in the Alaska OCS in general, and of Lease Sale 193 in the Chukchi Sea OCS in particular. We encourage MMS to authorize preleasing seismic surveys in 2007 and to proceed thereafter with Lease Sale 193.

CPAI is Alaska's largest oil and gas producer. As the largest owner of state and federal exploration leases in Alaska, and a major owner in the two largest fields on Alaska's North Slope, CPAI is a long-standing and active participant in oil and gas exploration and development activities in Alaska. Among other ongoing activities, CPAI conducted a seismic exploration program in the Chukchi Sea OCS in 2006, and intends to conduct further seismic exploration in federal waters in the Chukchi Sea OCS in 2007. Consistent with our direct and significant interests in the Alaska OCS Region, CPAI has previously commented to MMS in support of the proposed plan for the 2007-2012 oil and gas leasing program in the OCS, pursuant to which Lease Sale 193 would proceed.¹

CPAI commends MMS for its thoughtful and detailed analysis of potential environmental impacts. Subject to important concerns discussed in the remainder of our comments and the accompanying attachments, the DEIS demonstrates that MMS is taking the requisite hard look at the probable environmental consequences of the proposed action. Subject to our specific

¹ CPAI's comments regarding MMS' proposed OCS leasing program for 2007-2012 were provided by the Erec Isaacson letter of November 22, 2006 to Ms. Renee Orr and Mr. James Bennett of MMS.

concerns, we believe that the DEIS provides a convincing analysis in support of both Lease Sale 193 and prelease seismic exploration activities in the Chukchi Sea in 2007.

Notwithstanding the many strengths of the proposed leasing decisions and the DEIS, we have the following important concerns:

1. *Marine and coastal resources may be protected without lease exclusion zones in coastal areas of the Chukchi Sea.* Exclusion of areas from leasing limits the opportunities to discover commercially developable oil and gas reserves. This problem is significant in frontier areas, such as the Chukchi Sea OCS. Marine and coastal resources may receive all necessary protection without exclusion zones through the use of protective lease stipulations such as those used by MMS' sister agency, U.S. Bureau of Land Management (BLM), in areas of the National Petroleum Reserve – Alaska (NPR). Because excluding large areas from leasing is not necessary to protect marine resources or subsistence, it is inconsistent with the Outer Continental Shelf Lands Act (OCS Lands Act), which instructs MMS to promote responsible and expeditious development of OCS oil and gas resources.

2. *Preleasing seismic surveys will have no discernable adverse impact on the health, status, habitat, survival or recovery of marine mammal stocks, or the use of such stocks for subsistence.* There is no evidence in the scientific literature to support statements in the DEIS that imply possible population-level impacts from seismic activity. MMS has acknowledged that there have been no documented mortalities, physical injuries or physiological effects on marine mammals from seismic surveys. The Bering-Chukchi-Beaufort (BCB) Seas bowhead whale population has steadily increased before, during and after substantial seismic exploration activities in the Chukchi Sea in the 1990s. MMS has also acknowledged that all oil and gas activity on the North Slope of Alaska, and in the adjacent OCS, has had no detectable adverse population-level effects on the health, current status, habitat or recovery of marine mammal stocks.

3. *Imposition of exclusion zones for seismic surveys at the 120 dB and 160 dB isopleths as mitigation measures conflicts with the OCS Lands Act, is unsafe and impracticable, and is unsupported by the best available scientific evidence.* All available information demonstrates to a high degree of certainty that the BCB Seas bowhead whale population is steadily growing in size, is resilient to the level of mortality and human activity that are currently occurring due to subsistence hunting and other causes, and has surpassed the lower limit of the stock's original size before intensive commercial whaling. Imposition of 120 dB and 160 dB exclusion zones as mitigation measures for the benefit of bowhead whales cannot be reconciled with decades of data regarding the sustained health of the BCB Seas bowhead whale stock, presents significant and unwarranted safety risks, and is impracticable to implement. NMFS' Office of Protected Resources has

confirmed that the BCB Seas stock is adequately protected through use of a 180 dB exclusion zone. Imposing biologically unnecessary, unsafe and infeasible mitigation requirements ultimately defeats the purposes of the OCS Lands Act. The scientific and legal flaws with 120 dB and 160 dB restrictions genuinely threaten both the feasibility and the legal sustainability of MMS' decisions.

These concerns are addressed in our detailed comments below.

I. STATUTORY CONTEXT

Proposed Lease Sale 193 and the one year of preleasing seismic activities evaluated in the DEIS require MMS decisions pursuant to the OCS Lands Act. In addition, the environmental analysis performed by MMS in the DEIS must comply with the requirements of NEPA. The DEIS includes brief discussions of these statutes, and others, in § I.C (Regulatory and Administrative Framework).

This section of CPAI's comments provides a short summary of important OCS Lands Act and NEPA requirements that are relevant to, and that support, CPAI's comments and concerns. As discussed further in Sections III and IV below, proposed exclusion zone restrictions for seismic activities at the 120 dB and 160 dB isopleths are not feasible, present serious unwarranted risks to human life, lack a scientific justification, and conflict with the OCS Lands Act and NEPA.

A. Outer Continental Shelf Lands Act

The OCS is a significant source of oil and gas for the Nation's energy supply. Offshore areas of the United States supply over 25 percent of the country's natural gas and oil production, and are estimated to contain roughly 60 percent of the oil and 40 percent of the natural gas resources in remaining undiscovered fields in the United States. The important role of oil and gas exploration and development in the OCS is clearly reflected in the OCS Lands Act and its implementing regulations.

In 1978, Congress specifically amended the OCS Lands Act to address both the nation's energy needs and safety concerns. The congressional policies embodied in the 1978 Amendments declare the OCS to be a vital national resource with significant quantities of oil and natural gas that should be made available for "expeditious and orderly development" subject to appropriate "environmental safeguards." 43 U.S.C. §§ 1332(3), 1801(7), 1802(1)-(2) (OCS resources should be made available as "rapidly as possible" to reduce dependence on foreign sources and meet the nation's energy needs). In addition, Congress stated that operations on the OCS should be conducted in a "safe manner" which prevents or minimizes activities that endanger life or health. 43 U.S.C. §§ 1332(6), 1801(9), 1802(3) (regarding safety concerns).

In amending the OCS Lands Act, Congress recognized the central role exploration plays in the successful development of OCS oil and natural gas resources. 43 U.S.C. § 1334(a)(7) (directing Secretary to promulgate regulations for the prompt and efficient exploration of the OCS); H.R.

Rep. No. 95-590 at 70 as reprinted in 1978 U.S.C.C.A.N. at 1477 (noting importance of seismic exploration to discovery of undetected recoverable reserves); id. at 1551-52 (intentionally preserving Secretary's authority to permit public and private exploration strategies before lease sale). Information about hydrocarbon resources and sea floor properties gained through seismic exploration is essential to Congress' goal in the OCS Lands Act of making energy resources on the OCS available to meet the nation's energy needs as "rapidly as possible." 43 U.S.C. §§ 1332(3), 1802(2); St. Pierre Decl., Ex. E (2006 PEA at 1, 3).²

Courts interpreting the OCS Lands Act have consistently found that expeditious exploration and development of the OCS is the *primary purpose* of the statute. Natural Res. Def. Council, Inc. v. Hodel, 865 F.2d 288, 302 (D.C. Cir. 1988); Energy Action Educ. Found. v. Andrus, 631 F.2d 751, 761 & n.58 (D.C. Cir. 1979) ("basic purpose of [the OCS Lands Act] is to promote the swift, orderly and efficient exploitation of our almost untapped domestic oil and gas resources" in the OCS) (quoting H.R. Rep. No. 95-590 at 53 as reprinted in 1978 U.S.C.C.A.N at 1460). Indeed, because expeditious exploration and development of the OCS is the objective of the statute, environmental considerations, while important, need not be given the same weight as those related to potential oil and gas discovery. California v. Watt, 668 F.2d 1290, 1316-17 (D.C. Cir. 1981) ("A balancing of factors is not the same as treating all factors equally.").

In enacting the OCS Lands Act, Congress was well aware that oil and gas exploration and development of the OCS is not without environmental impacts. Nevertheless, Congress established a clear mandate for expeditious exploration and development of OCS oil and gas resources. MMS must authorize such activities under the OCS Lands Act provided that impacts to human, marine and coastal environments are reasonably balanced with energy needs.

B. National Environmental Policy Act

Although the OCS Lands Act establishes the primary standards applicable to decisions by the MMS to authorize the proposed action, the DEIS is also subject to the requirements of NEPA. In contrast to the OCS Lands Act, NEPA does not mandate particular results:

[I]t is now well-settled that NEPA itself does not mandate particular results, but simply prescribes the necessary process. [citations omitted]. If the adverse environmental effects of the proposed action are adequately identified and evaluated, the agency is not constrained by NEPA to deciding that other values outweigh the environmental costs. . . . Other statutes may impose substantive environmental obligations on federal agencies, but NEPA merely prohibits uninformed – rather than unwise – agency action.

² Copies of the St. Pierre Declaration, as well as the other declarations referenced in these comments, have previously been served on MMS. Nevertheless, additional copies of these materials are provided to MMS as attachments to this comment letter. See § V below.

Robertson v. Methow Valley Citizens Council, 490 U.S. 322, 350-51(1989). The focus of NEPA's process is to ensure federal agencies take a hard look at the probable environmental consequences of a proposed action and a reasonable range of alternatives.

Two aspects of NEPA environmental impact analysis are particularly relevant to the Lease Sale 193 DEIS. First, while NEPA does not mandate particular results, MMS is required to distinguish between significant impacts and non-significant impacts based upon consideration of the context and intensity of the proposed action and alternatives. MMS has clarified its significance analysis by identifying "significance thresholds" for each resource category in § IV.A.1. As defined by MMS, impacts which meet or exceed the established significance threshold constitute significant impacts, while impacts that fall below the significance threshold do not. Having established such thresholds, it is incumbent upon MMS to quantify the probable impacts by resource category in order to determine whether the proposed action does or does not meet the significance thresholds.

Second, while the consideration of a reasonable range of alternatives is central to NEPA process, the choice of alternatives is bounded by common notions of feasibility. Accordingly, an agency is not required to consider alternatives or mitigation whose implementation is remote, speculative, ineffective, inconsistent with the basic policy objectives of the proposed action, or would not serve the purposes of the proposed action. Consistent with this requirement, MMS has previously acknowledged that its alternatives must be "implementable," which MMS defines as "feasible in the technical (logistical or engineering limitations), environmental, economic and social senses." See MMS' Programmatic Environmental Assessment of Arctic Ocean Outer Continental Shelf Seismic Surveys – 2006 (2006 PEA) at § II.B.³

II. ALTERNATIVES ANALYSIS

The DEIS identifies and analyzes four alternative agency actions for Lease Sale 193. Alternative I, the Proposed Action, would allow MMS to offer for lease approximately 6,155 whole or partial blocks, and excludes from leasing a 15-mile to 50-mile corridor along the coast (the "polynya" or "spring lead system"). Alternative II is the No Action alternative. Alternatives III and IV would authorize the lease sale subject to coastal lease exclusion corridors that are more expansive than identified in Alternative I. Curiously, the DEIS does not analyze either of the two Chukchi Sea leasing alternatives identified by MMS in its Proposed OCS leasing program for 2007 – 2012 (Proposed Plan for 2007-2012), which is the 5-year OCS leasing plan pursuant to which Lease Sale 193 will be conducted. The Proposed Plan for 2007-2012 analyzes

³ MMS' 2006 PEA is often referenced by the Lease Sale 193 DEIS in regard to potential impacts from seismic activity. Accordingly, in addition to the comments provided in this letter, CPAI hereby incorporates the 2006 PEA comment letter submitted to MMS by the Alaska Oil and Gas Association dated May 10, 2006. See § V below.

proposals to open the Chukchi Sea OCS to leasing without a coastal exclusion zone (Alternative 1) and with a 25-mile coastal exclusion zone (Alternative 5).

CPAI strongly supports a lease sale for the Chukchi Sea OCS consistent with Alternative 1 (the Proposed Action) identified in MMS' pending Proposed Plan for 2007-2012 and the related DEIS. MMS' proposed action for the 2007-2012 5-year period does not include a coastal exclusion zone in the Chukchi Sea. Effective protection of resources may be accomplished without excluding coastal areas from leasing through the use of stipulations. In the alternative, CPAI supports Alternative I, but modified consistent with Alternative 5 identified in the Proposed Plan for 2007-2012, which would establish a 25-mile coastal exclusion zone. CPAI opposes Alternatives II through IV in the DEIS because they are not consistent with MMS' existing 5-year plan, the new 5-year plan under which Lease Sale 193 will take place, or the purposes of the OCS Lands Act. The restrictive approaches identified in Alternatives II through IV of the Lease Sale 193 DEIS are not necessary or justified to mitigate significant potential environmental impacts.

A. Alternatives That MMS Should, But Did Not, Analyze

Section 18 of the OCS Lands Act, 43 U.S.C. § 1344, requires the preparation of a 5-year plan that specifies, as precisely as possible, the size, timing and location of areas to be assessed for Federal offshore oil and gas leasing. Lease Sale 193 will be conducted under the 5-year plan for 2007-2012, which currently is in the proposed stage.

The Proposed Plan for 2007-2012 analyzes two alternative actions (other than the no action/no leasing alternative) with respect to leasing of the Chukchi Sea OCS. Under Alternative 1 of the Proposed Plan for 2007-2012, the Chukchi Sea OCS planning area would be opened to leasing without lease exclusion zones. Under Alternative 5, the planning area would be opened to leasing, except for a 25-mile coastal corridor. Because MMS has not identified or analyzed any other program options regarding the Chukchi Sea OCS, it is reasonable to expect that MMS will adopt a final 5-year plan for 2007-2012 consistent with one of these two choices.

Unfortunately, and inexplicably, MMS' Lease Sale 193 DEIS does not consider or analyze either of these alternatives. Accordingly, none of the three action alternatives analyzed in detail in the DEIS are consistent with MMS' Proposed Plan for 2007-2012 and the requirements of the OCS Lands Act. Nor is the choice of alternatives in the DEIS consistent with the requirements of NEPA. NEPA mandates that MMS analyze in detail a reasonable range of alternatives.

Consideration of reasonable alternatives is necessary to ensure that the agency has before it and takes into account all possible approaches to, and potential environmental impacts of, a particular project. NEPA's alternatives requirement, therefore, ensures that the "most intelligent, optimally beneficial decision will ultimately be made."

010-001

Northern Alaska Environmental Center v. Kempthorne, 457 F.3d 969, 978 (9th Cir. 2006), quoting Calvert Cliffs' Coordinating Comm. v. U.S. Atomic Energy Comm'n, 440 F.2d 1109, 1114 (D.C.Cir. 1971). While we do not intend to suggest that MMS is required to consider every available alternative, it is inconceivable that a reasonable range of choices does not include either of the two alternatives identified in MMS' proposed 5-year plan. More specifically, although the 25-mile exclusion zone analyzed in the Proposed Plan for 2007-2012 might fall within the reasonable range of the exclusion zone choices analyzed in the Lease Sale 193 DEIS, it is clear that MMS has unreasonably failed to analyze a no exclusion zone alternative. MMS should include these reasonable and previously-analyzed alternatives in the Final EIS. In addition, as discussed further below, MMS should select modified Alternative 1 from the Proposed Plan for 2007-2012 as the Preferred Alternative because this option most fully satisfies the OCS Lands Act's mandate for expeditious and environmentally sound oil and gas resource development.

010-001

B. Alternative I (Proposed Action)

CPAI strongly supports adoption of a modified version of Alternative I - the Proposed Action. CPAI proposes that MMS modify Alternative I to eliminate the lease exclusion corridor, and to allow leasing and exploration activities throughout the planning area subject to appropriately protective lease stipulations. Alternatively, CPAI supports modifying Alternative I consistent with Alternative 5 in MMS' PP for 2007-2012 to adopt a 25-mile coastal lease exclusion zone.

1. Lease exclusion zones unduly restrict exploration that may be conducted under protective lease stipulations

The remote Chukchi Sea is an area of uncertain but high oil and gas potential. As well-stated by the MMS in the DEIS:

In a typical frontier area a simple concept often holds true – area equals opportunity. Removing areas from leasing will eliminate the chance that commercial development will occur in that particular area. In one sense, deferring an area could redirect exploration effort into remaining open areas. However, considering the area as a whole, restricting access limits the opportunities for successful exploration, which could lead to commercial development.

DEIS for Lease Sale 193 at pp. IV-8, -9. Opening up the broadest area for leasing, while imposing protective requirements within the proposed 25-mile coastal zone that allow exploration activity during summer and fall months would be equally protective of marine and coastal resources, without preempting valuable leasing and exploration activities.

As MMS has acknowledged, exclusion of areas from leasing limits the opportunities to discover commercially developable oil and gas reserves. MMS has analyzed a range of lease exclusion zones, finding that more expansive exclusion zones result in opportunity losses of between 15 percent and 36 percent. See 2006 DEIS for Lease Sale 193 at p. IV-9 & Table IV.A-3.

010-002

Unfortunately, these lost opportunity calculations use the opportunity presented by leasing with a 15- to 50-mile exclusion zone as the baseline. Accordingly, the DEIS does not identify the relative lost opportunity that would result from using a no exclusion zone with protective lease stipulations scenario as the baseline, and then analyzing a 25-mile exclusion zone as proposed in MMS' pending 5-year plan, the 15- to 50-mile exclusion corridor proposed in Alternative I, and the more expansive exclusion areas proposed in Alternatives III and IV. In this respect, the DEIS is deficient under NEPA because it neither provides necessary information, nor analyzes the reasonable range of alternatives.

010-002

2. The environmental benefits of a coastal lease exclusion zone have not been analyzed

MMS has not analyzed the environmental consequences of conducting Lease Sale 193 without a coastal exclusion zone. CPAI assumes that MMS has proceeded in this manner because the current 5-year leasing plan provides for the polynya exclusion zone identified in Alternative I. However, Lease Sale 193 will not be conducted pursuant to the existing 5-year plan. MMS' Proposed Plan for 2007-2012, pursuant to which Lease Sale 193 will be conducted, does not propose the polynya exclusion zone identified in Alternative I. Moreover, MMS' Proposed Plan for 2007-2012 analyzes a no exclusion zone alternative that is never even mentioned in the Lease Sale 193 DEIS. Accordingly, for the reasons stated in § II.A above, MMS' failure to analyze the environmental consequences of conducting Lease Sale 193 without an exclusion zone fails to satisfy the requirements of NEPA.⁴

010-003

3. Seismic activity is not conducted in the polynya

The principal purpose of the proposed lease exclusion zones is protection of the spring bowhead migration and spring subsistence hunt.⁵ However, seismic activity is not conducted in the polynya, and other stipulations could protect the spring migration and subsistence hunt without closing the area to all oil and gas exploration and development.

010-004

⁴ In the absence of any analysis in this DEIS, it is notable that the DEIS for the Proposed Plan for 2007-2012 does not indicate that significant and unmitigatable impacts are expected to resources in the absence of a coastal lease exclusion zone. See CPAI's letter of November 22, 2006 to Ms. Renee Orr and Mr. James Bennett of MMS (comments regarding MMS' proposed OCS leasing program for 2007-2012) at § II.A.1.

⁵ See DEIS for Lease Sale 193 at p. IV-149 (seismic surveys could have "biologically significant" adverse impacts if they affected areas of the polynya).

The polynya and related spring bowhead whale migration are, by definition, a seasonal event.⁶ During this time, seismic exploration is not feasible due to heavy ice conditions. Moreover, MMS has never allowed seismic or other oil and gas activity to occur prior to July, after completion of the spring bowhead migration and the spring subsistence hunt. Because lease exclusion zones would foreclose all activities year round in an effort to protect a seasonal resource issue, such regulatory restrictions are an unnecessarily blunt tool. Seasonable permit stipulations, for example, would be a more targeted and effective means of protecting the polynya than closing large areas to all oil and gas activities.

4. Essential support activities must be allowed in lease exclusion areas

If MMS does exclude coastal areas from Lease Sale 193, it is essential that MMS clarify the intent and scope of its decision. Even if coastal areas are excluded from oil and gas leasing, vessel traffic through these areas to coastal communities will be necessary in order to support and supply exploration and development activities within leased areas of the Chukchi Sea. If MMS were to determine that all support activities are prohibited within the exclusion zone, it would not be practicable to conduct exploration, let alone development, in most of the remote Chukchi Sea OCS. Accordingly, if a coastal exclusion zone is established for Lease Sale 193, MMS' decision should make clear that supply and support activities through the exclusion zone are not prohibited.

010-005

C. Alternatives III and IV

For the reasons discussed in connection with Alternative I above, CPAI opposes Alternatives III and IV. These alternatives would exclude even larger areas from leasing, resulting in lost opportunity to discover commercial developable reserves calculated by MMS at 15 to 35 percent in comparison to Alternative I (which, due to the proposed polynya exclusion zone, already results in significant lost opportunity that MMS has not calculated). This lost opportunity is not justified as mitigation for anticipated environmental impacts because the probable impacts are generally short-term, localized and not significant, and because sensitive resources and the subsistence hunt may be protected in other less restrictive but effective ways.

010-006

The polynya exclusion zone is defined as the spring lead system used by the BCB Seas bowhead whale stock for its spring migration and by local communities for their spring bowhead whale

⁶ Although bowheads predictably migrate through the polynya in the spring, thereby supporting a spring subsistence hunt, there is no evidence that bowheads use the same area preferentially or in significant numbers during the fall migration. To the contrary, recent data from satellite tagged whales confirms that bowheads migrate due west from Pt. Barrow to the west coast of the Chukchi Sea, and then south along the coast to Bering Sea wintering areas. See <http://www.wc.adfg.state.ak.us/index.cfm?adfm?adfg=marinemammals.bowheads>. Consistent with this pattern, insofar as CPAI is aware, there have been no fall bowhead subsistence hunts in the Chukchi Sea since the 1880s.

subsistence hunt. The expanded exclusion zones identified in Alternatives III and IV are intended to afford additional protection to the BCB Seas bowhead whale stock during the spring migration and to also afford additional protection to the spring subsistence hunt. However, lease exclusion zones are not necessary to protect the spring migration and related subsistence hunt. MMS has never allowed open water oil and gas activities to occur in the Chukchi Sea until July in order to protect the spring migration and subsistence hunt. Protective lease stipulations of this type have in the past, and would again in this instance, ensure protection of the spring migration and subsistence hunt without expansive lease exclusion areas.

Several conclusions by MMS are especially notable in establishing that there is no sound basis for creating expansive lease exclusion zones in this instance. First, MMS has concluded that the probable environmental impacts under Alternative I from all routine activities resulting from Lease Sale 193 to subsistence resources would not be significant.⁷ Indeed, MMS has concluded in connection with its 5-year planning process that only limited non-significant impacts would be expected to subsistence activities and resources from lease sales in the Chukchi Sea without lease exclusion zones. See DEIS Proposed Plan for 2007-2012 at IV-226. Second, MMS has concluded that adoption of either Alternative III or IV would not change its estimate of potential significant adverse impacts from the proposed lease sale and subsequent activities. See DEIS for Lease Sale 193 at ES-vi & §§ IV.C.2-3. In other words, analyzed by resource category, the scale and intensity of environmental impacts under Alternative I (polynya deferral area), is the same as the scale and intensity of environmental impacts under either Alternatives III or IV (substantially larger deferral areas). Third, MMS has accurately observed that because adoption of expansive deferral areas causes a significant reduction in the opportunity for discovery of commercially developable reserves, it only transfers or exports environmental impacts to other countries. *Id.* at ES-vi. As MMS has correctly assessed, restrictions placed upon Lease Sale 193 will not result in a reduction of U.S. energy needs. Insofar as oil is not discovered and produced from Chukchi Sea resources, most of the avoided environmental impacts are transferred to those countries from which the U.S. imports oil and to those countries along transportation routes.

010-007

D. Alternative II (No Action)

CPAI opposes Alternative II because the no action alternative would conflict with, rather than promote, the objective of the OCS Lands Act. The objective of the OCS Lands Act is the expeditious development of OCS resources to help meet the Nation's future energy needs. In addition, the no action alternative would be inconsistent with both the current plan and the succeeding proposed 5-year plan for oil and gas leasing. Finally, we concur in MMS' conclusion that adoption of Alternative II would not avoid environmental impacts, but rather would result in the transfer or export of environmental consequences to those countries from or through which the U.S. imports oil. See DEIS for Lease Sale 193 at ES-vi.

⁷ See DEIS for Lease Sale 193 at ES-iv ("Short-term, local disturbance could affect subsistence-harvest resources, but no resource or harvest area likely would become unavailable, and no resource population would experience an overall decrease.").

III. SEISMIC SURVEYS HAVE NOT CAUSED DISCERNABLE ADVERSE IMPACTS TO ANY MARINE MAMMAL POPULATION

Geophysical surveys using seismic reflection are an essential, state-of-the-art, component of oil and gas exploration in the OCS. Geophysical data are used by both industry and the MMS to make informed economic and regulatory decisions regarding potential accumulations of oil and natural gas. As one of the earliest components of the lengthy and costly process leading from leasing of lands, to exploration, development and production of hydrocarbon resources, seismic surveys are both critical to OCS resource development mandated by Congress and, in the marine environment, a low impact activity with no detectable long-term effects.⁸

The DEIS contains (or incorporates by reference) extensive discussion and analysis of environmental impacts related to possible preleasing seismic activities in 2007 or postleasing seismic activity in later years. The principal focus of this analysis is on potential impacts from noise on marine mammal populations, particularly the BCB Seas stock of bowhead whales. In general, CPAI concurs in the findings in the DEIS that no population-level impacts are expected. See, e.g., DEIS for Lease Sale 193 at II-33 (overall, bowheads likely to experience only temporary, nonlethal effects), IV-180 (same). In fact, as MMS has stated in connection with its ongoing 5-year planning process for OCS leasing, there is also no evidence that seismic exploration has ever resulted in detectable reductions of any marine mammal stock or species population.

[T]here is no evidence to suggest that routine [seismic] surveys may result in population-level effects for any of the affected marine mammal species. There have been no documented deaths, physical injuries, or physiological effects on marine mammals from seismic surveys (MMS, 2004a).

See DEIS for the Outer Continental Shelf Oil & Gas Leasing Program: 2007-2012 (OCS EIS/EA MMS 2006-004) at IV-115. This fact is strong support for both the absence of significant adverse environmental impacts from probable seismic exploration activities,⁹ and for authorizing seismic activity throughout the Chukchi Sea OCS in Lease Sale 193.

⁸ See St. Pierre Decl. Ex. G (2006 PEA) p. 3 (“The MMS needs geological and geophysical seismic-survey information to fulfill its statutory responsibilities to ensure safe operations, support environmental impact analyses, . . .and perform other statutory responsibilities.”).

⁹ The NEPA significance threshold established by MMS for threatened or endangered species, such as the bowhead whale, and for polar bears “is an adverse impact that results in a decline in abundance and/or change in distribution requiring one or more generations for the indicated population to recover to its former status.” DEIS for Lease Sale 193 at p. IV-5. For other biological resources, including seals, walrus, and other whale stocks, the significance threshold is set at a decline in abundance or a change in distribution requiring three or more

Despite the clarity of decades of observations and data, and despite MMS' conclusion that impacts to all stocks of marine mammals are expected to be temporary and nonlethal, the DEIS includes or references unsupportable statements regarding potential adverse impacts to the BCB Seas stock of bowhead whales. In various places, the DEIS indicates that significant uncertainty exists regarding potential impacts of seismic activity on bowhead whales, particularly with respect to calf survival and growth, and female reproduction. See, e.g., DEIS for Lease Sale 193 at IV-149. With respect to bowhead cows and calves, the DEIS and materials incorporated by reference speculate without support that seismic activity could have population-level impacts by separating cow/calf pairs. The DEIS also assumes that bowhead whales will deflect from seismic activity by a distance of at least 20 kilometers. Id. at pp. IV-146. Each of these statements is addressed in detail below.

A. Seismic activity has never caused population-level impacts to marine stocks

There is no evidence that seismic exploration has ever resulted in detectable reductions of any marine mammal stock or population.

Available information does not indicate that oil- and gas-related activity (or any recent activity) has had detectable long-term adverse population-level effects on the overall health, current status, or recovery of the BCB Seas bowhead population. Data indicate that the BCB Seas bowhead whale population has continued to increase over the timeframe that oil and gas activities has occurred.

Biological Evaluation of the Potential Effects of Oil and Gas Leasing and Exploration in the Alaska OCS Beaufort Sea and Chukchi Sea Planning Areas on Endangered Bowhead Whales (*Balaena mysticetus*), Fin Whales (*Balaenoptera physalus*), and Humpback Whales (*Megaptera novaeangliae*) (MMS' 2006 Alaska OCS BA) at p. 123. This fact is strong support for MMS to adopt an oil and gas leasing plan that allows for seismic activity throughout the Chukchi Sea OCS.

CPAI is aware of no evidence in the scientific literature of seismic operations causing mortality, injury, or decline in any marine mammal population. NMFS has prepared stock assessment reports annually since 1995 for sixty-five species of marine mammals in the North Pacific Ocean, Alaskan Arctic Ocean, Eastern North Pacific Ocean, Gulf of Mexico, and Eastern Tropical Pacific Ocean (Hawaii), which address mortality as well as other population characteristics for determining each species status.¹⁰ Over this 11-year period (2005 is most

generations for recovery. The DEIS finds that the expected impacts from all routine activities that may occur as a result of Lease Sale 193, let alone from seismic exploration, do not meet these significance thresholds (i.e., the probable environmental impacts from the proposed action on bowhead whales and on other marine mammals are not expected to be significant.).

¹⁰ See <http://www.nmfs.noaa.gov/pr/sars/species.htm>.

recent reporting period), there have been active seismic activities in the Gulf of Mexico, the western North Atlantic Ocean, the eastern North Pacific Ocean, and the sub-Arctic and Arctic Ocean off Alaska and adjoining Canada. Yet, for this same span of years, there have been no reported deaths or injuries of marine mammals, or declines of their populations, from seismic operations.

Deaths, injuries, and population declines of marine mammals documented in the status reports have been associated with fisheries interactions and harvest, ship strikes, chemical pollution, debris, sonar, and commercial and aboriginal harvest of marine mammals. Similar findings have been reported for the world stocks of polar bears with over-hunting being the most common factor for polar bear declines (Lunn et al. 2002).¹¹ Consequently, marine mammal population declines or failures of populations to increase have been entirely associated with these anthropogenic effects and not seismic operations.

B. The BCB Seas population of bowhead whales is healthy and resilient

CPAI concurs in MMS' findings regarding the health and resilience of the BCB Seas stock of bowhead whales. As determined by MMS earlier this year:

All available information (e.g., Shelden et al., 2001; IWC, 2004a, b; NMFS, 2003a, b) indicates that the BCB Seas population of bowheads is increasing, resilient to the level of mortality and other adverse effects that are currently occurring due to the subsistence hunt or other causes, and may have reached the lower limit of the estimate of the population size that existed prior to intensive commercial whaling.

MMS' 2006 Alaska OCS BA at p. 10. See also DEIS for Lease Sale 193 at p. IV-118 ("Based on available information, the bowhead population that may be affected is robust and resilient to a relatively steady lethal take in the subsistence hunt. . . . We do not expect direct mortality on baleen whales from the Proposed Action but acknowledge that mortality could occur. However, it is clear that this population has continued to recover, despite previous activities that caused disturbance and lethal take. This continued recovery is informative about its resilience at least to the level of disturbance and take that have occurred within the past 20 years.").

It is well-established that the BCB Seas population of bowhead whales is healthy and increasing (Angliss and Outlaw, 2005). The current population estimate is 10,470-10,545 bowhead whales (Zeh and Punt 2004, George et al. 2004a), which may be approaching its carrying capacity (Brandon and Wade 2004). In addition, the population is increasing at an annual rate of 3.4-3.5% (359-369 whales/year), which is a rate similar to previous estimates and indicative of a reproductively healthy population (Brandon and Wade 2004; George et al. 2004a). The most

¹¹ Complete citations to scientific sources referenced in this comment letter are provided in Appendix A.

recent published count of 121 calves during the 2001 census was the highest recorded for the population (George et al. 2004a). The high calf count is reflected in a high pregnancy rate and low length at sexual maturity, which is characteristic of an increasing population (George et al. 2004b). George et al. (2004a) concluded that the recovery of the BCB Seas bowhead whale population is likely attributable to low anthropogenic mortality, relatively pristine habitat, and well-managed subsistence harvest.

The increase in the BCB Seas population has coincided with over 30 years of oil and gas activities in the Beaufort and Chukchi Seas. Activities have included offshore seismic drilling, and production on man-made islands. During this time and throughout these activities the population has grown from fewer than 5,000 to over 10,000 animals (Zeh and Punt 2004). In addition, the population has maintained, with no noticeable alteration, interruption, or displacement, its historical seasonal use patterns and migrations between the Bering and Beaufort Seas (Treacy 2001, 2002; Treacy et al. 2006). These events have occurred every year during the period of oil and gas activities at essentially the same general time, location, and order by sex and age groups, except when affected by ice conditions.

The health of the population and regularity of the timing and location of the migration has enabled the Eskimo hunters to harvest 832 bowhead whales between 1974 and 2003 (Suydam and George 2004). The number of whales harvested each year has been fairly consistent as demonstrated for the period between 1999 and 2003, the period with the most recent records. During this time, the annual harvest was 42, 35, 49, 37, and 35 whales (Suydam and George 2004), which is similar to the harvest in the previous seven years. Variation in the harvest is due to the environmental factors (Suydam and George 2004). The International Whaling Commission (IWC) set the quota in 2002 at 67 strikes per year with a total landed not to exceed 280 over a five-year block. This information confirms that the integrity of the harvest and availability of bowhead whales to hunt has not been affected by activities of the oil and gas industry.

C. There is no evidence that bowhead cows abandon their calves in response to seismic exploration or any other human activity

Although MMS has concluded that overall impacts to marine mammals are expected to be limited, the DEIS and other incorporated materials repeatedly make the unsupported statement that significant impacts to stocks could occur if activities result in the separation of cow and calf pairs. This statement is entirely without scientific support. There is no evidence in the scientific literature regarding bowhead or other baleen whales, that indicates seismic exploration and related activities have ever caused the separation of cow/calf pairs or resulted in a cow abandoning its calf or a feeding area. To the contrary, all of the scientific evidence shows that seismic and other anthropogenic activities, including the most extreme activity, commercial whaling, have not caused the separation or abandonment of cow/calf pairs. The cow/calf maternal bond in bowhead and other species of whales is among the strongest found in nature.

The unyielding strength of this mother-offspring bond is supported by field observations reported by renowned marine mammal researchers and accounts by commercial whalers. Years of field observations of bowhead whales have never shown seismic operations to cause cow-calves to separate or abandon each other (Reeves, et al. 1984; Richardson et al 1986, 1987; Koski and Johnson 1987; Richardson 1999). Moreover, the scientists responsible for these studies as well as unpublished observations and studies (John Richardson, Bill Koski, and Bernd Wursig),¹² who have collectively logged thousands of hours of observations of bowhead whales, have all confirmed that they have never observed a single instance of seismic operations or other oil and gas activities in the Alaska Arctic Ocean causing a cow to separate from or abandon its calf. Similar findings have been reported for other marine mammals exposed to man-caused activities, where NMFS scientist Phillip Clapham¹³ has not observed or found any cases of humpback whale cows separating or abandoning calves because of an anthropogenic activity. Consistent with these observations of the cow/calf bond, Wartzok et al (1989) reported two observations of bowhead cows and calves separated by a few hundred meters quickly rejoined each other when a ship approached them.

Commercial whalers often capitalized on this cow/calf relationship to kill whales. Tonnessen and Johnson (1982) reported that whalers hunting right whales would first harpoon the calf, and as the mother refused to abandon her young, she became easy prey for the harpooner. Scammon (1968) noted that whalers commonly hunted the lagoons off Mexico for gray whales, where a cow with a young calf made it easy to harpoon the parent because in trying to escape the calf would tire rendering the inseparable cow vulnerable to kill.

The strength of this bowhead cow/calf bond to persist throughout the history of seismic and other oil and gas operations in the Beaufort Sea is demonstrated by the rate of increase in the western arctic bowhead whale population. The population has increased from a few thousand whales in the 1970s to an estimated 10,545 animals in 2001 (George et al. 2004a; Zeh and Punt 2004; Angliss and Outlaw 2005). The population has been increasing at an annual rate of 3.4-3.5% or over 350 calves per year, which if extrapolated to 2006 would currently put the population size over 12,000 animals (adjusted for the aboriginal harvest) or well within the 10,400-23,000 whales estimated in the population prior to commercial whaling (Brandon and Wade 2004; Angliss and Outlaw 2005; Woodby and Botkin 1993). These results clearly show that the population is growing and reproductively healthy (George et al. (2004a); George et al. (2004b)), and the calf survival rates are high, which collectively confirm that the cow/calf bond has not been disrupted or altered by seismic or other oil and gas operations.

¹² John Richardson, LGL, personal communication with Jay Brueggeman on October 12, 2006; Bill Koski, LGL, personal communication with Jay Brueggeman on October 12, 2006; Bernd Wursig, Texas A&M, personal communications with Jay Brueggeman on November 8, 2006.

¹³ Phillip Clapham, NMFS, personal communication with Jay Brueggeman on November 7, 2006.

D. Bowhead whales do not routinely deflect 20 kilometers from seismic operations

The DEIS includes statements that bowhead whales have rarely been observed within 20 kilometers of active seismic operations. See, e.g., DEIS for Lease Sale 193 at IV-146. However, this statement is contradicted by the available scientific literature. Bowheads have been observed near operating seismic ships (Reeves, et al. 1984; Richardson et al 1986, 1987; Brueggeman et al. 1990) and near controlled tests with single airguns and airgun arrays (Richardson et al. 1986; Ljungblad et al. 1988). Bowheads exposed to pulses from vessels more than 7.5-8 km away rarely show avoidance (Reeves, et al. 1984; Richardson et al 1986, 1987; Koski and Johnson 1987). Summering bowheads showed normal activities 3-5 km from active seismic operations (Richardson et al 1986). These studies clearly demonstrate that bowheads commonly occur well within 20 km of active seismic operations.

More recently, a study reported by Richardson (1999) concluded that migrating bowheads avoid active seismic operations by at least 20 km. However, the interpretation of the data is questionable based on the sample size and absence of corroborating behavioral observations recorded during the study as discussed below. Sample sizes were small or problematic in the three-year study Richardson used to draw his conclusions. The data were analyzed for 1996, 1997, and 1998 to assess response of bowheads to seismic sounds. Sample sizes were 26 bowheads observed during no-seismic and 11 during seismic in 1996, 115 during no-seismic and 6 during seismic in 1997, and 59 during no-seismic and 65 during seismic in 1998. The sample sizes for 1996 and 1997 were clearly too small to draw any conclusions about seismic effects. The sample sizes were adequate in 1998 for analysis, but too few animals were recorded in the 0-10 km and 10-20 km distance intervals for no-seismic (3, 4 whales) to compare with seismic (0, 2) operations for analysis, suggesting that the absence of more similar numbers of whales to those in more distant categories may have been due to other factors than seismic operations. Furthermore, the mere presence of two bowheads in the 10-20 km interval during seismic operations indicates that not only were some whales relatively close, but their distribution was apparently unaffected by the operations.

Distances of all whales from the operations were highly variable over a wide range of distances, including those in the higher distance categories for no-seismic and seismic periods. The variability of these observations suggests that the observed distribution more likely was caused by natural events such as location, movement, and abundance of prey resources and not necessarily seismic operations. An even distribution of whales relative to distance would be expected for no seismic unless this relationship was affected by natural environmental conditions or normal bowhead behavioral activities. It is noteworthy that seismic operations have been shown to cause behavioral responses of bowheads at or above the 160 dB, which corresponds to distances of 3-8 km from a seismic vessel, beyond which (i.e., 10-20 km) behavior would be expected to be normal (Richardson et al. 1986).

In addition, bowhead whale behavior observed during the study does not support Richardson's conclusions. Responses of bowheads to a disturbance are expressed by changes in normal

behavior, such as changes in headings, swim speed and resting. However, behavioral changes were not seen in the bowheads observed by Richardson (1999) during the no-seismic versus seismic operations. In fact, Richardson states that there was (1) no significant difference in bowhead headings between seismic and no-seismic periods, (2) proportions of various behaviors observed during seismic periods were similar to those during no-seismic periods, and (3) there was no significant difference in the swimming speeds of bowheads during seismic and no-seismic periods. These analyses provide no evidence of the seismic operations affecting bowhead, and suggest the bowheads were behaving normally, which would be expected since they were beyond the 160 dB level.

As a consequence, the small sample sizes and lack of corroboration of the behavioral data argues against Richardson's conclusions. Clearly, other factors may have been responsible for the distribution of bowheads relative to seismic operations. A key consideration that was not measured was the distribution of prey resources at the time of the observations. Bowhead distribution could have been associated with feeding or other environmental factors, which is indicative of the observed normal behavior and uneven distribution of bowheads during the seismic and no-seismic periods. More years of data than essentially the one year used in Richardson's analysis are necessary to draw any conclusions about bowhead responses during no-seismic and seismic operations at the distances reported by Richardson (1999). In addition, future studies should include measurements of prey distribution and abundance to assess bowhead distribution relative to distance from active seismic operations.

IV. PROPOSED MITIGATION MEASURES INVOLVING SEISMIC ACTIVITY EXCLUSION ZONES AT THE 120 dB and 160 dB LEVELS ARE UNSAFE, ARE NOT FEASIBLE TO IMPLEMENT AND ARE NOT SUPPORTED BY SCIENCE

The DEIS includes discussion and analysis of all of the mitigation measures for seismic operations previously identified in the 2006 PEA. See, e.g., DEIS for Lease Sale 193 at § II.B.4.b. These mitigation alternatives include imposition of seismic survey exclusion zones at either or both the 160 dB and 120 dB isopleths. Id. p. II-22 (identifying Seismic Survey Mitigation Alternatives) 3 (120 dB exclusion zone), 4 (160 dB exclusion zone) and 5 (120 dB and 160 dB exclusion zones). The DEIS and 2006 PEA suggest that these extraordinary measures may be justified by general concerns regarding uncertainty and information gaps, concerns regarding potential impacts to cow/calf pairs, and concerns regarding as many as four simultaneous seismic surveys. Id. at p. II-28.

CPAI's objections to these proposed mitigation measures are well-known to MMS. In commenting on the 2006 PEA, CPAI opposed these measures because there is no scientific basis to support them, because they are not safe or implementable, and because such extraordinary restrictions are not justified as mitigation for the minor environmental consequences of seismic operations.¹⁴ After these measures were imposed in permits issued by MMS and NMFS, CPAI

¹⁴ CPAI's comments on the 2006 PEA were incorporated in and presented through the written comments of AOGA. See Note 2 above.

challenged these measures in federal district court and before the Interior Board of Land Appeals (IBLA). As MMS is aware, CPAI was also able to conduct its 2006 seismic program because the federal district court and the IBLA stayed implementation of the 120 dB exclusion zone requirement. In doing so, the court emphasized, quoting from a joint MMS and NMFS document, that “the bowhead whale population is robust and has increased steadily over the past several decades alongside ongoing seismic exploration without the use of the new monitoring requirements.”¹⁵

CPAI maintains its strong objections to the 120 dB and 160 dB mitigation options. These requirements are based upon supposition and speculation that cannot be reconciled with decades of well-documented data regarding the sustaining health of the BCB Seas bowhead whale population. Moreover, these measures are impracticable, present significant human safety risks and undermine the purpose of seismic survey programs. In sum, as explained below, these measures conflict with applicable law, the analysis in the DEIS is inadequate under NEPA to support adoption of these measures and, in the final analysis, the measures, however well-intended, lack a rational scientific basis.

A. Scientific Evidence Does Not Support the 120-160 dB Exclusion Zones

1. There is no credible scientific foundation for the 120-160 dB exclusion zones

There is no scientific evidence whatsoever to suggest that the seismic activities associated with Lease Sale 193, with use of a 180 dB exclusion zone and other routine mitigation and monitoring requirements, will have an adverse population-level impact on the BCB Seas stock by reducing annual rates of recruitment or survival, or will have anything more than a minor and transitory effect on individual whales. Brueggeman Decl. ¶¶ 35, 42. MMS has been authorizing offshore seismic activity in the Chukchi and Beaufort Seas subject only to 180 dB monitoring and exclusion zone requirements. Brueggeman Decl. ¶¶ 22-23; St. Pierre Decl. ¶ 12, 21 (indicating substantially similar measures have been used for past 25 years). Throughout this time, the bowhead whale population has continued to increase. Brueggeman Decl. ¶¶ 15-16, 21, 39; St. Pierre Decl., Ex. E (2006 PEA at 83, 86).

MMS and NMFS have both recognized, as indeed they must, that the BCB Seas bowhead population is healthy and has been increasing at a steady rate for many decades. See St. Pierre Decl., Ex. E (PEA at 83) (bowhead whale population “is increasing in abundance and has increased in abundance substantially since the last [ESA] consultation between MMS and NMFS involving the Chukchi Sea OCS Planning Area”); id. (2006 PEA at 86) (data “suggests a steady recovery of this population”); id. (2006 PEA at 100) (“All recent available information indicates that the population has continued to increase in abundance over the past decade and may have

¹⁵ See CPAI v. NMFS, Case No. 3:06-cv-0198, Order Granting Motion for Stay at 2 (D. Alaska, Sept. 8, 2006)

doubled in size since about 1978. The estimated current annual rate of increase is similar to the estimate for the 1978-1993 time series.”). As emphasized above, this dramatic population increase has occurred alongside ongoing seismic exploration, oil and gas development, and other industrial activities, all performed *without* use of a 120 dB or 160 dB exclusion zones. Brueggeman Decl. ¶¶ 15-16, 39, 42; see id. ¶ 21 (bowhead whale population has more than doubled in size during period of ongoing oil and gas activities).

Based on this information, MMS and NMFS have determined that “[n]o data are available indicating that, other than historic commercial whaling, any previous human activity has had a significant adverse impact on the current status of BCB Seas bowheads or their recovery.” St. Pierre Decl., Ex. E (2006 PEA at 83); see also id. (“Currently available information indicates that bowheads that use the Alaskan Beaufort Sea and Chukchi Sea Planning Areas are resilient at least to the level of human-caused mortality and disturbance that currently exists, and has existed since the cessation of commercial whaling, within their range.”); id. (2006 PEA at 85) (“All available information indicates that the BCB Seas population of bowheads is increasing, resilient to the level of mortality and other adverse effects that are currently occurring due to the subsistence hunt or other causes, and may have reached the lower limit of the estimate of the population size that existed prior to intensive commercial whaling.”). See § III.A above (no evidence that seismic exploration has ever resulted in a reduction of any marine mammal stock or population).

While there is ample evidence that bowheads are continuing to thrive under a 180 dB monitoring and exclusion zone, there is no scientific information indicating that imposition of 120 dB or 160 dB monitoring and exclusion zones is necessary to prevent undue harm or otherwise protect the species.¹⁶ Indeed, NMFS’ longstanding guidance and NMFS’ conclusions regarding the impacts of seismic activity conducted using 180 dB mitigation measures contradict any such finding. See 71 Fed. Reg. at 43,117, 43,126 (“NMFS believes that 160 dB is the appropriate threshold for Level B Harassment.”)¹⁷; Brueggeman Decl. ¶¶ 26-28 (explaining that 160 dB threshold for presuming harassment of cetaceans is conservative); St. Pierre Decl. Ex. D at 6, 8 (NMFS incidental take statement finding that seismic activity conducted using only 180 dB exclusion zone is not likely to result in harm, injury or death to any whales, or cause adverse

¹⁶ The speculative nature of the 120 dB requirement is further illustrated by the fact that neither MMS nor NMFS has been able to establish with any degree of certainty that seismic sounds will be discernible by whales over natural background noise at the 120 dB isopleth. As MMS recognizes, ambient sounds in the Chukchi Sea often can exceed 120 dB and are therefore likely to mask seismic sounds at that distance from the source. Id. (2006 PEA at 19) (ambient noise in Arctic marine environment is in the range of 63-133 dB); see also Brueggeman Decl. ¶ 34.

¹⁷ Notably, no federal agency has ever made a finding that “harassment” as defined in the Marine Mammal Protection Act (MMPA) occurs for cetaceans at sound levels below the 160 dB threshold.

population-level impacts); see also DEIS for Lease Sale 193 at II-33 (MMS' finding that overall, bowheads are likely to experience only temporary, nonlethal effects from all oil and gas activities occurring as a result of Lease Sale 193), IV-180 (same).

2. The health and resilience of the BCB Seas stock is not uncertain

The DEIS and other referenced materials largely rely upon uncertainties regarding the biological significance of noise in the marine environment for proposed mitigation at the 120 dB and 160 dB levels. Indeed, there are many uncertainties regarding the biological significance of exposing individual whales to the acoustic effects of seismic surveys and other human activities. However, despite some inevitable unknowns, there is great certainty that: (i) no seismic activity has ever resulted in population-level effects to any marine mammal species;¹⁸ and (ii) over a period of decades, there have been and continue to be no discernable population-level consequences to the BCB Seas bowhead whale population from all of modern human activity. These undisputed, highly credible, scientific facts – all developed without the benefit of 120-160 dB exclusion zones and monitoring measures – are the best measure of the effectiveness of the current sound criteria for protecting the BCB Seas bowhead whale population. See Brueggeman Decl. ¶¶ 25, 40.

The best measure of the effectiveness of the current 180 dB mitigation measures in preventing significant impact to the BCB Seas bowhead whale population is the status of its health. Id. An adverse effect from seismic activity or other anthropogenic activities, including the subsistence harvest, would manifest itself by causing a decline in the population size, reproductive rate and/or physical condition of the population. However, data collected during long-term monitoring of the bowhead whale population and the subsistence harvest show: (i) the population is increasing and likely has surpassed the lower level of its carrying capacity; (ii) the reproductive rate is consistent with a healthy and increasing population; and (iii) harvested whales are in excellent physical and reproductive condition (Suydam and George 2004; George et al. 2004b; Angliss and Outlaw 2005). An increasing population indicates that there are no barriers to accessing a healthy ecosystem, which was confirmed by NMFS' decision on August 30, 2002 to not designate the Beaufort Sea as critical habitat. A strong reproductive rate indicates sex ratios, breeding, birthing, nursing, weaning, and feeding are all normal. Normal body condition indicates the population has access to adequate food supplies, areas to rest, and manageable levels of stress throughout its seasonal movements between the Bering and Beaufort Seas.¹⁹

¹⁸ See § III.A above.

¹⁹ Nor do the available data support speculation that in the absence of exposure to seismic activity or other disturbances, increases in the population would have been greater. The BCB population has been steadily increasing for decades at an annual rate that is consistent with the maximum theoretical net productivity rate calculated by NMFS for this population. Brueggeman Decl. ¶ __. It is well-established among the scientific community that this rate of increase is indicative of a healthy marine mammal stock. Id. ¶ __ & Ex. D at 8.

In sum, while uncertainties regarding the significance of acoustic events certainly exist, all available information indicates to a very high degree of certainty that the BCB Seas bowhead whale population is steadily growing in size, resilient to the level of mortality and other adverse effects that are currently occurring due to subsistence hunting or other causes, and unaffected at the population-level by decades of oil and gas activity, including seismic exploration in the Chukchi Sea OCS. MMS may not act on speculation and surmise about undetected biological impacts from seismic surveys when there is a clear scientific consensus, based upon the best available data, that the totality of all human impacts is having no discernable, let alone significant, effect on the BCB Seas population's health, status, habitat, survival and recovery.

3. There is no evidence that bowhead cows abandon their calves in response to seismic exploration or any other human activity

A commonly suggested basis in the DEIS for imposing additional seismic mitigation measures is the potential for such activities to affect bowhead whale cow/calf pairs. In particular, the DEIS and supporting materials include speculative statements that seismic activity may potentially cause population-level effects if they result in the abandonment of calves by cows.²⁰ However, as addressed in detail above, all of the scientific evidence shows that seismic and other anthropogenic activities, including commercial whaling, have not caused the separation or abandonment of cow/calf pairs. See § III.C above. The cow/calf maternal bond in bowhead and other species of whales is among the strongest found in nature. Id.

4. Multiple seismic surveys have been conducted without adverse impacts

The DEIS implies that mitigation measures, such as the 120-160 dB exclusion zones, may be necessary because of unprecedented levels of seismic activity in Chukchi Sea with unknown impacts and, furthermore, because of the unknown impacts of the combination of seismic activity in the Beaufort and Chukchi Seas.²¹ See DEIS for Lease Sale 193 at p. IV-11 (assuming

²⁰ The cow/calf issue is apparently based on (1) the fact that human babies are more sensitive to sounds than adults and (2) studies reporting that gray whale cow/calf pairs responded to (moved away from) lower sound levels than other age groups. St. Pierre Decl., Ex. G (2006 PEA) at 110-111; see Brueggeman Decl. ¶ 32 (explaining why analogy is inappropriate). MMS and NMFS acknowledge that there is no direct information suggesting adverse effects on bowhead whale cow/calf pairs from seismic sounds at any level, and have not explained use of the 120 dB threshold in this context. See St. Pierre Decl., Ex. G (2006 PEA) at 110-11.

²¹ The seismic vessel scenario presented by the MMS in the environmental consequences section of the DEIS to assess impacts to fall migrating bowhead whales is based on misinterpreted data, and it is not supported by the scientific literature. See DEIS for Lease Sale 193 at IV-145, -147. The scenario relies on Richardson's (1999) data to suggest that seaward movements of migrating whales exposed to large airgun arrays or multiple seismic operations in nearshore areas on the shelf could be constrained by offshore sea ice. As stated previously, the

as many as four separate seismic programs in the preleasing period of 2007). However, all three premises of this suggested justification – unprecedented seismic activity in the Chukchi, unprecedented combined seismic activity in the Beaufort and Chukchi, and uncertainty of effects – are proven false by the history of seismic operations in the Chukchi and Beaufort Seas, and by the sustained health and fitness of the BCB Seas bowhead whale population.

Seismic operations have been occurring in the Chukchi Sea OCS every year since 1981, except during 1988, 1991, 1992, 1993, and 1995 to 2004. Seismic operations in the Chukchi Sea OCS were most intense between 1981 and 1990 when five seismic vessels were operating during one year, four during four years, three during three years, and two during two years. Similar, and at times greater, levels of seismic operations occurred in the Beaufort Sea during this time, and more recently from 1998 to 2004 as well. Accordingly, the highest potential levels of seismic activity anticipated by MMS in the Chukchi Sea, and in combination between the Chukchi and Beaufort Seas, are well within the range of seismic activity that has been occurring over the last 25 years. MMS has not provided information, nor is there any, to suggest that future levels of seismic activity will exceed historical levels.

Moreover, as addressed above, the BCB Seas bowhead whale population has more than doubled in size during the 25 year period OCS seismic activity has been conducted in the Chukchi and Beaufort Seas. Between 1978 and 1993, the BCB Seas stock of bowhead whales increased at a rate of 3.1% (Raftery et al. 1995). Correspondingly, the population increased 60% from approximately 5,000 to 8,000 animals during this time (Angliss and Outlaw 2005). The population has continued to increase at a similar rate (3.4-3.5%) to where the most current estimate (2001) is 10,545 (Angliss and Outlaw 2005), which if extrapolated to 2006 would easily exceed 12,000 animals, a level well within the pre-commercial exploitation size of 10,400 to 23,000 animals (Woodby and Botkin 1993). The population growth is underpinned by high pregnancy and survival rates and low mortality rates (George et al. 2004a, b), factors

distances Richardson reported that bowhead whales respond to seismic airgun sounds during the fall migration is questionable and should not be the basis for the scenario. See § III.D above. In addition, the scientific literature demonstrates that it is highly unlikely sea ice would hamper seaward movements of bowhead whales. Bowhead whales are highly adapted to sea ice and frequently migrate or feed under sections of ice. Several studies have shown that during years of heavy ice in the Beaufort Sea, bowhead whales move offshore and migrate in the leads and open water within the sea ice (Treacy et al. 2006, Moore 2000). Moreover, offshore sea ice would not be a barrier to fall migrating bowhead whales because it is generally broken with areas of new ice forming, which creates a checkerboard pattern of open water areas and light ice for the whales to surface. This combined with the morphology of bowhead, which is adapted to an ice-dominated habitat through hundreds of years of evolution in the Arctic (McLeod et al. 1993), provides them some ability to break sea ice in order to breathe (Carroll and Smithisler 1980, Burns et al. 1981, George et al. 1989). They have been observed to break ice up to 18 cm thick (George et al. 1989). Consequently, it is not likely that sea ice would constrain the movement of bowhead whales exposed to seismic sounds during the fall migration.

characteristic of a healthy population. In addition, the bowhead population has also continued to occupy its historic summer and winter ranges and migration routes, thereby demonstrating that seismic activity has not caused any temporal or spatial displacement (Treacy et al. 2006). In fact, like many increasing populations, it has geographically expanded use of its summer range as indicated by the presence of bowheads in areas not normally used during summer such as off Point Barrow and elsewhere along the northern coast of Alaska. MMS confirmed these unwavering historic use patterns by stating in the DEIS that there is no indication that human activity (other than commercial whaling) has caused long term displacement of bowhead whales. See DEIS for Lease Sale 193 at p. V-35.

The scientific information on the BCB Seas bowhead whale population, and on other marine mammal populations,²² demonstrates that multiple seismic operations over many years have not affected the health or status of bowhead whales, gray whales, polar bears, or other marine mammals. Accordingly, data from the past 25 years reliably demonstrates that future seismic operations subject to existing mitigation measures will have no more than a negligible effect on these populations.

5. The 2006 monitoring results indicate very low interaction levels

The DEIS states that MMS intends to look to the data collected during the 2006 seismic survey season as important new information bearing on the need for the 120-160 dB exclusion zones. DEIS for Lease Sale 193 at § II.B.5.c. Data from CPAI's 2006 seismic operations does not support a need for the 120-160 dB mitigation measures.

CPAI staffed three vessels for 24 hours per day with marine mammal observers between July 14 and October 16, 2006 in the region of seismic operations in the northeastern Chukchi Sea to document occurrence of bowhead whales and other marine mammals. In addition, aerial surveys of marine mammals were flown twice weekly in a band along the coast between Point Hope and Point Barrow and out 20 miles from shore from July 9 to 25 and again from August 23 to November 12, 2006.²³

²² There is also no evidence in the scientific literature to suggest that the health of any marine mammal population has been affected by seismic surveys over the history of operations in the Chukchi and Beaufort Seas. For example, the Eastern North Pacific gray whale population, which summers in northeastern Chukchi Sea, was removed from the threatened or endangered species list in 1994 due to its recovery to pre-commercial exploitation levels. This population has continued to expand the use of its historic summer range in concert with seismic operations as evidenced by the occurrence of higher numbers of whales feeding in more areas in the northeastern Chukchi Sea and Beaufort Sea. The population is considered to be at carrying capacity.

²³ Seismic operations were terminated on September 22 for Shell, October 13 for CPAI, and November 11 for GSX in the Chukchi Sea.

A total of 51 bowheads were recorded in the Chukchi Sea during the vessel and aerial surveys between July 14 and November 12. Twenty-five percent (13) of the whales were seen during July and August, and 75% (38) after September with over half of them (21) encountered in mid-November. The sightings included many single animals, indicating that few cow/calf pairs had as yet migrated into the Chukchi Sea. No large aggregations of whales were encountered or observed. During this time, larger feeding aggregations were observed in the Beaufort Sea, east of Point Barrow during the aerial surveys. These results suggest that very few bowheads use the region of the seismic operation in the Chukchi Sea from July through September, when most seismic operations occur. A few bowheads begin to enter the Chukchi in October and mid November, but most appear to pass through the northeastern Chukchi Sea later, after the completion of seismic operations. Larger aggregations and most cow/calf pairs appear to also move through the region at a later time based on the observations during the time of the vessel and aerial surveys. The implications of these data are supported by the scientific literature (Treacy et al. 2006; Moore and Reeves, 1993).

In sum, the new information provided by monitoring during the 2006 seismic survey season suggest that only a small number (in both absolute numbers and as a percentage of the bowhead population) were exposed to seismic operations.²⁴ These data indicate that the fall migration largely occurs after all or most seismic operations have ended as a result of severe weather and sea ice formation in mid to late October and November. Imposition of new stringent mitigation measures would be inconsistent with these data, which indicate that the normal migratory behavior of bowheads, combined with weather conditions, provides a high level of protection that is in addition to and independent from existing regulatory protections (i.e., 180 dB exclusion zone).

B. The DEIS Fails To Analyze Safety, Feasibility and Effectiveness

MMS has failed to consider important and relevant factors in its analysis of the proposed 120 dB (and the proposed 160 dB) mitigation measures. First, the OCS Lands Act imposes a clear duty on MMS to consider safety. See 43 U.S.C. § 1332(6) (operations on OCS “should be conducted in a safe manner”); H.R. Rep. No., 95-590 at 159 as reprinted in U.S.C.C.A.N. at 1565 (regulators must consider safety of procedures and equipment); S. Rep. No. 95-284, at 79 (1977) (indicating “the highest degree of safety” should be used in “OCS operations”); Copeland v. Gulf Oil Corp., 672 F.2d 867, 868 n.2 (11th Cir. 1982) (recognizing “heavy emphasis [OCSLA] places on safety”); W & T Offshore, Inc., 164 IBLA 193, 194 (2004) (“Congress intended to ensure that development of oil and gas resources be conducted safely”).²⁵ Despite this statutory

²⁴ The 51 observed whales are 88 percent fewer than the number of whales NMFS predicted would be subject to temporary harassment from the 2006 seismic activity of CPAI using the 180 dB exclusion zone). See St. Pierre Decl. Ex. J p. 5.

²⁵ MMS has acknowledged that obtaining seismic information is critical to its ability to address its statutory obligation to address safety. See St. Pierre Decl. Ex. E (2006 PEA) p. 3

obligation, and despite extensive evidence presented to MMS, the DEIS contains no mention, let alone analysis, of this topic. See James M. Chudnow, 67 IBLA 360, 362 (1982) (stipulations will be upheld “only if the record shows that [the agency] adequately considered the factors involved”).

In addition, MMS has previously acknowledged its obligation to consider only those measures that are implementable, which MMS has defined to mean “feasible in the technical (logistical or engineering limitations), environmental, economic, and social senses.” St. Pierre Decl. Ex. G. p. 24 (2006 PEA). Although MMS has been provided with substantial information establishing that the 120 dB mitigation measures are not implementable, none of this information is discussed in the DEIS. Indeed, no attempt has been made by MMS to quantify costs, evaluate the available technologies, identify risks, or otherwise consider the feasibility of the 120 dB monitoring requirement. MMS cannot determine whether the proposed measures are a reasonable means to their intended purpose without addressing the well-documented fact that the 120 dB requirements are not implementable. See St. Pierre Decl. Ex. G. p. 26 (2006 PEA) (MMS and NMFS’ joint acknowledgement that “[l]ogistical complications and engineering limitations make effective monitoring of the 120-dB isopleths-exclusion zone (in Alternatives 3 and 5 [of the PEA]) very difficult and overall not feasible to accomplish.”). See also Earl R. Wilson, 21 IBLA 392, 393 (1975); James M. Chudnow, 67 IBLA 360 (1982) (stipulation must reflect a reasonable means to accomplish a proper agency purpose).

C. The 120 dB Exclusion Zone Is Not Safe or Implementable

In the 2006 PEA, which MMS has referenced and incorporated into the DEIS, MMS and NMFS admitted that the 120 dB requirements were “very difficult and overall not feasible to accomplish.” St. Pierre Decl. Ex. G, p. 26. This conclusion is amply supported by the associated safety risks, technical problems and costs of the 120 dB measures.

The required aerial monitoring is extremely unsafe due to the remote location of the survey area, unpredictable weather conditions, unfavorable ocean temperatures, and limited daylight hours, which make it unlikely that a rescue could be attempted in the event of mechanical problems. Smith Decl. ¶¶ 6, 8 (surviving an emergency water landing in the Arctic is highly unlikely); *see id.* ¶ 14 (aerial monitoring of survey area presents unacceptable risk of catastrophic accidents and fatalities); see also AOGA’s Comment Letter on 2006 PEA at § IV.B.

Setting aside the unwarranted risk to human life, monitoring the 120 dB exclusion zone is not practicable due to the challenges imposed by the size of the zone, poor weather conditions, and the remote locations of the planned seismic activities in the Chukchi Sea. Monitoring the 120 dB isopleth would require aerial surveillance of a mobile zone of approximately 7,850 square kilometers, with at least a 50 kilometer radius, around a vessel that will transit thousands of

(“The MMS needs geological and geophysical seismic-survey information to fulfill its statutory responsibilities to ensure safe operations, . . .”).

kilometers in the Chukchi Sea. Smith Decl. ¶¶ 5-6. There are no available aircraft that meet the specific criteria for such a program. *Id.* ¶¶ 9-13. Assuming a suitable plane could be located, which is not likely, the cost would be approximately \$700,000. *Id.* ¶ 11. Even if an appropriate plane could be found, the monitoring would be of dubious effectiveness, since flying time would be limited to one pass over the survey area per day. *Id.* ¶¶ 7, 10-11.

When these substantial concerns were pointed out in comments on the draft PEA, NMFS and MMS merely responded that the 120 dB requirement would be “costly, and most difficult to implement.” St. Pierre Decl. Ex. G at 49. In apparent recognition of the dangerous nature of the required aerial monitoring program, the 120 dB requirement was modified in 2006 to allow an alternative passive acoustic monitoring (PAM) program. 71 Fed. Reg. at 43,130. However, the feasibility of this substitution was not analyzed in the 2006 PEA and is not addressed in the DEIS. Insofar as CPAI is aware, a PAM system has never been required as a means of enforcing a marine mammal exclusion zone in Arctic waters. St. Pierre Decl. ¶ 16. It is not known whether an appropriate system could discern whale calls over the sounds of the seismic source, whether it will have the necessary range to cover the 120 dB isopleth area, or whether it will prove capable of positioning whales. Faust Decl. ¶ 15; St. Pierre Decl. ¶ 7. Moreover, use of a PAM system in this manner involves safety risks of its own, as it requires mobilization of a second chase vessel and crew in an already logistically-complex program conducted under extreme conditions. Faust Decl. ¶¶ 16, 29.²⁶

Finally, implementation of the 120 dB requirement is so onerously costly that it could render the seismic program uneconomic. In terms of out-of-pocket costs, mobilizing a second chase vessel and crew, and devising or obtaining an appropriate PAM system, (which cannot be done because effective PAM technology does not exist for this purpose), would cost approximately \$1,700,000 for one season. Faust Decl. ¶¶ 15-17. Although the extent of the impact on operations is uncertain, a conservative estimate is that a 120 dB exclusion zone would result in total shutdown of seismic operations for 1-2 days per week for the duration of a seismic season, resulting in losses of \$7-14 million.²⁷ Faust Decl. ¶¶ 18-21. The associated lost opportunity cost from the

²⁶ During CPAI's 2006 seismic survey program, a PAM system was implemented consistent with research requirements at times when seismic activity was not occurring. However, the PAM system was ineffective. No whales were detected and the system was unable to detect ambient sounds distinct from vessel noise at a distance of more than 1-2 kilometers. In addition, had the PAM system detected any whales, it is unlikely the location of the whales could have been determined. The farther an animal is from perpendicular (90 degrees) to the PAM, the likelihood of determining distance or location incrementally declines to zero at an angle of either 0 or 180 degrees.

²⁷ Although not addressed in the DEIS, use of the PAM system in 2006 was conditioned upon a dramatic and onerous change in the applicable monitoring and shutdown requirements. In 2006, when using a PAM system to monitor the 120 dB zone, complete shutdown of seismic operations was required if a *single* bowhead whale was detected within the 7,850 square

inability to conduct adequate seismic exploration in the Chukchi Sea, as well as market impacts from lost future development opportunity, are incalculable. *Id.* ¶¶ 21, 28; St. Pierre Decl. ¶ 20.

D. The Preliminary Findings Of The Federal District Court Are Instructive

A final decision on the merits of CPAI's challenge to the 120 dB and 160 dB mitigation measures, which were imposed in 2006 permits issued by MMS and NMFS, is still pending. Nevertheless, it is at least instructive to consider the findings of the federal court in staying the effect of the 120 dB mitigation requirements. Faced with (i) a discretionary standard of review that required CPAI to demonstrate that the agencies were either acting without a rational basis or contrary to law, (ii) issues of science regarding which courts give great deference to agencies and (iii) an issue that not only concerns a listed endangered species with public appeal, but cow/calf pairs of the endangered species, the court nevertheless sustained CPAI's arguments for a stay. The court did so because of the strength of the case, reviewed above in this comment letter, demonstrating that imposition of these unprecedented mitigation measures is not a sensible regulatory action. As stated by the court in response to NMFS' motion to reconsider the stay order:

[T]he Court [is] convinced that: (1) the bowhead whale population is robust and has increased steadily over the past several decades alongside ongoing seismic exploration without the use of the new monitoring requirements; (2) implementing the monitoring as required would pose substantial risks to human health and safety, would impose severe economic harm on plaintiff in the range of \$7-\$14 million, and would impair plaintiff's ability to carry out its 2006 seismic program resulting in incalculable and irremediable lost opportunity costs; (3) granting the requested stay would preserve the status quo of the past several decades; and (4) as [NMFS] has separately concluded, granting the requested stay would not result in adverse effects on the bowhead whale population.²⁸

We do not contend that the court's orders regarding the stay order bind MMS in this matter or constitute a final decision. However, we do contend that the court's decision is relevant information for MMS regarding both the reasonableness of CPAI's concerns and the appropriateness of the proposed measures.

V. SUPPORTING SUBMISSIONS FOR THE ADMINISTRATIVE RECORD

CPAI's comments above make reference to other written comments that have been previously submitted regarding the 2006 PEA and the proposed OCS leasing plan for 2007-2012, as well as

kilometer exclusion zone. Accordingly, a one whale located 50 kilometers from the seismic vessel would require a complete shutdown of seismic operations.

²⁸ CPAI v. NMFS, Order Denying Motions for Reconsideration at 4-5.

to declarations (with attachments) previously served on MMS in connection with the pending IBLA challenge. The declarations, in particular, contain testimony from experts in support of CPAI's comments. For purposes of the administrative record, we are providing copies of the following with this letter:

- Declaration of Jay Brueggeman (with attachments)
- Declaration of Bruce St. Pierre (with attachments)
- Declaration of Michael J. Faust
- Second Declaration of Michael J. Faust
- Declaration of Dave Smith (with attachment)
- Comment Letter dated November 22, 2006 from Erec Isaacson (ConocoPhillips Alaska, Inc.) to Ms. Renee Orr and Mr. James Bennett (MMS)
- Comment Letter dated May 10, 2006 from Judith M. Brady (Alaska Oil & Gas Association) to MMS
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- CPAI v. NMFS, Case No. 3:06-cv-0198, Order Denying Motions for Reconsideration (D. Alaska, Oct. 5, 2006).

All of these submissions listed above constitute part of CPAI's comments regarding Lease Sale 193. We request that MMS include these materials in the administrative record with respect to the DEIS and Lease Sale 193.

VI. CONCLUSION

The mandates of the OCS Lands Act strongly support Lease Sale 193 and preleasing seismic activity in 2007. CPAI urges MMS to proceed with Lease Sale 193 without a coastal lease exclusion zone. MMS should adopt reasonable protective lease stipulations for the benefit of the sensitive resources and subsistence activities occurring in the polynya during each spring season.

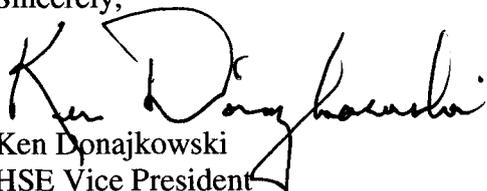
With respect to preleasing seismic survey activities in 2007, and postleasing seismic exploration thereafter, there is a high degree of assurance, based upon decades of data, that there will be no discernable population-level impacts to marine mammal populations, including the BCB Seas bowhead whales. Under these circumstances, the best scientific evidence and the mandates of the OCS Lands Act cannot be reconciled with imposition of exclusion zones at the 120 dB and/or 160 dB levels. These proposed mitigation measures may be well-intended; however, the premises for such extraordinary measures are speculative and contradicted by a large body of data regarding the sustaining and resilient health of the BCB Seas bowhead whales. Moreover the proposed restrictions are impracticable in implementation and present unacceptably high safety risks.

CPAI sincerely appreciates your consideration of our comments on the DEIS regarding Chukchi Sea OCS Lease Sale 193 and preleasing seismic activity. Please include this letter and the

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attachments as our submission to the administrative record for the DEIS, the leasing decision of MMS and all related permitting decisions by NMFS regarding preleasing seismic activities.

Sincerely,

A handwritten signature in cursive script that reads "Ken Donajkowski". The signature is written in black ink and is positioned above the printed name.

Ken Donajkowski
HSE Vice President
ConocoPhillips Alaska, Inc.

APPENDIX A
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**CONOCOPHILLIPS ALASKA, INC.
SUPPORTING SUBMISSIONS FOR THE ADMINISTRATIVE RECORD**

- 1. Declaration of Jay Brueggeman (with attachments)**
- 2. Declaration of Bruce St. Pierre (with attachments)**
- 3. Declaration of Michael J. Faust**
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MMS Responses to Conoco Comments

Conoco 010-001

The process for Lease Sale 193 was initiated under the 2002-2007 5-Year OCS Program, although if the lease sale occurs, it will take place under the 2007-2012 5-Year Program. In accordance with the 2002-2007 Program, the Notice of Intent to Prepare an EIS for Lease Sale 193 identified the area of the Proposed Action. This defined the boundaries of the area within which we would consider whether or not deferral alternatives are “reasonable.” Deferral areas outside of these boundaries are, by definition, not “reasonable,” because they are not within the area that can be offered for leasing. This comment is speculative, and would expand consideration into an area that was not identified under the 2007-2012 5-Year Program. This, in turn, would require MMS to reinitiate the NEPA process. The NEPA process for any sales that may be scheduled under the 2007-2012 5-Year Program will reflect the boundaries defined in the Final Program established by the Secretary of the Interior.

Conoco 010-002

The comment suggests that we analyze opportunity loss for an area beyond the boundaries of the area considered for leasing in Lease Sale 193. As explained in our response to comment **Conoco 010-001**, we are constrained from examining areas for leasing beyond that identified in the Five Year Program and subsequent actions. While these opportunity loss computations may be appropriately considered for setting the boundaries under the 2007-2012 5-Year Program currently under development, they are superfluous and beyond the scope of the area considered for Lease Sale 193.

Conoco 010-003

The comment is correct. We do not analyze a Coastal Exclusion Zone for Lease Sale 193, because the coastal area was analyzed and deferred from leasing under the 2002-2007 5-Year Program. See also the response to comment **Conoco 010-001**.

Conoco 010-004

The deferrals examined in the draft EIS were established to explore the potential mitigative effects of the Proposed Action alternatives on potential impacts to a range of resources, including walrus, fish, waterfowl, belugas, polar bears, seals, and subsistence-harvest activities, not just on the spring migration of the bowhead whale. The “lease deferral alternative” would not “foreclose all activities” in the area, as the comment states. Geological and Geophysical surveys conducted under 30 CFR 251 would not be affected by a “lease deferral alternative.” To the extent that this comment states CPAI’s preferred outcome of the option the Secretary may select, it is noted for the record.

Conoco 010-005

Areas excluded from leasing are simply not offered for leasing. Such deferral does not preclude other uses of the OCS. For this reason, the EIS appropriately examines the possible effects of a hypothetical exploration and development scenario to resources and other users of the OCS. The assumed activities included support vessels and aircraft transiting to, through, and from the lease sale area. The EIS identifies a number of reasonable stipulations and ITL clauses that would minimize those effects. Any future OCS plans will require additional environmental analysis. This analysis may further refine the mitigation. In keeping with the government’s responsibilities under these reviews and laws such as the Endangered Species Act and the Marine Mammals Protection Act, additional measures may be identified and required.

Conoco 010-006

This comment states the rationale and CPAI's preferred outcome of the option the Secretary may select for the lease sale. As such, it is noted for the record.

Conoco 010-007

Alternative III (Corridor I Deferral) with its 60-mile buffer extending seaward from the Chukchi Sea shoreline would afford the greatest protection to subsistence resources, and this is why this alternative is analyzed in the EIS. This deferral is not included in the EIS or analyzed because of its potential mitigative relief from seismic-survey activities; rather, it is included because it would exclude these blocks from leasing and, therefore, prevent the placement of any exploration-drilling structures or any permanent production platforms in the deferred area. This in itself would afford extensive protection to marine mammals migrating through the polynya each spring, and to species such as walrus that remain in the region during open-water. Also, should a spill occur it would be farther from shore, making it less likely to contact land, and affording more response time. The MMS acknowledges that the statement is true that there have been no fall subsistence hunts in the Chukchi Sea since the 1880's. However, this does not mean that there will be none in the future. The Bering Sea community of Savoonga on St. Lawrence Island harvested bowhead whales during the fall of 2005—the first time in many years.



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December 26, 2006

Mr. John Goll
Minerals Management Service
3801 Centerpoint Dr. Suite 500
Anchorage, Alaska 99503

Dear Mr. Goll:

This letter comprises comment on the proposed Chukchi Sea Oil and Gas Lease Sale 193 Draft Environmental Impact Statement in addition to what we already submitted in our December 22, 2006 letter with other conservation organizations. I am providing these comments on behalf of our organization and its over 1,700 members.

We are concerned about the high risks to fish and wildlife resources of local, national and international importance from the proposed lease sale and resultant oil exploration, development and production. At this time, the only alternative we can support is "Alt. II, No Lease Sale."

The Chukchi Sea is a remarkable ecosystem that should not be seen merely as gridded lease blocks. While the oil men see this reach of the Arctic Ocean as the "last Frontier" where maybe they will hit it big (but most likely not, according to MMS's own statements), it is also a scientific frontier in that so little is known about this marine ecosystem especially in light of rapid climate change.

The Chukchi is part of the circumpolar Arctic Ring of Life, named by the polar bear biologist Uspenski, which now faces extreme changes due to global warming that put its essence – the polar bear—at risk of extinction within our life times. The Chukchi Polynya with its open waters and wide leads is a vital life stream running off its coast which contains bird and mammal life even in the darkest, coldest times of the winter contrary to the stereotype of icy winter conditions. The polynya supports spring migrations of millions of migratory birds, beluga whales, bowhead whales, and benthic feeding by Pacific walrus and gray whale. There are rich feeding areas for birds, whales and walrus located far offshore and the fall bowhead migration traverses the Chukchi Sea to Russian waters. Most of the world's population of Pacific walrus summers in the Chukchi Sea, according to the U.S. Fish & Wildlife Service.¹

The nature of the polynya and other open water leads, as well as pack ice and its biologically productive ice edge -- and likely also the geographic use by fish and wildlife -- has been altered

¹ U.S. Fish and Wildlife Service, Marine Mammals Management. Walrus Fact Sheet.
<http://alaska.fws.gov/fisheries/mmm/walrus/nhistory.htm> (Accessed December 26, 2006).

due to climate change and may continue rapidly changing in the foreseeable future. Although MMS provides a map showing some aspects of the Polynya's recent extent, it does not correlate this with changes in habitat use by marine mammals, birds, and fish and impacts of oil and gas activities.. MMS failed to analyze the full ramifications of climate change and impacts of oil and gas activity on fish and wildlife in light of the potential summer disappearance of Arctic Ocean sea ice, projected to occur as early as 2040 according to a recent study by the National Center for Atmospheric Research (NCAR).² Given the significance of the Chukchi Sea to summering Pacific walrus, MMS made an egregious omission by not analyzing cumulative impacts of climate change to this species.

011-001

A recent Shell Oil advertisement notes that "the melting of arctic waters off the North Slope has made offshore drilling there more feasible."³ It appears that Shell Oil and other oil companies' increasing interest in oil leasing and production in the Chukchi and Beaufort Seas is due (at least in part) to increasing ice-free waters caused by climate change. Therefore, MMS needs to address climate change alternations in the existing environment during the time period of the lease program activities, and cumulative effects including increased risks of from hazards such as summer storms, permafrost melting, and impacts including spills, noise disturbance, increased shipping traffic, and greater mortality caused by vessel strikes. The potential leases sold in Sale 193 could be expected to have a duration to 2040 (since MMS assumes that production will occur) therefore it is reasonable to analyze climate change impacts including consequences for the oil activities themselves from permafrost melting, ice changes, temperature warming, etc. for that time period.

011-002

Even back in 1989, Shell Oil "indicated earlier it might consider tankering crude, but the decision would depend on the location of the field and its proximity to shore,"⁴ therefore chances may increase that tanker transport of crude oil or liquefied natural gas could result and so these impacts need to be analyzed due to the high potential consequences. MMS needs to evaluate oil spills, disturbance, and habitat impacts to fish, wildlife, wilderness values of shorelines, and subsistence from potential port locations, as well as potential lightering sites at oil production platforms (including tankers used for oil production tests during the delineation and development drilling phase), and tanker transportation to market. The DEIS needs to evaluate the effects of a tanker spill.

011-003

The sea ice study's lead author Dr. Marika Holland stated, "Our research indicates that society can still minimize the impacts on Arctic ice,"⁵ by reducing greenhouse gas emission. MMS needs to analyze cumulative impacts of oil and gas and climate change impacts under a range of modeled future conditions. The MMS should also evaluate an alternative wherein the national need for energy is met using efficiency, clean renewables and national policy of greenhouse gas emissions.

011-004

² Marika M. Holland, Cecilia M. Bitz, and Bruno Tremblay. December 12, 2006. Future Abrupt Reductions in the Summer Arctic Sea Ice. *Geophysical Research Letters*.

³ Shell Exploration & Production. September 25, 2006. "Congressional Quarterly Summit - Special Advertising Section in: *Congressional Quarterly*.

⁴ *Offshore Magazine*. March 1989. The Chukchi Challenge: Shell probes Chukchi Sea for Prudhoe extension. Pp. 21-30.

⁵ See <http://www.ucar.edu/news/releases/2006/arctic.shtml> (accessed Dec. 26, 2006).

In the Arctic Ring of Life, the land is tied to the sea. Coastal communities depend on the marine life migrating nearby but traveling far from their shores and so rely on the health of the larger Chukchi Sea and the Beaufort Sea. Pacific walrus and spotted seals haul out along the coast yet feed in the ocean. Belugas migrate through the Chukchi Sea to calve in Kasegaluk Lagoon, yet the risks to the animals and their habitats were downplayed in the DEIS. Cumulative effects from oil spills, and disturbance to the sensitive belugas, nesting migratory birds and subsistence in Kasegaluk Lagoon, including the Special Area designated within the National Petroleum Reserve-Alaska need to be analyzed. The spectacled eider winter critical habitat at Ledyard Bay along the arch of coast south of Point Lay is used by for birds depending on tundra nesting in the National Petroleum Reserve-Alaska. The seabirds nesting on high cliffs at Ann Stevens Cape Lisburne and Cape Thompson Units of the Chukchi Unit of the Alaska Maritime National Wildlife Refuge go out to sea for feeding in a radius far from the bluffs. Relatively little is known about the status Chukchi polar bear population yet it is vitally important to Russia and the U.S. as acknowledged in the recent bilateral treaty regarding their conservation and indigenous harvests, as well as to uphold U.S. obligations under the Agreement on the Conservation of Polar Bears. None of the risks to these resources for a full range of alternatives was fully analyzed by the DEIS.

011-005

Offshore oil operations would cross boundaries of land and sea. Oil exploration is expected to entail transportation across the land by drill rigs and supplies, including across the National Petroleum Reserve-Alaska. Oil production requires pipelines (unless oil supertankers are used) across the National Petroleum Reserve-Alaska to the Trans-Alaska Pipeline, and the proposed route(s) should be shown and analyzed for impacts as it is an integral part of the leasing scenario.⁶ Such onshore pipelines and road networks would affect a number of caribou herds yet such effects were not adequately analyzed. The potential risks of oil spills to the important denning area at Russia's Wrangel Island Reserve as well as harm from seismic exploration and other disturbance or alteration to their food sources and migratory routes were inadequately described in the DEIS. The cumulative effects to fish and wildlife and subsistence from oil and gas activities in both the Chukchi and Beaufort Seas need to be better analyzed (see attached map: Proposed Offshore Seismic, Leasing and Drilling in Arctic Ocean).

011-006

MMS fails to describe the past controversies from the State of Alaska and Alaska Native communities and organizations regarding Chukchi Sea leasing including issues of oil spill response capability to respond to major spills and the special sensitivity of significant areas in 1980's lease sale areas.⁷ Furthermore, MMS ignores past impacts of activities resulting from its earlier Chukchi Sea oil and gas leasing program, nor does it describe potential impacts from

011-007

⁶ MMS needs to provide a current scenario of the expected routes and cumulative effects with onshore oil and gas industry development. MMS has portrayed pipeline routes from the Chukchi Sea across the NPR-A connecting at Pump Station 1 and Pump Station 2 in the past; cumulative infrastructure was compiled from many Interior Department sources in a map, Arctic Alaska: Offshore and Onshore oil and gas development proposed by the U.S. Department of the Interior. In: P.A. Miller, D. Smith and P.K. Miller. 1993. Oil in Arctic Waters. Anchorage: Greenpeace.

⁷ Anchorage Daily News. August 4, 1990. native groups fear development in possibly oil-rich Chukchi sea. Anchorage Times. June 10, 1989. Drilling delay requested: Cowper demands proof for cleanup capability. Anchorage Times. June 14, 1989. Feds withdraw lease sale land. Anchorage Daily News. September 16, 1990. North Slope mayor opposes lease sale. Anchorage Daily News. January 14, 1991. Eskimos oppose offshore drilling.

detailed hazard surveys. There are no maps showing the locations of wells drilled or the grids where 156,000 miles of seismic exploration surveys were shot and how those affected existing fish and wildlife resources.

For example, monitoring studies showed that exploratory drilling operations altered distribution of Pacific walrus. The studies found that thousands of walrus encountered the drill ships and ice breakers, and walrus moved up to 15.5 miles away from drill ships and icebreakers and farther into the pack ice.⁸ In 1989, Shell likely violated the Marine Mammal Protection Act when a walrus calf ended up in the open area in the hull of the drill ship where drilling took place on July 6 to 8 and it may have been poisoned with hydraulic fluid. Shell Oil (Shell Western E&P Inc.) reported that the walrus was shaking, lethargic, and unresponsive on July 8th at which time it removed it from the drill ship opening and released it overboard after which time it was not seen again.⁹ Existing levels of contaminants and analysis of cumulative effects on Pacific walrus and other species should be considered, as high levels of cadmium and other heavy metals have been recorded in this species, and tissues of walrus in the Chukchi Sea also were reported to contain refined hydrocarbons.¹⁰

011-008

The Interior Department's proposed action to lease roughly 33 million acres of sensitive marine habitats in the Chukchi Sea is an extreme action. Hasty, wholesale leasing of the entire planning area is contrary to the targeted "special interest sale" approach approved in the 2002-2007 Five-year Plan. Furthermore, the accelerated nature of the process, including hurried consideration of pre-lease seismic surveys because industry wanted them, runs contrary to the orderly process required by OCLSAA. For this reason alone, Sale 193 should be cancelled as it was improperly started under the current Five-Year plan. Due to MMS's need to collect additional of baseline information in order to meet OCSLAA's requirements, and because of the high consequences of permanently dedicating vast areas of the pristine Chukchi Sea to oil activities, we believe that neither Sale 193 nor any other Chukchi Sea sales should be included in the Five-Year Plan for 2007-2012. MMS cannot use the excuse that it needs some information in order to conduct national assessments of the resource potential as seismic exploration and drilling occurred in the Chukchi Sea in the past. MMS has already shown how small the potential hydrocarbon resources are compared with areas already open to industry in the Gulf of Mexico – and even more importantly, how insignificant the oil and gas potential is compared with small increases in efficiencies in car and small truck mileage standards.

011-009

⁸ Brueggeman, J.J., C.I. Malme, R.A. Grotefendt, D.P. Volsen, J.J. Burns, D.G. Chapman, K.K. Ljungblad, and G.A. Green. 1990. 1989 walrus monitoring program: The Klondike, Burger, and Popcorn prospects in the Chukchi Sea. Houston: Ebasco Environmental for SWEPI.

⁹ Shell Western E&P Inc. July 21, 1989. Letter from Wayne F. Simpson, Manager Regulatory Affairs to Walter Steiglitz, Regional Director, U.S. Fish and Wildlife Service, Anchorage.

Trustees for Alaska, Eskimo Walrus Commission, and Rural Alaska Resources Association. August 14, 1990. Petition for review from a final decision by the Secretary, U.S. Department of the Interior. U.S. Court of Appeals for the Ninth Circuit, No. 90-70404.

Anchorage Times. June 9, 1990. Wandering walrus calf spurs Shell permit filing; Groups petition court to force rig out of Chukchi.

Anchorage Times. July 7, 1990. Chukchi drilling bothers walrus, Trustees charge.

¹⁰ Sease, J.L. and D.G. Chapman. 1988. Pacific walrus. Pp. 17-38 in: Lentfer, J.W. ed. Selected marine mammals of Alaska. Washington DC, Marine Mammal Commission.

Taylor, D.L., S. Schliebe, and H. Metzger. 1989. Contaminants in blubber, liver, and kidney tissue of Pacific walrus. Marine Pollution Bulletin 20(9): 465-468.

As the National Research Council (2003) noted in *Cumulative environmental effects of oil and gas activities on Alaska's North Slope* and in its earlier study, *Environmental Information for Outer Continental Shelf Oil and Gas Decisions in Alaska* (1994), there are adverse impacts to Alaska Native communities that take place from the leasing process itself and these have ramifications for Environmental Justice. The NRC studies identified many significant data gaps that still have not been addressed.

011-010

This Sale 193 lease plan and DEIS fails to meet its required trust responsibilities for fish and wildlife resources, trust responsibilities to federally recognized tribes, subsistence management responsibilities under ANILCA Title 8, and balanced management of the marine resources in the OCS as required by OCLAA. Furthermore, the National Marine Fisheries Service (NMFS) as cooperating agency appears to have taken a back-seat role in this DEIS. NMFS is involved with confusing and overlapping NEPA reviews regarding seismic surveys in the Chukchi Sea since it is separately doing another EIS process on seismic surveys related to its Marine Mammal Protection Act responsibilities related to incidental take and harassment. However, mitigation measures related to seismic surveys should be part of the MMS's proposed Chukchi Sea lease stipulations.

011-011

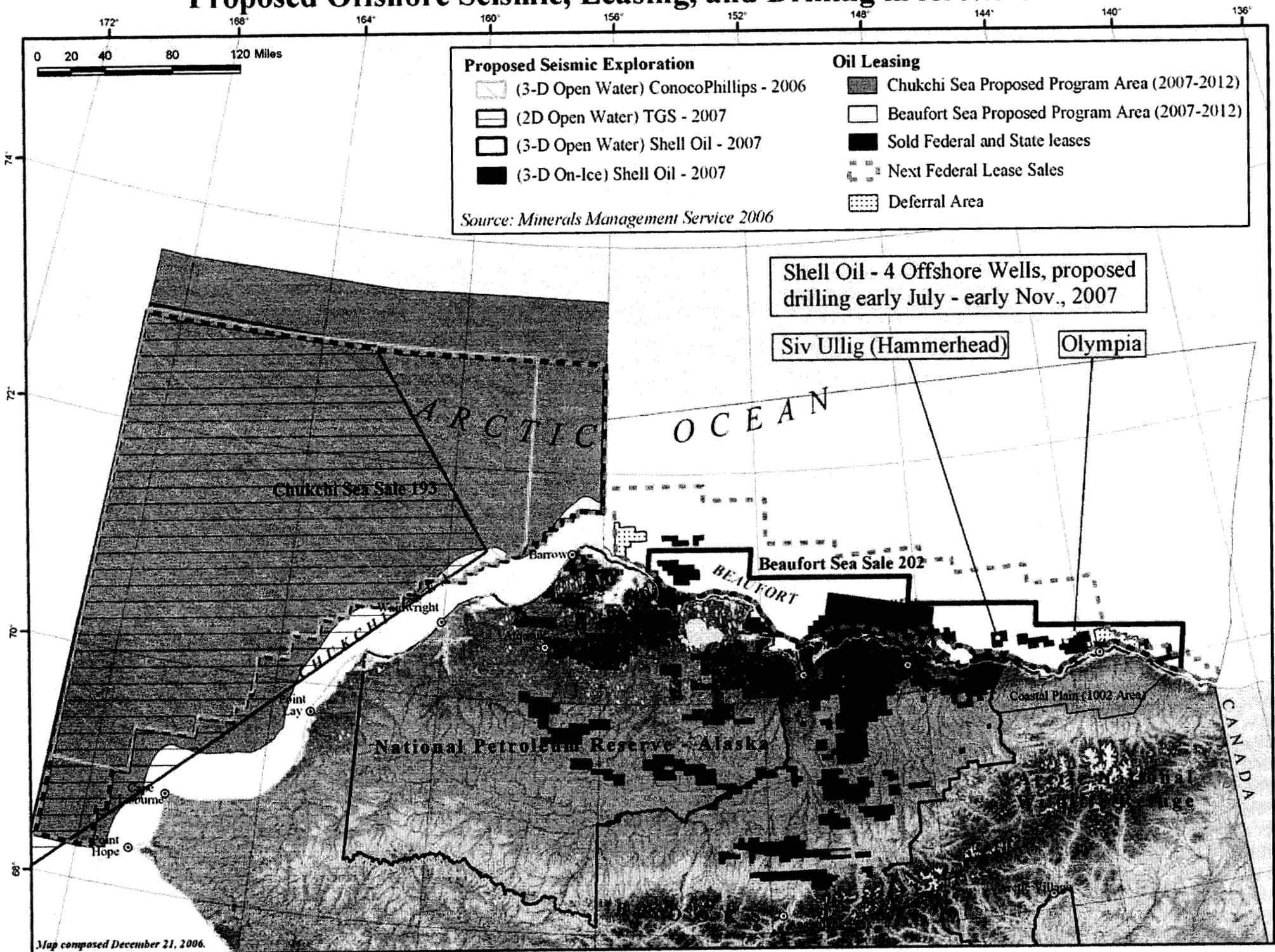
In conclusion, we support Alternative II, "NO LEASE SALE" as cancellation of this sale is the only reasonable course at this time.

Sincerely,

Pamela A. Miller
Arctic Coordinator

Attachment: Map - Proposed Offshore Seismic, Leasing and Drilling in Arctic Ocean

Proposed Offshore Seismic, Leasing, and Drilling in Arctic Ocean



Shell Oil - 4 Offshore Wells, proposed drilling early July - early Nov., 2007

Siv Ullig (Hammerhead)

Olympia

ARCTIC OCEAN

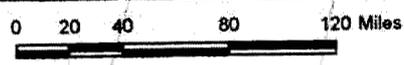
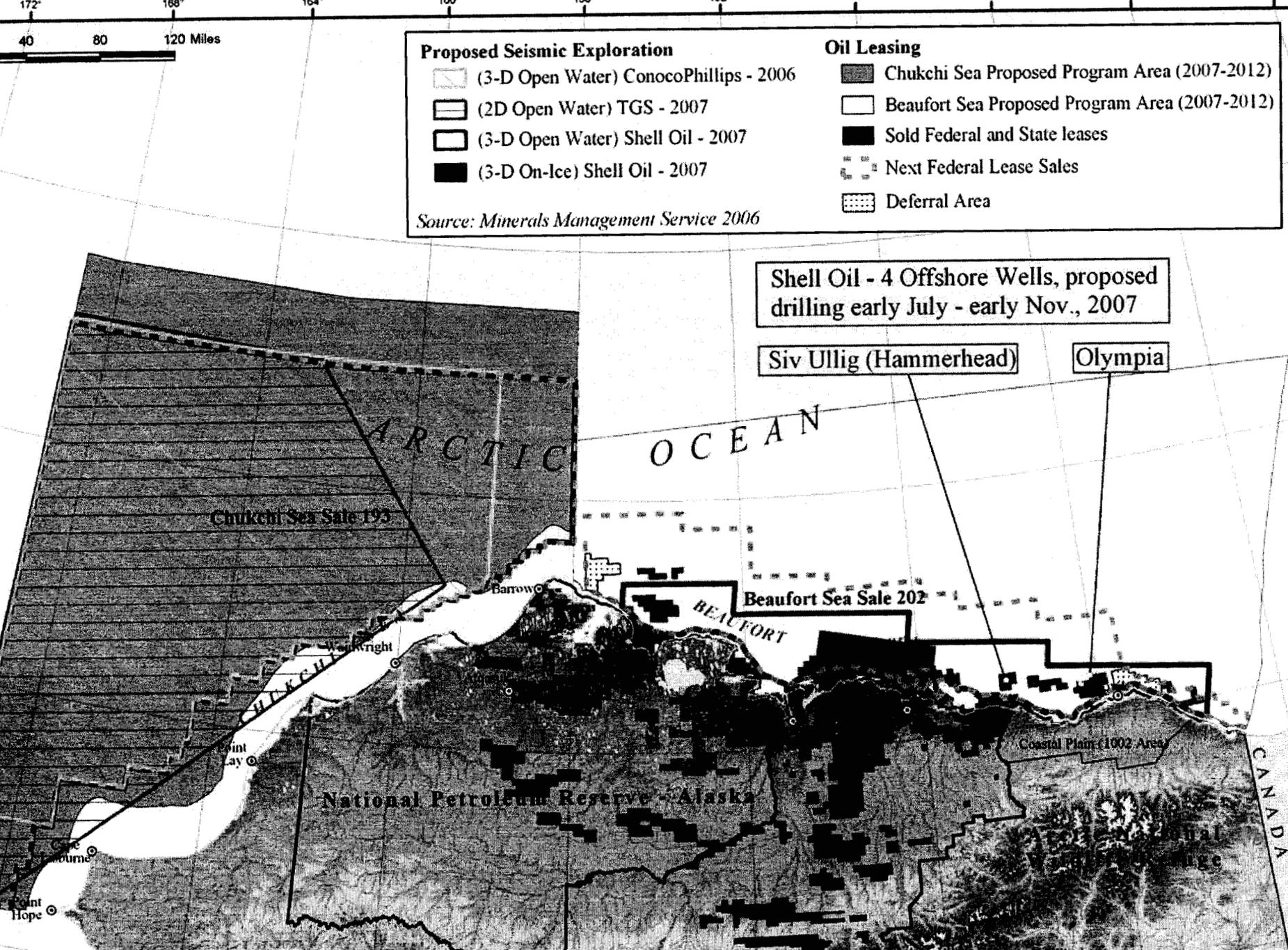
Chukchi Sea Sale 195

Beaufort Sea Sale 202

National Petroleum Reserve - Alaska

Coastal Plain (1902 Area)

CANADA



MMS Responses to Northern Alaska Environmental Center Comments

NAEC 011-001

The commenter suggests that MMS made an “egregious omission by not analyzing cumulative impacts of climate change to” walrus. However this topic was covered in depth in the EIS. The commenter is referred to Sections V.C.8.b and III.B.6.a(5) for a discussion of the potential effects of climate change on walrus.

NAEC 011-002

The effects of arctic warming to date are reflected in the description of the existing environment in Section III. The cumulative analyses consider the future effects of climate change to the extent possible considering the uncertainty in the future trend and rate of climate change. The cumulative analyses address impacts from factors such as oil spills, noise, and vessel traffic. In their draft guidance dated October 8, 1997, CEQ recommends addressing global climate change at the program level rather than at the project level. The contribution of OCS activities to greenhouse gas emissions are discussed at the programmatic level in the final EIS for the 2002-2007 OCS Leasing Program (USDOJ, MMS, Herndon, 2002:Sec. 4.1.2) and in the draft EIS for the 2007-2012 OCS Leasing Program (USDOJ, MMS, 2006c:Sec. IV.A.1).

NAEC 011-003

Arctic warming could change the feasibility of marine transportation through the Arctic. However, considering the volume of potential oil production and seasonal sea ice restrictions on marine traffic, for the foreseeable future the most practical way to transport oil from the Chukchi Sea OCS would be by pipeline across NPR-A and then through the established TAPS and tanker route. If this situation changes these transportation assumptions will be reviewed. If alternative plans are seriously proposed appropriate NEPA analyses will be conducted. At this time, the specifics of future development are vague, because commercial discoveries have not been made. We believe that the development scenario includes realistic engineering and economic assumptions. Some aspects of marine transportation and operations (supply to a new shore base and seismic surveys, among others) are covered in the EIS. We do not attempt to incorporate all of the preliminary development strategies of every company at this early stage of leasing and exploration. There will be ample time for subsequent detailed analysis of a specific project when it is officially proposed.

NAEC 011-004

Climate change will have a variety of effects. The description of the affected environment (Sec. III) notes past changes to the Arctic on a resource-by-resource basis. We evaluate the effects of Arctic climate change over the life of the project on a resource-by-resource basis in the effects of the project (Section IV) and in cumulative effects (Section V). Evaluation of oil and gas and alternatives to providing the Nation's energy supply was appropriately analyzed under Alternative 5 - No Lease Sale (that is, no leasing) in the EIS for the 2002-2007 5-Year Program EIS (USDOJ, MMS, Herndon, 2002). The EIS for Lease Sale 193 tiers from this programmatic analysis. In the Sale 193 EIS, the programmatic analysis is reflected in our evaluation of Alternative 2 - No Lease Sale.

NAEC 011-005

Oil-spill and cumulative impacts, as they relate to Pacific walrus, spotted seals, and beluga whales in Kasegaluk Lagoon, are discussed in Section IV.C.1.1, Subsistence-Harvest Patterns, and in an expanded cumulative effects discussion in Section V.C.12, Subsistence-Harvest Patterns. Subsistence issues in Russian Chukotkan coastal communities are discussed in the same sections.

We believe that the scope of the cumulative analysis is appropriate for this EIS and is in accordance with the provisions of NEPA regulations to keep EIS's concise and no longer than absolutely necessary (40 CFR

1502.2(c)), to evaluate actions at a level of detail appropriate to focus issues relevant to the decisionmaking process. While the level of detail for this cumulative impact analysis is less broad than that of the 5-Year Program, it is considerably more focused for the level of detail necessary for an individual lease sale. This approach is in keeping with NEPA (40 CFR 1502.20), involving the use of a tiered approach of analyses.

NAEC 011-006

Onshore pipeline and road impacts are discussed in the subsistence impacts section, as well as in the cumulative effects discussion. Trans-boundary impacts on Chukchi Sea coastal communities from oil spills are also discussed in these sections.

NAEC 011-007

As stated in Section II.B.5, the issues addressed in the EIS have been identified through the scoping and comments on draft EIS's for past leases sales, as well as from the scoping process for this EIS. Section II.B.5.a(1) specifically identifies the issue of oil-spill-response capabilities in the Chukchi Sea environment. Oil spill prevention and response is discussed in Section IV.A.5. The MMS regulations at 30 CFR 254 specify the requirements for oil-spill-response plans.

The effects of past OCS activities are incorporated in the descriptions of the current states of the environmental resources in Section III. The cumulative analysis in the EIS includes the effects of past OCS activities if there are any continuing or future impacts associated with those past activities. For example, seismic surveying on existing leases issued as a result of past lease sales in the Beaufort Sea is included in the scenario for the cumulative analysis.

The impacting factors associated with 3D/2D and high-resolution surveys are similar. These surveys vary in the level of acoustic energy used and the density of the data collection. Each analyst makes a determination on how to address impacts to their resource(s) of expertise. Some analysts have separated out the analysis of high-resolution seismic surveys from the analysis of 3D/2D seismic surveys because of differences in potential impacts or appropriate mitigation measures (e.g., see Sec. IV.C.1.f(1), Threatened and Endangered and Marine Mammals). Other analysts have discussed the potential impacts of sound from both 3D/2D and high-resolution seismic surveys under one heading (e.g., see Sec. IV.C.1.g, Marine and Coastal Birds).

The locations of the past exploratory wells will be added to Map 1. The track lines of the past exploration seismic surveys can be found on Figures III.C-1 through 3 in the final seismic-survey PEA (USDOI, MMS, 2006a). Information from that document is incorporated by reference in this EIS. Printed copies of the PEA are available upon request to MMS. The PEA also is posted on the MMS Alaska Region website.

NAEC 011-008

Additional text discussing the potential impacts of contaminants has been incorporated in Section V.C.8.

NAEC 011-009

The evolution of the "Special Interest Sale" into the wider area of Lease Sale 193 is documented in Section I.D, Prelease Process of the EIS. This extensive EIS that examines the entire area is the result of that evolution. This comment states the rationale and reviewer's preferred outcome of the option the Secretary may select for the lease sale, and it is noted for the record.

NAEC 011-010

Because ANILCA does not apply to the U.S. OCS, MMS has no trust *responsibilities* for fish or other wildlife; nevertheless, MMS takes very seriously its trust *relationship* to these resources and to tribes. The MMS pioneered the first environmental justice analysis for the State of Alaska, based on the Alaskan

Native subsistence provisions of Executive Order 12898 and continues to work closely with the USEPA to improve and expand this analysis. We believe the environmental justice analyses for lease sale and cumulative impacts address all pertinent concerns.

Mitigation required for seismic survey disturbances to marine mammals is an ongoing collaboration between NMFS and MMS and will continue to be so, as both agencies have overlapping resources and permitting responsibilities.

The MMS stipulations and required mitigation and conflict avoidance measures under IHA requirements, as defined by NMFS and FWS, that directly impact subsistence activities are followed in locations where the subsistence hunt is affected. The IHA requirements obligate operators to demonstrate no unmitigable adverse impacts on subsistence practices. Conflict avoidance agreements (CAA's) between permittees, the AEWC, and village Whaling Captains' Associations work toward avoiding unreasonable conflicts and disturbances to hunters and bowhead whales. Such CAA's would follow protocols similar to those reached annually between permittees and the AEWC for the subsistence bowhead hunt and address industry seismic and drilling activities under provisions of the MMPA. With the use of the CAA methodology, subsistence-whale hunters generally have been successful in their annual whale harvest. A CAA generally includes prohibitions on conducting oil-industry activities during the bowhead whale hunting season, dispute resolution, and emergency assistance to whalers at sea. Implementation of this CAA ensures that there will be no unmitigable adverse impacts on the subsistence uses of marine mammals by these residents.

NAEC 011-011

We disagree that MMS fails to meet its trust responsibilities in this EIS. The Scoping Report and Section VI of the EIS describes the extensive consultation with Native Alaska Tribes, communities, and other agencies, including NMFS, that took place throughout the development of the EIS and will continue to take place in the future. The MMS has analyzed a reasonable range of alternatives on resources within the Sale 193 area in this EIS, including subsistence-harvest resources. See response to comment NAEC 011-010 regarding our trust relationship with Native Alaskan Tribes. Mitigation measures for seismic surveys are considered in relationship to the activity and its effects, not in terms of whether those activities are conducted under a geophysical and geological permit issued under 30 CFR 251 or conducted under an OCS plan submitted and approved under the provisions of 30 CFR 250. However, as noted by ITL No. 6 - Information on Seismic Survey Activity, these are standard mitigations that apply to operations conducted under the provisions either set of regulations.



Shell Exploration & Production Company

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December 26, 2006

VIA EMAIL: AKEIS@mms.gov

Regional Director
Alaska OCS Region
Minerals Management Service
3801 Centerpoint Drive, Suite 500
Anchorage, Alaska, 99503-5820

Dear Mr. Goll:

**SUBJECT: COMMENTS ON DRAFT EIS ON PROPOSED CHUKCHI SEA LEASE SALE
193 INCLUDED IN THE 5-YEAR PROGRAM, 2002-2007**

Shell E&P Company (Shell) is pleased to respond to your request for comments on the draft environmental impact statement (DEIS) for the proposed Chukchi Sea Lease Sale 193 included in the 5-Year Program, 2002-2007. Shell holds a total of 103 leases in the Outer Continental Shelf of the Beaufort Sea and is interested in participating in Lease Sale 193 in the Chukchi Sea.

Shell is an integrated oil and gas company addressing the challenge of meeting growing world demand for energy. We do it efficiently, profitably and responsibly - putting sustainability, the search for viable new energy sources, and the application of innovative technologies at the heart of how we do business. When Shell enters an area to explore and ultimately set up operations, we do so with a clear business objective, but we also have two other goals - to protect and preserve the environment and to make a positive impact on the community, such as through workforce development. We are committed to maintaining long-term and sustainable relationships with the state of Alaska and its residents.

Shell supports *The Proposed Action (Alternative I) under DEIS to conduct Chukchi Sea OCS Lease Sale 193 in 2007* and endorses the comments submitted by the American Petroleum Institute (API) and the National Oceans Industry Association (NOIA) on this DEIS.

5-Year Program. Shell urges the MMS to make every effort to hold the lease sale in this current 5-Year Program. We are encouraged that MMS has proposed to include the Chukchi Sea in the next 5-Year Program. As the 2007-2012 program is developed, it will define the shape and scope of domestic offshore energy development opportunities and determine the extent to which the Nation is committed to addressing its growing energy supply problems. It will serve as the foundation for significant investment in jobs, technology, and infrastructure throughout

the nation and will have a substantial effect on the state of Alaska. A robust plan could serve as the catalyst for significant revenue streams into the federal treasury and to coastal states, like Alaska, and for conservation programs. It will guide the development of domestic energy reserves to fuel our economy. Most importantly, however, the new 5-Year Program will determine how, and from what sources, our crucial energy needs will be met, and Alaska offshore waters hold great promise for meeting our energy needs.

Revenue Sharing. As indicated in earlier comments to MMS, Shell strongly and publicly advocates OCS revenue sharing of royalties, bonus bids, and fees with coastal states and communities while advocating the continuance of existing financial leasing and production terms. Such funding would protect the nation's energy supply by contributing to the economic and environmental stability of communities that support the activities necessary to ensure energy production, supply and distribution. Shell believes that revenue sharing is the best way for the federal government to acknowledge the contribution states make to our nation's energy needs. This should include Alaska. We believe it is the right thing to do.

Our support for revenue sharing has been expressed through public speeches made by Shell executives around the country, through oral and written testimony to the House and Senate, and through our sponsorship of a series of *Congressional Quarterly* Summits on Energy Exploration held this past year in communities around the country.

Shell believes a portion of OCS revenues should be specifically dedicated (not subject to annual appropriations) to MMS, Bureau of Land Management, and state wildlife management agencies to fund environmental work necessary to support oil and gas development and to fund monitoring, mitigation and enforcement activities.

Seismic Operations. We are encouraged that the MMS is partnering with the National Marine Fisheries Service (NMFS) to conduct a Seismic Programmatic EIS. We greatly appreciate the hard work and attention given by NMFS and MMS staff to expedite the environmental work and issuance of permits this past year to enable our 2006 seismic operations. We equally appreciate the current effort by both NMFS and MMS to prepare the Programmatic EIS. We believe this is the right approach to satisfy stakeholder concerns that the scientific information has been considered and the impacts and mitigation measures properly evaluated. MMS should clarify that the Chukchi Lease Sale EIS will cover all exploratory activities and will tier off of the Seismic Programmatic EIS for seismic activities.

After careful review of the available scientific information and consultation with the scientific community, the Alaska Eskimo Whaling Commission (AEWC), and the North Slope Borough, Shell developed a Conflict Avoidance Agreement (CAA) for our operations this past year, which minimized the potential effects of our seismic operations on subsistence activities. Furthermore, our marine mammal monitoring and mitigation plan was implemented to prevent physical harm to marine mammals, and our operations had no discernable impacts to the health of the bowhead whale population or other marine mammal stocks. MMS should carefully distinguish between biological effects on marine mammals from exploratory activities and the effects on subsistence

hunting. The CAA is designed to avoid conflict with subsistence hunting. In the past, we feel that this line has been blurred.

While we believe that NMFS and MMS met their obligations under NEPA in issuing the 2006 seismic permits, we are very concerned that some of the mitigations mandated by NMFS and MMS 1) were not substantiated by the available science; 2) make it very difficult at best, and in some cases unsafe or impossible, to implement seismic surveys; and 3) will potentially set unjustified precedent that will negatively impact seismic acquisition and other responsibly conducted marine based operations in the Alaskan OCS, as well as in other areas of the U.S. and worldwide. In so doing, NMFS and MMS went beyond the NEPA requirements and included alternatives (i.e., a 120-decibel monitoring safety zone) that are not implementable. We strongly urge MMS in this EIS to only consider alternatives that are implementable and to remain consistent with the purposes of the Outer Continental Shelf Lands Act. *See* 43 U.S.C. 1332 (MMS must balance protection of the human and marine environment).

Fortunately, SEPCo completed its most critical seismic data acquisition in the Chukchi Sea prior to the September 25th trigger date for the 120-decibel monitoring requirement and ceased seismic operations in the Chukchi before this deadline. SEPCo did not attempt to acquire seismic in the Chukchi after September 25th because of concerns about human safety associated with the very extensive aerial operations far from the coast that would have been required to comply with the 120-decibel monitoring under the 2006 seismic permits as set out by MMS and NMFS.

Environmental Effects. Section III of the DEIS, Description of the Affected Area, is a very thorough description of the physical and biological environment. The species-by-species breakdown with the key life history information is excellent and provides a very strong background for decision-making and mitigation planning. We are pleased that MMS has considered "Traditional Knowledge" in this DEIS. MMS should carefully consider the observations and concerns from traditional knowledge and apply the proper scientific lens to these learnings. MMS should clarify in this EIS that NEPA requires a scientific approach and not conjecture.

Shell is concerned by statements in the DEIS that oil spill response in ice conditions is known to be ineffective. The Oil Pollution Act of 1990 and attendant regulations (i.e., MMS regulations at 30 CFR 254) require that equipment be under contract to remove a worst case discharge of oil. In fact, there are techniques and strategies that have been shown to remove oil in ice conditions. Please refer to the Oil Discharge Prevention and Contingency Plan submitted by Shell to MMS for 2007 Beaufort Sea Drilling Operations. In this plan, we detail how we will respond to a spill in freeze up conditions. The DEIS should also describe the ongoing research and development, some funded by MMS, to improve our spill response capabilities.

012-001

Section V of the DEIS discusses cumulative impacts and provides a good summary of a very lengthy and sometimes confusing analysis. For example, on page V-36 the statement is made: "In conclusion, available data do not indicate that noise and disturbance from oil and gas exploration and development activities since the mid-1970's had a lasting population level adverse effect on bowhead whales. Data indicate that bowhead whales are robust, increasing in

abundance, and have been approaching (or have reached) the lower limit of their historic population size at the same time that oil and gas exploration activities have been occurring in the Beaufort Sea and, to a lesser extent, the Chukchi Sea.” We urge MMS to ensure that the EIS is written and arranged to clearly support these conclusions in order to be fully defensible.

Socio-economic Effects. The mitigation measures proposed in this DEIS are quite comprehensive and cover most key aspects of the Chukchi Sea environment and the socio-cultural aspects of the local inhabitants. The description of the villages, with details of their subsistence requirements, is excellent and provides details on seasonality, species of primary interest, and the importance of the various species in the overall needs of their people. The discussions also do a good job of summarizing the other important aspects of subsistence beyond the obvious benefit of food, clothing, etc. Cultural aspects are well summarized.

The EIS should fully evaluate the socio-economic effects and benefits of exploration and development of Chukchi Sea leases on the local communities, boroughs, and the State of Alaska. The evaluation should include the benefits of job creation, tax revenue from onshore facilities, electrical power generation from natural gas supplies, and potential Federal revenue sharing. We believe that new offshore leasing would produce substantial positive effects on local communities.

012-002

We greatly appreciate the opportunity to provide these comments on the Chukchi DEIS. Please call Kent Satterlee at (985) 624-9834 if there are any questions regarding these comments.

Yours very truly,



Rob Ryan

MMS Responses to Shell's Comments

Shell 012-001

This comment identifies the lease sale options that Shell prefers the Secretary of the Interior to select. As such, it is not a substantive comment in the context of the EIS analysis, but is noted for the record.

Shell 012-002

Section IV.C.1.k(1)(a), Economy, explains the economic effects that may result from activities assumed to occur under the hypothetical scenario, including changes in employment and public revenue. Section IV.C.1m(4), Sociocultural Systems, addresses effects from routine activities assumed under the scenario on Chukchi Sea communities and the North Slope Borough. Economic effects to the Borough revenues in the context of total activity are presented in Sections V.C.11.b, Economy, Cumulative Effects on State and Local Revenues, and V.C.13.c, Sociocultural Effects, North Slope Borough revenues. The project-related property taxes would moderate the decline in Borough revenues that is occurring. Natural gas production is not reasonably foreseeable in the near future and is not an activity assumed under the hypothetical scenario. Any statement in the EIS regarding the effect of gas production on electrical generation would be purely speculative. See also Section IV.C.1.p., Environmental Justice, especially Section IV.C.1.p(4), Standard, Potential, and Ongoing Studies and Mitigation Initiatives.

**Document 13 is found in the Federal and State Agency
Comment Letters Section**

Document 014



Richard L. Ranger

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December 21, 2006

Mr. John Goll
Regional Director, Alaska OCS Region
Minerals Management Service
3801 Centerpoint Drive, Suite 500
Anchorage, Alaska 99503-5820

Comments re DEIS (OCS EIS/EA MMS 2006-060)
Chukchi Sea Planning Area Oil and Gas Lease Sale 193

Via E-Mail to: AKEIS@mms.gov

Dear Mr. Goll:

The American Petroleum Institute ("API"), and the National Ocean Industries Association ("NOIA") are pleased to submit these comments to Minerals Management Service ("MMS") in support of The Proposed Action (Alternative I) under the captioned Draft Environmental Impact Statement ("DEIS") to conduct Chukchi Sea OCS Lease Sale 193 in 2007. Our organizations represent more than 400 companies that are involved in various aspects of the geophysical, oil and natural gas exploration, production and service industries, and we are committed to continuing to supply the energy that American consumers and businesses rely on to keep our economy growing. Because of the importance of offshore oil and natural gas resources to our nation's economy, API and NOIA members have a direct interest in the decision to hold Lease Sale 193 in 2007 as scheduled.

Our general comments in support of Lease Sale 193 and to portions of the DEIS are found in this letter. More detailed comments with respect to particular sections of the DEIS are provided on the attachment.

The OCS is intended to meet many uses that sustain the nation, including minerals development, fishing, shipping and other uses. However, the Outer Continental Shelf Lands Act (OCSLA) explicitly recognizes the importance of OCS oil and natural gas production. OCSLA declares that it is

"...the policy of the United States that ...the Outer Continental Shelf is a vital national resource reserve held by the Federal Government for the public, which should be made available for expeditious and orderly development, subject to environmental safeguards, in a manner which is consistent with the maintenance of competition and other national needs."

Further, amendments to OCSLA in 1978 found that "increasing reliance on imported oil is not inevitable, but is rather subject to significant reduction by increasing the development of domestic sources of energy supplies." Congress amended OCSLA at that time to achieve the "expedited exploration and development of the Outer Continental Shelf...to reduce dependence on foreign sources [.] 43 U.S.C. Section 1802(1).

The OCS is a vital part of the nation's energy infrastructure, but virtually all of the oil and natural gas produced from the OCS is from the Central and Western sections of the Gulf of Mexico. In 2004 (the

latest year for statistics), the Gulf of Mexico OCS contributed 27 percent of the oil produced in the United States and 21 percent of domestic natural gas production. Limits on development (through Congressional and administrative moratoria) have prevented exploration and production in most of the Eastern Gulf of Mexico and the entire Atlantic and Pacific OCS. That means almost 90 percent of the OCS acreage off the lower 48 states is "off limits" to energy development. According to MMS's recent OCS Inventory report to Congress (February 2006), there are about 288 Tcf of natural gas and 59 billion barrels of oil yet to be discovered on the OCS off the lower-48 states. This is enough oil to maintain current oil production (based on 2004 data) for 105 years and current natural gas production for 71 years. Put another way, that is enough oil to produce gasoline for 132 million cars *and* heating oil for 54 million homes for 15 years. It is enough oil to replace current imports from the Persian Gulf for 59 years. And, that is enough natural gas to heat 72 million homes for 60 years, *or* to supply current industrial and commercial needs for 28 years *or* to supply current electricity generating needs for 53 years.

That is before the Alaska OCS is considered with additional resources of 132 Tcf of natural gas and over 26 billion barrels of oil. Thus, the undiscovered resources on the federal OCS that could be recovered with *today's* technology are estimated at 420 Tcf of natural gas and almost 86 billion barrels of oil. That is equivalent to three times the oil resources of Canada and Mexico combined and almost 6 times the natural gas resources of these two countries. Yet, these estimates may be conservative since these areas are largely unexplored. In addition, these estimates would benefit from the use of new seismic and computer modeling technology. Generally, the more an area is explored, the more its resource estimates grow. For example, the U.S. Geological Survey (USGS) estimates of undiscovered oil resources for the Central and Western Gulf of Mexico increased from 6.32 billion barrels of oil in 1995 to 33.39 billion barrels of oil in 2003 – an increase of more than 400 percent. USGS estimates of undiscovered natural gas resources in the Central and Western Gulf of Mexico increased from 88.1 Tcf to 180.2 Tcf over the same time period – an increase of 104 percent.

These facts underscore the importance of proceeding with the orderly completion of the OCSLA lease sale process for proposed Chukchi Lease Sale 193. In the years since the last lease sale offering tracts on the Alaskan OCS, the oil and natural gas industry has continued to advance and refine technologies and operating practices for exploration and production in the neararctic offshore, notably in waters off Russia and Norway. Other improvements in technology and experience have accompanied the industry's efforts to meet the growing worldwide demand for hydrocarbon energy with exploration and production in the Gulf of Mexico Deep Water area, and off the coasts of such far flung locations as West Africa, Brazil, and Western Australia. At the same time, the U.S. industry in particular has continued to gain knowledge in cold weather and Arctic region operations on the Alaska North Slope, increasing its knowledge of the sensitive Arctic receiving environment – and in a considerable number of instances contributing directly to the advancement of that knowledge through industry sponsored projects and research. The industry has also worked conscientiously to increase its outreach to stakeholders who share an interest in the Arctic as a sustainable environment not simply for important energy resources, but for a way of life.

Energy demand is rising. Despite expected energy efficiency improvements of 37 percent and renewable energy supply increases of 57 percent, the U.S. Energy Information Administration (EIA) forecasts that, by 2030, petroleum demand will increase by 34 percent and natural gas demand by 20 percent. EIA also estimates that oil and natural gas will provide 60 percent of the energy consumed in 2030. MMS and DOE forecast that without expanded access beyond the Central and Western Gulf of Mexico, the growth in production will not be able to offset declines in established mature areas for more than a few years. The MMS forecast for 2004 through 2013 shows that there will be declining production of natural gas in 2006 and for oil in 2007, thus illustrating the sense of urgency for the industry to acquire access to new supply. There is no question that increased access to new energy supplies must be a part of a comprehensive approach to our growing energy demand. We need common sense energy policies that provide access to conventional energy supplies, encourage energy efficiency, and promote continued development of new energy technologies. Common sense dictates that increasing our ability to produce energy from American resources must be part of the mix. The Chukchi Sea Planning Area presents a challenging frontier and a

potentially significant opportunity for new energy resources to meet this growing demand. API and NOIA fully support Alternative I for Chukchi Sea Lease Sale 193.

The DEIS is thorough, and in general capably documented, and overall provides a good evaluation of the potential impacts of the proposed lease sale. It includes all the elements required under the various statutes cited, including the National Environmental Policy Act ("NEPA"), but at over 1,100 pages in length, it is not clear that it achieves the stated MMS objective of being "concise, reader-friendly, and useful analysis of potential effects and impacts of proposed activities". The factors that have contributed to the length and heft of environmental documents are well-known, but it must be acknowledged that a document of the size of this DEIS taxes the capabilities of all parties that share an interest in open and effective decision-making with respect to federally managed resources. Much repetition may be found throughout the EIS in subject areas such as certain mitigation measures or the effects of oil spills. The length of this document could be reduced, and its utility and readability improved, with a well-managed effort to search for and to eliminate repetitive text

014-001

The mitigation measures described in the DEIS for the Chukchi are quite comprehensive and cover most key aspects of the Chukchi environment, along with the economic, socio-cultural, and subsistence concerns of the inhabitants of the region. Section III of the DEIS, Description of the Affected Area, is a very thorough description of the physical and biological environment, including useful information about the species present in the region. The village by village descriptions, with details of the subsistence uses of the residents provides details on seasonality, species of primary interest, and the importance of the various species in the overall needs of the residents, and recognizes the other important aspects of subsistence to their culture and communal life. In Section IV, the EIS describes "significance thresholds" for a range of environmental disturbances that provides a useful baseline for future comparisons and agency decision-making. However, environmental effects sections of the report are extremely detailed, and in most cases ultra conservative. To readers not familiar with the energy industry operations and technologies, the receiving environment, and the scientific literature, it may be difficult to distinguish real issues from those that have such a low probability that they may not merit the same consideration.

The National Marine Fisheries Service has been working for several years to develop a new set of acoustic criteria for the management of marine mammals. The final version of their study was to be released at the annual meeting of the Acoustical Society of America (Nov. 28 thru Dec. 2, 2006) in Honolulu, Hawaii. If available, the new criteria, and acceptable received levels for different species, should be in the final EIS with an appropriate citation.

014-002

There is little mention of the Conflict Avoidance Agreement ("CAA") that MMS requires to be executed between operators and the Alaska Native communities in the region of planned exploration activities. To enable readers of the DEIS to understand the significance of these agreements, the DEIS should provide an explanation of CAA requirements, and a complete copy of a standard CAA should be added to the Appendices for the document.

014-003

Scientific references should be included to support the conclusions found in the section on water quality impacts from oil spills. Scientific information on water quality impacts derived from the Exxon Valdez tanker spill should be discussed in this section, in a similar fashion to what was presented for marine and coastal birds (Section IV.B.3.d) and other sections. This section should reference MMS website at <http://www.mms.gov/taroilspills/> which outlines numerous projects the agency has conducted in responding to spills, both on open water and in ice.

014-004

Alaska Clean Seas (ACS) has conducted numerous training exercises over the last several years in broken ice conditions. The ACS Technical Manual, which is available on their web site at www.alaskacleanseas.org, provides numerous tactics that can be used in ice conditions. The under ice response tactics have been utilized in actual spill events. ACS has also conducted numerous projects with

In-Situ burning for use in broken ice conditions and viscous oil pumping. There is also the project with the Ground Penetrating Radar system. Most of these reports are located on the MMS web site.

The analysis of fates and effects related to oil spills needs greater support. The DEIS describes weathering processes as being "much slower than in warmer climates" but the actual citation shows the duration of oil weathering in temperatures that range from 12^o to 28^oC. No data or discussions are provided to assess how this reduced rate of oil weathering would be expected to behave in temperatures around 0^o C. Additional information is needed to show the likely degradation processes, especially in planning areas such as the Chukchi and Beaufort, which are described as being under sea ice for most of the year. It is important to include information in the DEIS that will be relevant to oil spill preparedness planning in the neararctic environment. The DEIS should also emphasize the paramount importance and demonstrated success of those measures taken by industry and required by MMS to prevent oil spills from occurring in the marine in neararctic operating environments, as in any environment in which the industry operates.

014-005

Some reports to reference in the DEIS include:

- A Review of the Response to Oil Spills in Various Ice Conditions: Limiting Factors and Possible Alternative Tactics, Discussion Paper; prepared for Alaska Clean Seas by S.L. Ross Environmental Research Ltd., May 5, 2000
- Oil Spills in Ice Discussion Paper, A Review of Spill Response, Ice Conditions, Oil Behavior, and Monitoring; by DF Dickins Associates Ltd, Vaudrey & Associates Inc., S.L. Ross Environmental Research Limited, August 15, 2000
- Evaluation of Cleanup Capabilities for Large Blowout Spills in The Alaskan Beaufort Sea During Periods of Broken Ice; prepared for Alaska Clean Seas and MMS; by DF Dickins Associates Ltd, Vaudrey & Associates Inc., S.L. Ross Environmental Research Limited, June 1998
- Advancing Oil Spill Response in Ice Covered Waters, prepared by DF Dickins Associates Ltd. for Prince William Sound Oil Spill Recovery Institute and the U.S. Arctic Research Commission, 2003
- Field Guide for Oil Spill Response in Arctic Waters, Emergency Prevention, Preparedness and Response (EPPR) Working Group, a Program of the Arctic Council, 1998
- Short State of the Art Report on Oil Spills in Ice-infested Waters, prepared by Johan Brandvik, Kristin Rist Sørheim, Ivar Singsaas, and Mark Reed, SINTEF, 2006

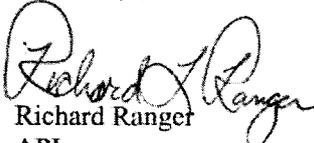
We recommend that MMS should use caution in extensive use of URL addresses for citations found in the DEIS. Web sites change all the time, and in the near future documents assigned to URL addresses may no longer be available at the cited URL addresses. Standard form literature citations should accompany URL addresses.

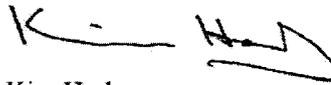
In conclusion, API and NOIA strongly urge MMS to adopt Alternative I for the proposed Chukchi Sea Lease Sale 193.

We thank you for the opportunity to provide these comments. Please include this letter and the attachment in the administrative record for the DEIS.

Should you have any questions, please contact Richard Ranger at 202.682.8057.

Very truly yours,


Richard Ranger
API


Kim Harb
National Ocean Industries Association

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	<p>also be barged to an onshore treatment and disposal facility located at the shore base.”</p> <p>It is premature to determine that produced water will be reinjected. From an environmental standpoint, especially in this remote, far offshore location, there is no scientific justification for requiring reinjection. When the decision point is reached, EPA is the regulatory authority that determines what may or may not be discharged per the NPDES permitting system. Three decades of environmental studies and monitoring have shown that drill mud and cuttings discharges have <i>de minimis</i> impacts on the marine environment. MMS should not be proposing reinjection, or hauling ashore, until a proper environmental assessment has been completed. It is unreasonable to make a determination in advance without proper consideration of the environmental science, when this matter will receive thorough evaluation by EPA in exercise of its authority under the Clean Water Act. This section should be reworded, with the discharge option as one of the options that would be considered. See our comments that follow on these particular sections of the DEIS.</p>
IV-17/0/1	<p>“For the outlying subsea wells, drilling waste products could be barged to the coastal facility for treatment and disposal.”</p> <p>Per the comments above, the outlying subsea wells would be drilled from floating structures (e.g., drill ships). At this time, a determination has not been made that discharges will be hauled ashore. Pending appropriate application under the NPDES permitting system, drill muds and cuttings (most likely water based muds), would be discharged at the site during drilling.</p>
IV-18/2/1	<p>“Shipping noise, often at source levels of 150-190 dB, since 1950 has contributed a worldwide 10- to 20-dB increase in the background noise in the sea (Acoustic Ecology Institute, 2005).”</p> <p>There is only one good dataset that has documented a long term rise in ambient background conditions. This was done from a hydrophone array located in deepwater off the coast of California. Due to the lack of long term, high quality background data sets, similar types of comparisons have not been done in other parts of the world. Unless it can be documented, it is inappropriate to describe overall increases in the world’s oceans. The data is not there to support the claim. What is also missing in the statement made in the EIS is what frequency ranges are they talking about re: a background increase. Some frequencies have gone up over the years, others have not (e.g., lower frequencies associated with large marine transportation versus higher frequencies). Additionally, the DEIS should avoid the term “noise” in lieu of “sound”. Sound is an all encompassing term that refers to any acoustic energy. Noise is a subset of sound, referring to sound unwanted by the entity that hears it. An opposite of noise is a signal: a sound containing useful or desired information. Thus, any individual sound may be a signal to some and a noise to others.</p>
IV-18/4/4	<p>“While the seismic airgun pulses are directed towards the ocean bottom, sound propagates horizontally for several kilometers (Greene and Richardson, 1988; Hall et al., 1994).”</p> <p>The statement is only partially correct. So that the readers are not misled,</p>

014-006

014-007

014-008

014-009

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	<p>more details should be provided re: the frequency ranges see laterally. The full force of the seismic sound at low frequencies is not propagating to any significant extent laterally. There are also a range of oceanographic conditions that effect whether or not this occurs to any significant effect (i.e., mostly in warmer tropical waters with a strong near surface pycnocline).</p>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">014-009</div>
<p>IV-20/5/1</p>	<p>“Any changes in marine water quality can cause problems such as impeding or changing existing natural properties and processes, changes in flow, increased sedimentation, higher water temperature, lower dissolved oxygen, degradation of aquatic habitat structure, loss of fish and other aquatic populations, and decreased water quality.”</p> <p>This statement is overly broad and is circular in logic. The types of changes noted above would have to be of a significant magnitude before there would be any general environmental consequence, especially in locations at a considerable distance from shore.</p>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">014-010</div>
<p>IV-22/3/1</p>	<p>“The presence of sediment in a discharge from construction or operation oil and/or gas site activities is not itself indicative of significant negative impacts to the environment.”</p> <p>This conclusion is reasonable, but is contradictory to IV-20/5/1 above.</p>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">014-011</div>
<p>IV-22/6/1</p>	<p>“For the purpose of this assessment, compliant oil and gas operations in the foreseeable future will not have any significant impact to water quality resulting from oil- and gasfield operations sources.”</p> <p>This statement will also be true if EPA should decide to permit discharges of drill mud, cuttings, and produced water, since such a determination would be made under the NPDES program..</p>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">014-012</div>
<p>IV-33/2/4</p>	<p>“Offshore activities also may have adverse impacts to recreation and tourism very important to other coastal areas of the country.”</p> <p>The assessment should focus on the potential impacts to the Chukchi coastal area, and in the context of present and reasonably foreseeable activities in that region. There is simply no evidence to indicate that offshore oil and gas exploration activities have had any negative effect on coastal tourism either in the Gulf of Mexico or along the Pacific Coast where both offshore activities and a thriving coastal tourism industry may be found.</p>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">014-013</div>
<p>IV-34/2/5</p>	<p>“Declines in water quality, where they occur, are largely related to seasonal biological activity and naturally occurring processes, such as formation of surface ice, seasonal plankton blooms (occurring primarily in spring and fall), naturally occurring oil/hydrocarbon seeps, seasonal changes in water turbidity due to terrestrial runoff, and localized upwelling of cold water.”</p> <p>Declines in water quality related to seasonal biological activity should be considered to the extent that water quality may be further impaired by oil and gas activities. For example, water temperature and ice will effect the dispersion of drill cuttings which may or may not further impair water quality declines (e.g., dissolved oxygen levels brought on by seasonal plankton blooms). However, these seasonal biological activities in and of themselves that are not related to oil and gas activity should not be considered.</p>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">014-014</div>
<p>IV-37/9/1</p>	<p>“Biocides, typically organic amines, chlorophenols, or formaldehydes, kill</p>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">014-015</div>

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	<p>bacteria that may produce toxic hydrogen sulfide gas.”</p> <p>Chlorinated phenols have been disallowed in drilling muds for over 20 years.</p>
IV-38/1/1	<p>“The presence of potentially toxic trace elements in drilling fluids and adhering to cuttings is a major water quality concern.”</p> <p>Water based drill muds are very well known and have been studied for over 25 years. All of the key issues have been addressed by studies and research programs over the years. Basic regulations are in place to regulate all the components of concern. Toxicity tests are required to minimize and eliminate deleterious effects. Barite has a regulatory limit of 1 ppm Hg and 3 ppm Cd to assure control of trace metal contaminants. EPA would be prohibited from issuing a discharge permit under the Clean Water Act if a determination is made that these discharges would degrade water quality.</p>
IV-38/2/1	<p>“Drill cuttings are removed from drilling muds and cleaned in special separators. The amount of oil left on cuttings after cleaning is reduced, but still detectable, and has been found to be much higher when oil-based fluids are used. Separated drilling muds and cleaning fluids used to treat cuttings are partially returned to the drilling equipment circulating system.”</p> <p>Drilling fluids are separated from the cuttings through the use of mechanical separation equipment. This is primarily through the use of different mesh size shakers, and centrifuges for the finer fractions. Special units called cuttings driers are used to help remove adhered synthetics in synthetic based mud systems. In general, cleaning fluids are not used to clean cuttings. Generally, trace levels of oil are not present in mud and cuttings until the drill bit penetrates oil bearing zones downhole. These intervals are usually fairly small, and the amount of oil entering the mud system is small. If drill cuttings are allowed for discharge under EPA permit, the drilling muds must pass an EPA required sheen test which is very sensitive to the presence of oil in the mud system. If a sheen forms (per test requirements), then the mud and cuttings cannot be discharged.</p>
IV-38/2/8	<p>“However, in all cases, drilling muds play the leading role in forming the composition of drill cuttings.”</p> <p>The cuttings composition is determined by the strata in the well bore from which it was removed. The discharged material is characterized by drill cuttings and drilling fluids that adhere to the cuttings. It is the drilling fluids and not the cuttings that determine the effects to the environment, if any, unless the cuttings contain crude oil contamination from the geologic formation.</p>
IV-38/2/14	<p>“During the last 10 years, preference is given to using the less-toxic water-based drilling muds. However, in some cases—during drilling of deviated wells through hard rock—using oil-based fluids is still inevitable. The oil-based fluids, in contrast with the water-based ones, usually are not discharged overboard after a single application; they are regenerated and included in the technological circle. Synthetic-based muds are the third category of drilling fluids and are based on the products of chemical synthesis with ethers, esters, olefins, and polyalphaolefins (Burke and Veil, 1995).”</p> <p>In conditions where water based drilling fluids (also called water based</p>

014-016

014-017

014-018

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	<p>muds) will do the job, they are generally preferred. But over the past 10 years, especially in deepwater and deep drilling conditions, the drill mud of preference are the synthetic based muds, which use internal olefins or esters as a base liquid. Under EPA Effluent Limitation Guidelines, synthetic drilling fluids may not be discharged, but discharge of the wetted cuttings is allowed after meeting strict limits and passing defined toxicity testing. It is unlikely that oil-based fluids would be used because neither the drilling fluid nor the cuttings that have come in contact with oil-based fluids may be legally discharged to the water.</p>
IV-38/3/1	<p>“A recently developed technology to manage wastes, especially mud/drilling cuttings and produced water, allows them to be reinjected into a geological formation for disposal. This would remove and eliminate these waste streams as a potential source of water quality degradation. The exploration and development scenario presupposes that 80% of the drilling mud would be reconditioned and reused. All waste products (drilling muds, rock cuttings, and produced water) for on-platform wells would be treated and then disposed of in shallow wells on the production platform.”</p> <p>Reinjection is one option to dispose of drilling and production wastes if a disposal well is available and if a formation can accept the materials. These options will be analyzed by EPA under the NPDES program. There are non-water quality trade offs that must be analyzed (e.g., energy consumption and air emissions) when making this evaluation. Discharges can only be authorized under the NPDES program if water quality is not unreasonably degraded. Therefore there should not be a presupposition that re-injection will be used at all drilling locations. See our comment at IV-38/2/14.</p>
IV-39/0/7	<p>“A plume typically forms whereby material may be advected short distances from the disposal site. A reduction in DO is typical as common constituents of sediments are oxidized and organic material is metabolized by microbial activity at the sediment-water interface.”</p> <p>Reduction in interstitial DO has only been observed nearfield where cuttings associated with synthetic based muds have been deposited. Reduction in bottom DO is not normally observed in relation to regular water based muds discharge. The mud must have high organic content before measurable changes in DO occur.</p>
IV-39/0/1	<p>“The oil separators mainly remove particulate and dispersed oil, while dissolved hydrocarbons in concentrations from 20 milligrams per liter (mg/L) to greater than (>)50 mg/l go overboard as part of the discharged waters {Somerville et al., 1987; GESAMP, 1993}.”</p> <p>The EIS should state what the EPA Effluent Limitation Guidelines are for offshore discharges of produced water (29 mg/l monthly average and 42 mg/l daily maximum). In addition to the daily maximum and monthly average, Gulf of Mexico operations require a toxicity test to determine a No Observable Effects Level (NOEC) with a surrogate test species. The discharge must be below this NOEC at the edge of the prescribed mixing zone (100 meters).</p>
IV-42/0/6	<p>“it is possible that higher quantities (~75,000 gpd) may occur as shown by past discharges.”</p> <p>Need citation to support this number.</p>

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014-021

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IV-41/4/1	<p>“The USEPA has the regulatory authority to regulate industrial and municipal discharges of pollutants to surface waters in the Pacific Northwest and Alaska under NPDES. Offshore wastes from exploration activities may be discharged overboard in accordance with the NPDES general permit. Development and production activities will require an individual NPDES permit issued to the operator by the USEPA Region 10 program office, which will specifically identify discharge allowances and required operational practices for each facility covered under an individual permit.”</p> <p>MMS has correctly stated that EPA will regulate these discharges under the Clean Water Act NPDES program. However, EPA currently has a general NPDES permit for exploration activities in the Beaufort Sea. It is reasonable to suppose that EPA would extend this general permit to the Chukchi Sea. Once production activities are proposed, the general permit can be extended to production activities, as it has in the Gulf of Mexico and other areas.</p>
IV-49/0/3	<p>“Hydrocarbon concentrations from the two estimated oil spills $\geq 1,000$ bbl could exceed the chronic criterion of 0.015 ppm total hydrocarbons on at least several thousand square kilometers for a short time period. Concentrations above the acute criterion are not anticipated. Effects of an oil spill on water quality are expected to be low both locally and regionally.”</p> <p>The discussion on actual hydrocarbon concentrations in the water column and in sediments from an oil spill is an excellent summary. It should be referred to in other sections that talk about potential effects of oil spills. It puts the issue in perspective.</p>
IV-50/5/5	<p>“The exploration and development scenario supposes that production slurry would be gathered on the central platform, where gas and water will be separated and the produced water reinjected. Shallow injection wells will handle these wastewaters and treated drill cuttings.” The “no discharge” scenario should not be pre-determined.</p> <p>See our comments at IV-39/0/1</p>
IV-52/3/1	<p>“The exploration and development scenario presupposes that 80% of the drilling mud will be reconditioned and reused. All waste products (drilling mud, rock cuttings, and produce water) for on-platform wells will be treated and then disposed of in shallow wells on the production platform.”</p> <p>See our comments at IV-38/3/1</p>
IV-64/2/4	<p>“An important aspect for this assessment of effects on lower trophic-level organisms is that the ecosystem is changing, but the changes apparently are not due to previous oil exploration, although they may be related to the consumption (burning) of oil.”</p> <p>A more appropriate statement would be that some of the changes <u>may be</u> related to global climate changes that may in part be due to carbon dioxide emissions related to the burning of fossil fuels.</p>
IV-64/6/3	<p>“pockmark communities around methane seeps”</p> <p>The DEIS should cite the reference for the statement that the pock mark features observed in the offshore Chukchi Sea are caused by methane seeps.</p>

014-024

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014-029

IV-65/1/27	<p>“The drilling muds probably would not kill benthic organisms, but any heavy metals in them might be accumulated by benthic organisms, adding to the body burden in vertebrate consumers. Inorganic mercury accumulated in the sediment near an old platform in the Gulf of Mexico, but the platform did not have the new USEPA limits on mercury discharges.”</p> <p>The issue of trace metal contamination related to drill muds and cuttings has been studied in a variety of locations for over two decades. There is no evidence of trace metal uptake in benthic organisms that would either effect the exposed benthos, or that would be passed along in the food web. In only a couple of locations did the total mercury get above 1 ppm (the maximum was around 2 ppm). Methyl mercury studies were conducted at numerous locations by the American Petroleum Institute and the Offshore Operators Committee. There was no elevation of methyl mercury relative to the platforms (the bio-available form of mercury) in the sediments, nor in the biota. Additionally, NOAA/NMFS conducted platform surveys in the central/eastern Gulf of Mexico. They found that marine fish sampled had mercury levels in their tissues that were no different at the platforms than they were from natural reefs and other near shore areas sampled.</p>
IV-68/3/7	<p>“Produced water typically contains polycyclic aromatic hydrocarbons (PAH), so is toxic to organisms, and would be produced all year during production.”</p> <p>The PAH concentrations of produced water are very low (low parts per billion), and contribute very little to toxicity. Most of the toxicity exhibited is attributed to the more volatile components, such as the benzene, xylene, toluene complex, which can range up to 10-20 ppm. Toxicity of produced water is carefully monitored and regulated under the EPA NPDES program. See our comment at IV-39/0/1.</p>
IV-68/2/17	<p>“An implication for the Chukchi Sea is that produced water might affect a 10-kilometer area around any platform during summer.”</p> <p>This is a misleading statement since the word “affect” is not defined. Studies conducted around the world do not show elevated PAH concentrations in the water column up 5-10 km. North Sea studies are often compromised by the release of PAHs from seafloor mud and cuttings piles where significant quantities of oil based mud and diesel contaminated mud were deposited. Even if the PAHs were detectable at 5-10 km, the levels would be so low that there is no known biological effect. See our comment at IV-68/3/7.</p>
IV-68/2/24	<p>“Therefore, year-round discharges of produced water would lead to moderate local effects. However, formation water is reinjected into subsurface strata at all of the offshore Beaufort Sea developments, so we assume that produced water would be reinjected in any Chukchi Sea development.”</p> <p>The assumption that there would be a significant nearfield increase in PAHs is speculation and has not been observed at other produced water discharge locations in the Gulf of Mexico. It is also premature to assume that offshore produced water will be reinjected in the Chukchi Sea. An NPDES permit application to the US EPA will initiate a review of technology-based limitations (please refer to the EPA Effluent Limitation Guidelines found at</p>

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	FR Vol. 58, No. 41, page 12454). The NPDES program also requires that water quality based limitations be applied as prescribed in the CWA §403(c) to ensure that no unreasonable degradation occurs. The evaluation will also examine non-water quality impacts (e.g., air emissions, potential for spills, etc.) associated with the different options.
IV-70/4/8	<p>“These agencies would make sure that the pipelines would be buried deeply enough to remain buried forever, withstanding even the ice keels that might occur only once every few hundred years after abandonment.”</p> <p>Use of the word “forever” is inappropriate and misleading in this context. Only 12,000 years ago, the sea level was approximately 60 m lower than it is today. The ice ages have historically come every 10,000-20,000 years. The buried pipeline may be on dry land sometime in the future, in which case the permafrost conditions would dictate that the pipeline be elevated.</p>
IV-76/2/3	<p>“Fishes with impaired hearing may have reduced fitness, potentially making them vulnerable to predators, possibly unable to locate prey or mates, sense their acoustic environment or, in the case of vocal fishes, unable to communicate with other fishes.”</p> <p>In a recent presentation by Popper at a marine mammal conference in Germany, Popper stated that temporary hearing impacts to fish generally don’t last beyond 24 hours.</p>
IV-77/0/1	<p>“Seismic surveys potentially may disrupt feeding activity and displace diadromous and marine fishes (i.e., capelin, cisco, and the whitefishes) from critical summer feeding areas along the Chukchi coast.”</p> <p>In the few instances where seismic sound has shown disruption to fish, they have been small areas with high densities of fish. Observations have shown that the fish recover quickly from the startle response and reaggregate. There is nothing in the literature to suggest a wide area response, such as the displacement of fish over a large area from a feeding ground. If there is literature to the contrary to support the hypothesis proposed here, citations should be provided.</p>
IV77/2/1	<p>“Most important to this issue are behavioral reactions that could result in disruption of migratory pathways or diminishing the availability of fish resources for subsistence resources (e.g., through fish abandoning important fishing grounds).”</p> <p>See our comment on IV-70/0/1.</p>
IV-78/1/7	<p>“usually due to physical excitation of the trailing edges of the blades. This can result in very high tone levels within the frequency range of fish hearing”.</p> <p>The use of the term “physical excitation” makes this statement confusing and unclear.</p>
IV-79/2/1	<p>“Concurrent seismic surveys may facilitate the stranding of some schooling or aggregated arctic fishes onto coastal or insular beaches in the proposed sale area.”</p> <p>Please provide documentation of instances where the stranding of fish as a result of seismic surveys has been observed before.</p>

014-034

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IV-80/5/8	<p>“Based on chemical indicators of drilling muds such as barium in association with total petroleum hydrocarbons, large development projects with several wells at the same location had larger zones of detection (maximum 8,000 m) than single wells (maximum 1,000 m) at similar water depths.”</p> <p>The statement is misleading and needs to be corrected. The only component of drilling discharges that can routinely be measured at distances much beyond 200-300 m from a discharge site is barium. Barium is a component of the mineral “barite”, which is used as a weighting agent in drill muds. It is present in fairly high concentrations, and has a small particle size, usually less than 10 microns. It is not a good tracer because it does not travel with all of the other components of the drill mud. TPH, trace metals, and other components usually cannot be measured as elevated above background in the sediments beyond the 200-300 m radius. Barium (as barite), has been measured up to several thousand meters beyond the discharge point with concentrations barely above natural background. Barium being an inert and insoluble mineral, is of essentially no biological consequence.</p>
IV-81/3/1	<p>“Consistent zones of detection for drilling fluids and biological impacts for water-based muds were documented. Observations of the zone of detection of water-based muds suggest that average measured background levels are reached at 1,000-3,000 m. Some single-transect values have been elevated at up to 8,000 m.”</p> <p>Other than barium, the authors should state which mud components have been verified as elevated at the distances stated. This has not been seen in other studies.</p>
IV-81/3/7	<p>“Biological impacts associated with the release of synthetic-based mud cuttings generally were detected at distances of 50-500 m from the well sites. Reductions in the abundance of a few species were detected over greater scales out to 1,000 m.”</p> <p>Previously, benthic community studies have not been able to definitively show a cause and effect relationship between statistically significant changes and the presence of synthetic based mud components. Especially when suggesting biological impacts at 1000 m, more detail should be provided here, with a specific citation to the study that showed the effect.</p>
IV-99/3/1	<p>“Conclusion. The studies referenced above demonstrate that when oil contaminates natal habitats, the immediate effects in one generation may combine with delayed effects in another to increase the overall impact on the affected population, thereby causing a change in distribution and/or decrease in their abundance lasting for multiple (e.g., 3 or more) generations. The MMS reviewed the recovery status of injured fish resources tracked by the <i>Exxon Valdez</i> Oil Spill Trustee Council (Trustee Council). The Trustee Council considered recovery essentially to be “a return to conditions that would have existed had the spill not occurred” and is considered herein to equate to a return of the affected population(s) to their former status. Pacific herring, as of 2005, are not recovering; this equates to five generations since the EVOS (i.e., spring 1989). Pink salmon were listed as “not recovering” until 1997, at which time they were regarded as “recovering.” Pink salmon were listed as “recovered” as of 2002, as were also sockeye salmon. Therefore, 6.5 generations passed since the spill before pink salmon were</p>

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	<p>recovered. This information further supports the long-term effects of crude oil on herring and salmon described by Carls et al. (2005), Short et al. (2003), Peterson et al. (2003), and others noted above, as well as capturing the lingering and indirect effects of the EVOS.”</p> <p>“Generations” should be defined as fish generations. MMS should be clear as to the applicability of these studies performed in rich fishery habitats to the Chukchi Sea.</p>
IV-102/4/3	<p>“The PAH’s in weathered oil contaminating such spawning sites are expected to be biologically available for long periods and very toxic to sensitive lifestages.”</p> <p>This is a misleading statement. There are a wide range of PAH’s which all have different bioactivities and toxicities depending on species and life stages. Different PAH’s also have different biodegradation rates which will effect their persistence in nature. PAH’s are also present at very low levels in crude oils. Some of the more active PAH’s, such as BAP, are primarily from combustion processes, and not a component of crude oils.</p>
IV105/1/2	<p>“A greater separation of at least 18 mi (30 km) was recommended to prevent stranding of fish (see below), but implementation of mitigation measure 3 would provide much of the same benefits to fish.”</p> <p>Scientific data should be cited that supports the hypotheses that fish might strand due to seismic activity, especially at distances of 30 km. We are not aware of any such findings.</p>
IV-106/4/1	<p>“For the purposes of evaluating the potential impacts of a large oil spill on fish resources, oil spill response is assumed to be ineffective due to the unpredictability of response time, proximity of the launch site(s) to fish concentration areas, known ineffectiveness of any response during certain environmental conditions (such as under ice or broken-ice),”</p> <p>The Draft EIS should not make overly broad statements about the “known ineffectiveness of oil spill response”. The Oil Pollution Act of 1990 and attendant regulations (e.g., MMS regulations at 30 CFR 254) requires that equipment be under contract to remove a worst case discharge of oil. MMS would be precluded from issuing permits if an operator was unable to secure equipment to remove an oil spill, and the lease sale would be for naught. In fact, there are techniques and strategies to remove oil in ice conditions. Please refer to the Arctic Council EPPR Field Guide For Oil Spill Response in Arctic Waters. A large spill at sea, based on historical information, would not have a significant impact on fish populations. If the oil gets into shallow coastal waters, or into migratory streams, then some impacts to fish would be expected. See earlier discussions in the Draft EIS at IV-49/0/3 regarding the concentrations of oil expected in the water column in vicinity of a large oil spill offshore.</p>
IV-107/2/1	<p>“Airgun emissions from seismic surveys conducted in the Chukchi Sea sale area may ensonify and adversely affect Pacific salmon EFH.”</p> <p>If there is no significant effect on the salmon, how can there be a negative effect on the Essential Fish Habitat? Either explain and provide citations, or remove.</p>

014-044

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IV-108/5/1	<p>“The following analysis discusses the chance that a large oil spill from the proposed Chukchi Sea lease sale area would contact areas containing EFH.”</p> <p>With the EFH extending out to the 200 mile EEZ, it is hard to find any area in the proposed sale that would not be in the EFH!</p>	014-048
IV-118/1/7	<p>“The fact that they are hunted also may heighten their response to oil and gas noise and disturbance, at least in some instances.”</p> <p>This is speculation and not based in fact.</p>	014-049
IV-118/2/7	<p>“However, it is clear that this population has continued to recover, despite previous activities that caused disturbance and lethal take.”</p> <p>The DEIS should consider the circumstance of the recovery of this population in the context of many years of seismic and drilling activity in both the Chukchi and Beaufort, accompanied decades of subsistence hunting.</p>	014-050
IV-122/4/3	<p>“National Resources Defense Council (1999, 2005);”</p> <p>Should be “Natural Resources Defense Council.</p>	014-051
IV-124/0/8	<p>“In addition, we make assumptions that sound will travel the maximums observed elsewhere, rather than minimums.”</p> <p>Although this is a conservative approach, it is often an unrealistic approach. For example, low frequency sounds (e.g., < 20 Hz), especially if introduced into the deep sound channel, can travel up to several thousand km. Even thought that occurs, does it have any significance?</p>	014-052
IV-128/1/14	<p>“In addition, we make assumptions that sound will travel the maximums observed elsewhere, rather than minimums. This assumption may overestimate potential effects in many cases; however, since at least some of the airgun arrays being proposed for use in the Chukchi Sea have greater total output than many of those in previous studies, we may also underestimate impact in some cases.”</p> <p>Assumptions of this sort should be avoided in a document such as this DEIS, particularly since the mitigation measures being required include a real time, in the field measurement of the sound field from the airguns.</p>	014-053
IV-129/0/4	<p>“During monitoring using passive acoustics in the mid-Atlantic Ocean, Nieukirk et al. (2004) frequently recorded sounds from seismic airguns from locations more than 3,000 km from their array of autonomous hydrophones moored near the mid-Atlantic Ridge.”</p> <p>Additional description should be provided so that the reader has some feeling for how low the detected sound levels are. Just because they can be detected does not mean that they have any biological significance to animals.</p>	014-054
IV-133/1/7	<p>“The studies were not designed to show whether more subtle reactions are occurring that can displace the migration corridor, so no definitive conclusions can be drawn from them on whether or not the overall fall migration is displaced by seismic activity.”</p> <p>Please include this statement in the conclusions.</p>	014-055
IV-133/2/12	<p>“The axis of the bowhead migratory route near Barrow was found to fall</p>	014-056

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	<p>between 18 and 30 km (7.76 and 18.6 mi) from shore.”</p> <p>Please state the basis for this determination, whether from research, monitoring, or some other means. It does not appear possible to make a “random sighting from shore” and be reporting an axis for the migratory route that stretches out 18.6 miles (i.e., beyond the line of sight to the horizon).</p>
IV-145/1/4	<p>“most “fleeing” reactions in mammals area accompanied by endocrine changes, which, depending on other stressors to which the individual is exposed, could contribute to a potentially adverse effect on health.”</p> <p>Please provide a citation or reference for observing or determining the existence of such endocrine changes in bowheads, and their significance to the health of an animal that may experience them.</p>
IV-165/2/2	<p>“In most cases, drilling mud is recycled in the development drilling program. All waste products (e.g. drilling mud, rock cuttings, and produced water) for on-platform wells are treated and then disposed of in shallow wells on the production platform. For the surrounding subsea wells, drilling waste products could be barged to a coastal facility for treatment and disposal.”</p> <p>Please see our comments at IV-38/3/1</p>
IV-168/4/7	<p>“reduced food source;”</p> <p>There is no good evidence that there have been massive zooplankton kills beneath oil spills (if information to the contrary exists, citations should be provided). In addition, the overall area where effects might occur would be small compared to the area available for feeding. A temporary loss of an area for feeding would have questionable impacts on the bowhead, as they are thought to go a significant portion of the year with minimal feeding.</p>
IV-173/4/8	<p>“Particularly in nearshore habitats where vertical migration of copepods is inhibited due to shallow depths and geographical enclosure, phototoxicity could cause mass mortality in the local plankton population. (Duesterloh, Short, and Barron, 2002).”</p> <p>Significant increase in toxicity and mortality in the open ocean is hypothetical, and in the scenario presented here, how shallow is shallow. Large baleen whales have a limitation on how shallow they will go and still actively be in a feeding mode.</p>
IV-181/0/17	<p>“However, loss of feeding efficiency could potentially reduce the chance of survival of any whale and could affect the amount of energy female whales have to invest in reproduction.”</p> <p>This is a broad speculation. Factors such as the condition of the whale when exposed (i.e., whether or not it had been feeding and built up food reserves), and the duration of the decrease in feeding efficiency, would all determine whether or not the effects would be significant. It is already known that the whales (different depending on age, reproductive status, etc.) go significant periods of time with minimal feeding.</p>
IV-182/3/2	<p>“Seismic surveys could have a variety of potential impacts to marine birds from the physical presence and noise produced by vessels, sound produced</p>

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	<p>by the seismic airguns,”</p> <p>Citations should be provided that show seismic sounds have effects on marine seabirds.</p>	
IV-184/1/4	<p>“However, there may be effects that were too subtle to be detected by this study.”</p> <p>This appears to be speculative. It is also possible that there were simply no effects.</p>	014-063
IV-185/4/2	<p>“High-intensity lights are needed during the seismic surveys to help spot marine mammals during nighttime operations or when visibility is hampered by rain or fog.”</p> <p>High intensity lights are not required, and generally not used to look for marine mammals during night time seismic operations.</p>	014-064
IV-198/3/1	<p>“Oil activity also may result in increasing contamination of marine habitats due to the disposal of drilling muds and cuttings, or accidental eruption of oil from test wells during a blowout.”</p> <p>The nature of drill muds and cuttings discharges, and their fate in the marine environment, making interaction and impacts on marine seabirds highly unlikely.</p>	014-065
IV-210/2/1	<p>“Raptors may extend their range if they were able to nest on oil-development and -transportation structures. While this range expansion may benefit raptors, it likely would have a net negative impact on other marine and coastal birds because these birds would suffer increased predation.”</p> <p>There have been onshore and offshore oil field related structures all over the world in areas with a wide range of raptors. If there is any literature documenting that they use these structures for nesting, then they should be cited. In Prudhoe Bay, Cook Inlet, and throughout the Gulf of Mexico, there hasn't been an issue of raptors trying to nest on structures.</p>	014-066
IV-211/3/5	<p>“Because of the lack of data on which to base informed decisions, it is unknown if noise introduced into the environment from industrial activities, including drilling and seismic operations, will have an adverse impact on nonendangered and nonthreatened marine mammals in the Proposed Action area.”</p> <p>Based on the considerable information we have on these animals from other areas, and with the mitigation measures to be required, there is a high probability that the impacts would be minimal. The above statement also makes it very clear that there should be significantly more money put into the MMS Environmental Studies Program, and into the NMFS marine mammal studies program, so that adequate environmental data is available to support the policy decision to facilitate exploration for new energy resources in the OCS.</p>	014-067
IV-211/3/8	<p>“Increasing vessel traffic in the Northwest Passage, which includes the Proposed Action area, increases the risks of oil and fuel spills and vessel strikes of marine mammals.”</p> <p>Please state the geographical location of the Northwest Passage as it is</p>	014-068

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	relevant to this DEIS.
IV-212/2/2	<p>“Disturbance may cause seals to leave haulout locations and enter the water.”</p> <p>The areas currently being considered for seismic work in the Chukchi are nowhere near any pinnipeds haul out areas. Seismic will generally not be conducted if there is ice in the area which would impede their progress, make turns difficult, and that might introduce unwanted sound into the water column.</p>
IV-213/1/4	<p>“longer (i.e., auditory and/or vestibular harm that lasts months or even years).”</p> <p>The literature does not suggest that there is long term damage to marine fish ears and hearing. Citations should be provided to support this statement in the EIS.</p>
IV-214/3/25	<p>“Potential effects of prolonged or repeated disturbance include displacement from preferred feeding areas, increased stress levels, increased energy expenditure, masking of communication, and the impairment of thermoregulation of neonates that are forced to spend too much time in the water (Garlich-Miller, 2006, pers. commun).”</p> <p>Please provide citations of “increased stress levels” in walrus and masking of communications. What was the scientific or research basis for such a determination?</p>
IV-218/3/3	<p>“As previously discussed in the USDO, MMS (2006a:Sec. III.F.1), direct and adverse impacts affecting some prey species (i.e., some teleost fishes) may last for days to weeks (e.g., displacement from foraging, staging, or spawning-habitat areas) or longer (i.e., auditory and/or vestibular harm that lasts months or even years).”</p> <p>Citations should be provided for any studies that document displacement of fish aggregations for weeks and longer due to seismic surveys. Most studies show that the displacement is on orders of hours to a day or so.</p>
IV-219/0/2	<p>“In 2004, the IWC Scientific Committee’s Standing Working Group on Environmental Concerns reviewed information related to the stranding of eight adult humpback whales in Brazilian waters during the 2002 breeding season that occurred while seismic surveys were operating in the immediate area. No clear cause of the stranding was ever found, but the IWC as a whole and its Scientific Committee agreed that there is compelling evidence of increasing sound levels having the potential to impact whales.”</p> <p>The same authors essentially recanted their previous publication in a paper given at the 2006 IWC meeting. This citation, and the correction on their earlier conclusions, should be quoted and cited here.</p>
IV-223/5/12	<p>“One possible explanation is that these animals are more used to industrial noise and heavy traffic and, thus, are habituated to it. Conversely, they might be hearing impaired due to ongoing noise exposure (Erbe and Farmer, 2000) and, thus, desensitized.”</p> <p>Please also include the explanation the sound does not bother them at all, and they ignore it. In the absence of data showing otherwise, this is the most</p>

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	plausible explanation.
IV-233/2/1	<p>“In light of the uncertainty over the potential impacts of exploration and development activities, the earliest possible establishment of long-term monitoring programs for vulnerable species in the project area should be pursued. The design of long-term monitoring should take into account the likely size of any effect and the probability of detecting it within a reasonable time span (IWC, 2006).”</p> <p>Please discuss the funding options for these studies.</p>
IV-234/2/10	<p>“As vividly demonstrated by these events, small, chronic leaks in underwater pipelines could result in large volumes of oil being released underwater and under the ice cover without detection.”</p> <p>It is inappropriate to compare the potential for leak volumes for an offshore flow line with those from an onshore 48” transport line. Additionally, there are leak detection technologies available to detect very small pipeline leaks, and technologies are emerging to detect oil under ice.</p>
IV-268/5/1	<p>“For exploration wells, because of the high cost of synthetic drilling fluids now commonly used, it is assumed that 80% of the drilling mud will be reconditioned and reused. Only 20% (an estimated 95 tons) of “spent mud” per well will be discharged at the exploration site.”</p> <p>The discharge of synthetic drilling fluids is prohibited by EPA Effluent Limitation Guidelines. The synthetic fluids, like water based fluids, are recycled on board. The solids are removed, and the fluids are continually recirculated back down the hole. In the case of synthetics, only the cuttings, with a regulated percentage of adhering synthetics, are discharged to the sea. In the case of water based muds, toxicity and discharge rates are controlled, but mud is allowed for discharge to the sea. The water base mud is still recycled on board the drilling vessel, with only a fraction of it being discharged to the ocean at any one time. See our comments at IV-38/3/1.</p>
IV-269/0/1	<p>“For production wells all waste products (drilling mud, rock cuttings, and produced water) for on-platform wells will be treated and then disposed of in shallow wells on the production platform. For the surrounding subsea wells, drilling waste products could be barged to a coastal facility for treatment and disposal.”</p> <p>See our comment at IV-38/3/1.</p>
IV-271/1/1	<p>“Beluga whales are sensitive to noise and may be displaced from traditional harvest areas by heavy boat traffic or seismic survey noise. This disturbance response, even if brief, might temporarily interrupt the movements of belugas or temporarily displace some animals when the vessels pass through an area.”</p> <p>In the near shore areas where belugas may be hunted by local communities, there would be operational restrictions and minimal industry traffic. In the offshore lease areas, their distance offshore is beyond where native groups would usually hunt for belugas.</p>
IV-272/3/1	<p>“The impacts of noise and disturbance in offshore areas on fish harvests likely would be minimal, although the increased noise potential of four concurrent seismic surveys (especially ocean-bottom-cable surveys in</p>

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	<p>shallower waters nearshore) could displace and disturb fish migrations and distributions and potentially “herd” them away from traditional subsistence-fishing areas (see Sec. IV.C.1.d, Fish Resources; Braund and Burnham, 1984; USDO, MMS, 1987d, 1990b, 1995a).”</p> <p>With limited fishing in the Chukchi region, and the operations being relatively far offshore, there is no existing information that would suggest that near shore fisheries or migrations would suffer any changes or impacts from the far offshore activities.</p>
<p>IV-329/6/1</p>	<p>“A 120-dB aerial monitoring zone for bowhead whales in the Chukchi Sea will be established and monitored: (1) once four or more migrating bowhead whale cow/calf pairs are observed at the surface during the vessel research-monitoring program; (2) once Barrow whalers notify NMFS or MMS that bowhead whale cow/calf pairs are passing Barrow; or (3) on September 25, whichever is earliest.</p> <p>Once notified by NMFS or MMS, a daily aerial survey will occur (weather permitting) within the area to be seismically surveyed during the next 24 hours. Whenever four or more migrating bowhead whale cow/calf pairs are observed at the surface during an aerial monitoring program, no seismic surveying shall occur within the 120-dB monitoring zone around the area where the whales were observed by aircraft, until two consecutive surveys (aerial or vessel) indicate they are no longer present within the 120-dB safety zone of seismic- surveying operations.”</p> <p>NMFS and MMS are conducting an Arctic Seismic EIS (see FR Vol. 71, No. 222, page 66912. Therefore, this mitigation, based on the previous permits, should not be assumed.</p> <p>The DEIS should provide detailed data to support the necessity of a 120 dB monitoring safety zone. Studies and research that evaluate the sensitivity of cow/calf pairs relative to other the sensitivity of other classes of individuals from the same species should be discussed. If the cow/calf pairs are slightly more sensitive to sound, then they would just give the operations a wider berth on their migration south, thus keeping them actually further away from any detrimental effects of the sound. There is no data to suggest that it would stop the migration. If NMFS or MMS contemplate additional scientific research to address this issue, the PEIS should describe the scope of such research plans.</p> <p>Included in the discussion of the implications of the 120 dB “monitored safety zone” should be a detailed discussion of the logistics, practicality, costs, and safety considerations. The zone of 120 dB ensonification area, based on modeling and actual measurements in 2006 is greater than previously thought. This creates an extremely large area that would require several aircraft and boats to monitor. An analysis of customary prevailing weather conditions for this region should be included to put in perspective the feasibility of trying to monitor this large an area.</p> <p>The DEIS should discuss the suitability of using the sound pressure level threshold to express the complex relationships of physical, environmental and species-specific and other biological effects from marine sound sources and to ascertain acoustic risks to marine mammals from these sources, and</p>

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	<p>evaluate the utility of other approaches, such as a matrix of source-specific parameters, environmental parameters, and species-specific variables, that have been considered in the literature or tested in other jurisdictions.</p>
IV-327/7/1	<p>“A 180/190-dB isopleth-exclusion zone (also called a safety zone) from the seismic-survey-sound source shall be free of marine mammals before the survey can begin and must remain free of mammals during the survey.”</p> <p>The new NMFS “acoustic criteria” will be published before this EIS goes final. A preliminary copy of the article that has been submitted to JASA by NMFS is available upon request from Brandon Southall. These new criteria should be reviewed, and included in these discussions. They may in fact change the 180/190 thresholds currently in use.</p>
IV-345/9/1	<p>“Floating drilling platforms could disturb the sea floor and buried archaeological resources by anchor-drag during the setting of anchors or movement of the drillship or support vessels over the anchor-spread area.”</p> <p>There is no data to suggest that archaeological sites exist 20-75 miles offshore in the Chukchi.</p>
IV-346/5/1	<p>“The placement of a bottom-founded production platform may compresses Holocene sediments, releasing water and possibly biogenic gas, which could disturb the host and overlying strata, including potential prehistoric archaeological resources.”</p> <p>Same comment as IV-345/9/1</p>

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MMS Responses to American Petroleum Institute Comments

API 014-001

Part of the length and repetition of the document is caused by:

- the inclusion of geophysical and geological surveys as a related action in addition to the lease sale;
- the use of the NEPA document as the vehicle for fulfillment of the consultation requirements of various laws and Executive Orders, such as Endangered Species Act, Marine Mammal Protection Act, Essential Fish Habitat, and the National Historic Preservation Act and Environmental Justice;
- the lack of similar recent NEPA analyses for the Chukchi Sea that, unlike the Beaufort Sea Lease Sale EIS/EA, do not facilitate incorporation by reference; and
- the diversity and importance of resources in the area.

API 014-002

The referenced information has not yet been released.

API 014-003

Through Lease Stipulation No. 5 – Conflict avoidance Mechanism to Protect Subsistence Whaling and other Subsistence-Harvest Activities (Sec. II.B.3.c(1)), MMS requires that OCS exploration, development, and production activities are conducted in a manner that prevents unreasonable conflicts between the oil and gas industry and subsistence activities. The MMS does not specifically require a Conflict Avoidance Agreement (CAA), however a CAA would meet the requirements of Stipulation 5.

API 014-004

Pertinent information within the Water Quality section is documented with scientific reference when appropriate. The MMS used information and data corresponding to the 1989 *Exxon Valdez* oil spill where and when it is appropriate.

The MMS appreciates the comment referencing the website at <http://www.mms.gov/taroilspills/>. The website has very good information on MMS's Oil Spill Response Research (OSRR) Program. Many sections relied upon information and data that can found on the MMS OSRR Program website.

API 014-005

The oil-weathering estimates were run at 2.7 °Celsius and -1 °Celsius, as discussed in the Notes on Tables A.1-9, 10 and 11 in Appendix A. The behavior and fate of crude oils is discussed in Appendix A, Section B. Specific references are given regarding how colder temperature affect spreading, dispersion, evaporation, and other properties related to the weathering of oil in ice.

API 014-006

We acknowledge that the many permitting requirements for future offshore developments are uncertain at this time. However, the scenario is based on a “no surface discharge” standard that has been established in northern Alaska. Besides the possible environmental effects avoided by subsurface injection of produced water, there are benefits for field operators. Waterflooding to maintain reservoir pressure to maximize oil recovery is a common practice for remote, high cost fields in northern Alaska. Produced water generally has chemistry compatible with the reservoir formation and, therefore, makes a good fluid to use in waterflood operations. Otherwise, expensive seawater-treatment equipment would be necessary to produce “make-up” water to fill reservoir voidage created by oil production. Many details of future field development will be proposed/reviewed/modified/approved according to site-specific conditions. We cannot analyze all possibilities in a general scenario at this early leasing stage.

API 014-007

As stated in the response to comment **API 014-006**, we agree that it is premature to strictly define the regulatory requirements for all future projects in this area. The scenario is only one plausible view, but we do attempt to be consistent with current practices for both industry and regulatory agencies. Generally speaking, the onsite discharge of muds and cuttings from a relatively small number of exploration wells has been allowed by USEPA under NPDES permits. However, for large numbers of development wells, USEPA has required either subsurface or offsite disposal. Numerous options surely will be considered prior to any drilling program, and permitted activities hopefully will balance feasibility for the operators and protection/mitigation for the environment. We cannot evaluate all possible options at this time when the location of the future development project has not been identified.

API 014-008

We have verified the statement from the cite source and believe no change is necessary. Your excellent explanation of sound versus noise has been added to the EIS at Section IV.A.3.b.

API 014-009

A section on factors affecting sound propagation has been added to Section IV.A.3.b.

API 014-010

The text has been modified to reduce the scope of the statement and remove the redundancy.

API 014-011

This comment references two statements within Section IV.A.3. The statement in Section IV.A.3.d refers to possible changes to water quality, while the statement in Section IV.A.3.d.(2) refers to changes that do not cause *significant* negative impacts. While they may be similar in nature and constituent data, they do represent two different data sets. The MMS believes that both statements are correct and appropriate.

API 014-012

The MMS agrees with the statement. No change in text is required.

API 014-013

The commenter refers to a general statement referencing conflicts of resources occurring predominantly in the continental United States. The MMS recognizes that there is not a recognized recreation and tourism industry associated with the Chukchi Sea.

API 014-014

Section IV.C.1.a(1) addresses the existing water quality; as such, the identification and discussion of seasonal biological activity and naturally occurring processes is appropriate. The scope of Section IV.C.1.a(1) is not specifically related to oil and gas operations but to the general water quality that presently exists in the Chukchi Sea.

API 014-015

The MMS agrees with the comment and has modified the text of the EIS.

API 014-016

The MMS agrees with the comment and has modified the text of the EIS.

API 014-017

The MMS agrees with the comment and has modified the text of the EIS.

API 014-018

MMS agrees with the comment and has modified the text of the EIS.

API 014-019

The MMS agrees with the comment and has modified the text of the EIS.

API 014-020

See the responses to comments **API 014-006** and **API 014-007**. We do not presuppose that any strategy will be the approved method of waste disposal. The scenario is only one hypothetical set of assumptions used to unify the environmental impact analysis. Other scenarios are plausible, but we cannot analyze them all. Future development designs and permitting requirements will be defined by site-specific conditions and regulations at the time.

API 014-021

The MMS agrees with the comment and has modified the text of the EIS.

API 014-022

The USEPA NPDES permit is referenced two sentences later in the discussion of produced waters. Specific reference to the Effluent Limitation Guidelines is not required to convey the level of detail intended within this paragraph. Any discharge that would occur from oil and gas operations within the Chukchi Sea area would have to operate under either the USEPA Authorization to Discharge under the National Pollution Discharge Elimination System (NPDES) for Oil and Gas Exploration Facilities on the Outer Continental Shelf and contiguous State Waters (AKG280000) or a USEPA issued individual NPDES permit. Reference to the Gulf of Mexico *No Observable Effects Level* is not appropriate in this situation.

API 014-023

Estimates for fluids and solids discharges are calculated using simple approximations for typical well diameters and drilled depths. All wells drilled to develop a field will not produce exactly the same volume of wastes. Also, until a field development plan is finalized, we do not know exactly how many wells will be drilled. Therefore, discharges could be higher or lower than those used for purposes of environmental impact analysis.

API 014-024

To date, MMS has not had discussions with USEPA on the development of a site-specific development NPDES permit to date. Due to the uniqueness of the Arctic, we would not presume that what is done in other regions necessarily would follow for the Arctic.

API 014-025

The MMS agrees with the statement. No change in text is required.

API 014-026

A “no discharge” is not presumed within the text; any regulated discharge that would occur from normal operations would be regulated and permitted by the USEPA. The third sentence preceding this comment statement was changed to more accurately define this condition.

API 014-027

The predominant disposal method for Beaufort Sea OCS disposal of drill muds/cuttings is for down-hole disposal in approved/permited wells from the production platform. The last sentence in the paragraph identifies other methods that industry can use for disposal methods. This sentence has been modified to identify onsite/vessel storage of muds and cutting for proper disposal prior to identifying ultimate disposal practice.

API 014-028

The recommended change was incorporated.

API 014-029

As explained in Section II.B.1.b, reference is made to MacDonald (2002), which is OCS Study MMS 2002-036, of some methane-filled pockmarks in the Gulf of Mexico. However, we consider as speculative the suggestion in the draft EIS that pockmarks form around methane seeps, and that they might exist on the deep Chukchi slope in the proposed lease area. The information has been removed from the final EIS.

API 014-030

The commenter disagrees with the implication that heavy metals from drilling muds might be accumulated by benthic organisms, and states that there is “no” evidence of trace metal uptake in benthic organisms around drilling platforms in the Gulf of Mexico, and that there was “no” elevation of methyl mercury relative to the platforms. However, Dr. John Trefry et al. (2006) concluded that elevated concentration of methylmercury in sediments around drilling sites are not a “common phenomenon” in the Gulf of Mexico (Environ. Geol., DOI 10.1007/a00254-007-0653-6). Further, ongoing research by Dr Aixin Hou at Louisiana State University has shown that methylmercury concentrations are higher at the platforms and decrease, along with organic matter, with distance from the rigs, and that summer hypoxia in the Gulf stimulates methylmercury formation (LSU Coastal Clips, 5, 2006). No changes were made in the final EIS.

API 014-031

Text has been added to clarify the assessment of the effect of produced-water discharges on lower trophic-level organisms.

API 014-032

The text has been revised to explain that PAH might be “measurable” rather than have an effect.

API 014-033

The text has been revised to provide additional information on the NPDES Program.

API 014-034

The text has been revised to explain that the pipeline would have to remain buried “as long as the pipelines maintain integrity.”

API 014-035

We agree that the effects from increased predation, inability to feed, navigate, or communicate with other fish, even if for less than 24 hours, could result in reduced fitness to fish. See Section IV.C.1.d(2)(b)1).

API 014-036

The behavioral effects on fish from seismic operations are detailed in Section IV.C.1.d(2)(b)2), Impacts to Behavior. Specific effects and cited literature are provided.

API 014-037

Disruptions to migration pathways are described in Section IV.C.1.d(2)(b)3), Impacts to Migration, Spawning, and Hatchling Survival. Conceptually, the displacement effect, if occurring close to shore, could restrict or delay fish movements. In such cases, if fish are delayed for a prolonged period or repeatedly interrupted, there is the possibility they could miss favorable conditions for migration or spawning. Our analysis concludes that any adverse effects from this potential impact for this lease sale would be temporary and localized, and only a moderate level of disturbance or displacement would occur.

API 014-038

“Physical excitation” refers to the rapid movement or vibration of the thinnest part of a blade. The main point, stated in the following sentence, is that boat propellers can generate very high tones that are within the hearing range of fish. Our analysis concluded that typical vessel noise associated with the lease sale would have a negligible impact to fish resources.

API 014-039

As stated at the beginning of the section, there is additional detail regarding the potential impacts of acoustic noise on fish in the Programmatic Environmental Assessment for Arctic Ocean Outer Continental Shelf Seismic Surveys – 2006 (USDOI, MMS, 2006a). Section III.F.1.i(2)(h) contains additional specific information and literature references regarding fish strandings by acoustic noise.

API 014-040

The intent of this statement is to describe how a cluster of several wells would have a correspondingly larger zone of detection. We recommend the reader review the original publication to more fully understand the intent of this statement. See the bibliography for the full citation for Hurley and Ellis (2004).

API 014-041

Barium was used as a tracer for these studies. See the response to comment **API 014-040** for the literature citation.

API 014-042

As stated at the beginning of this section, the primary source of information was Hurley and Ellis (2004). The full citation is included in the bibliography.

API 014-043

The definition of how we use the term “generation” in regards to significance criteria is contained in Section IV.A.1.

API 014-044

The effects of oil spills on sensitive lifestages of various fish species are described in Section IV.C.1.d(3)(d)4), Oil Spill Impacts to Fish Resources – Lessons from the *Exxon Valdez* Oil Spill. Spilled oil may persist in some coastal habitats for many years, periodically releasing PAH’s and other compounds that could have a long-term negative effect on sensitive lifestages of fish using those habitats.

API 014-045

See the response to comment **API 014-039**.

API 014-046

The MMS believes this statement is a technically accurate description of assumptions made during the impact analyses.

API 014-047

Section IV.C.1e(2), Potential Effects from 3-Dimensional Seismic Surveys on Essential Fish Habitat, concludes that only minor adverse effects would be expected to occur to marine salmon EFH, because the potential effects are localized and temporary.

API 014-048

Section IV.C.1.e(4), Potential Effects of a Large Oil Spill on Essential Fish Habitat, describes how MMS focuses on habitats most important to salmon. While we agree with the reviewer that it is possible pacific salmon could roam 200 nautical miles offshore, we clearly conclude this is not where oil-spill effects likely would occur.

API 014-049

The referenced sentence did not relate a heightened response to oil and gas noise and disturbance to a “lethal take.” The issue is discussed more fully in the section on cumulative effects, Section V.C.6.

API 014-050

The draft EIS does state in numerous locations throughout its bowhead whale analysis that this population appears to be stable or increasing, and historical use of the Beaufort and Chukchi for oil and gas activities does not appear to have inhibited the continued recovery of this population. However, it is important to note (and as stated in the draft EIS) that mechanisms were not in place over this time to directly measure for these type of impacts. Therefore, we cannot say with certainty that past and present oil and gas activities have not *affected* the bowhead population, but only that the population continues to recover despite the presence of these activities. The MMS believes no changes are needed to the EIS to address this comment.

API 014-051

The MMS agrees with the comment and has made the appropriate changes.

API 014-052

The MMS believes that this conservative approach is appropriate to the analysis of this Proposed Action. As the “deep sound channel” is a feature in the Pacific Ocean, the question posed in the comment is a hypothetical question and outside the scope of this EIS. The MMS’s significance criteria for the proposed action in the Chukchi Sea Planning Area are discussed in Section IV.A.1.

API 014-053

The MMS believes that this conservative approach is appropriate to the analysis of this Proposed Action. The mitigation measures ultimately will apply only to the area determined through field verification to be the area of concern.

API 014-054

This specific sentence is part of a subsection on the discussion of potential impacts from seismic activities and is meant to summarize the results of studies and other available information on the issue. The full analysis on the potential effects to bowhead whales is contained throughout Sections IV.C.1.f(1)(b) and IV.C.1.f(1)(c) and is summarized beginning at the bottom of page IV-149 of the draft EIS. This analysis does reflect where noise may not be disturbing (and even potentially result in habituation) and where specific scenarios (i.e., impacts to cow/calf pairs or feeding aggregations) may have the potential to result in biologically significant impacts.

API 014-055

This particular statement references the discussion of studies from the 1980’s and early 1990’s that are covered on pages IV-129-133 of the draft EIS. The studies were not designed to determine whether more subtle reactions were occurring to alter the bowhead whale-migratory corridor. The MMS believes this statement also is not needed in the conclusion.

API 014-056

This determination is made from decades of aerial survey studies of bowhead whale migration. The distance from shore is not based on sighting an animal from shore but actually by an aerial observer sighting an animal, and then through proven and accepted methodology determining the approximate distance of that animal from shore. The statement is correct as written.

API 014-057

The MMS recognizes that there have not been any direct studies on bowhead whales to assess the physiological responses of stress. However, the connection between stress and endocrine system changes in mammals is a widely accepted biological principle. For marine mammals, it was more recently studied in Curry (1999) and Fair and Becker (2000), which have been added to the bibliography. The MMS feels it is appropriate to apply the statement referenced in the comment above to bowhead whales and no changes will be made to this statement.

API 014-058

See response to comment **API 014-020**.

API 014-059

A reference of interest would be: Populations of amphipods off the coast of France were reduced by 99.3% following the *Amoco Cadiz* oil spill in 1978 (approx 70 million gallons). Ten years after the spill, amphipod populations had recovered to only 39% of their original maximum densities (Dauvin, 1989, as cited in Highsmith and Coyle, 1993).

Please refer to page IV-173, Food Source. This section agrees with your comment on relative scale of a zooplankton kill in localized situations nearshore versus the remaining habitat available to bowheads to obtain food. It is true bowhead whales spend a considerable portion of the year with minimal feeding; however the remainder of the year is critical to locate and consume the food quality and quantity to store nutrients and energy (blubber) for the period when food is largely unavailable and still maintain critical life functions including pregnancy and energy demanding spring migration, lactation, and breeding. It is quite common in mammals that are required to tolerate a stress season in terms of food availability and quality to experience breeding and reproductive failure and at time mortality when levels of stored energy are exhausted.

API 014-060

The MMS agrees that the toxicity and mortality in the open ocean differs from the lab conditions and are hypothetical outcome. However, the implications for potential localized zooplankton mortality remains a consideration, especially when considering traditionally used high-productivity/high-use localized whale-feeding areas. There are still unknown outcomes relative to water turbidity, weather conditions, wave and tidal influences, oil age and mixing depths, and depths at which toxicity is diluted to nonmortal levels. It is unknown how these influences would modify the severity of a phototoxic mass mortality.

API 014-061

The MMS believes the statement is accurate. The Summary and Conclusions on pages IV-178-181 of the draft EIS provide for an overview of the potential range of effects that may occur from oil and gas related activities under the Proposed Action. This includes areas identified where effects are unlikely to where there is a potential for greater, and potentially significant, effects. The particular draft EIS text referenced in the response to comment API 014-059 is meant to show the potential for effects to bowhead whales if food becomes unavailable due to a large oil spill. Although the degree of effect can be influenced by such factors as age, sex, and reproductive status, the statement is meant to show the potential for a higher level of effects. In addition, it is important to note that little is known about bowhead whale feeding behavior in the Chukchi, although it is considered likely to vary between years, among individuals, and among areas. Given the level of uncertainty that exists, MMS cannot rule out the potential for oil spills in the Chukchi to affect bowhead whale feeding and ultimately bowhead whale health, reproductive status, or even survival. Again, the section as a whole provides for a range of effects, and the analysis needs to be considered as a whole.

API 014-062

The best examples of the behavioral responses to marine and coastal birds to vessel presence and noise are contained in the Biological Evaluation for Threatened and Endangered Birds (draft EIS, Appendix C, starting on page 37; now available at http://www.mms.gov/alaska/ref/Biological_opinionsevaluations.htm or from MMS). Numerous citations to scientific articles are provided in this section.

API 014-063

This section explained some of the uncertainty surrounding the results of this study. Many important disturbance effects were not or could not be evaluated for significance. Cause-effect relationships were inconclusive.

API 014-064

The use of high-intensity lights during seismic surveys is primarily to conduct safe operations on the aft deck of a vessel. The MMS and NMFS do not require their use to monitor the exclusion zone for the presence of marine mammals at night or during foggy conditions. This is because they would be more of an attractive nuisance for birds, including the threatened species Steller's eider (i.e., they would cause bird collisions with vessels and cause injuries and mortalities), than an effective tool for detecting marine mammals.

Seismic surveying requires an essentially ice-free operational environment, which means that the window for surveying is very short. Because of this, seismic surveys attempt to operate 24 hours a day, 7 days a week. Continuous operation of the airgun array is expected to deter marine mammals from entering the exclusion zone. In fact, one of the required marine mammal mitigation measures is to keep at least one airgun firing during vessel turns, when normally all the airguns would be shut off. Based on this expectation, surveying is allowed to continue into darkness or in deteriorating visibility conditions (e.g. fog) as long as the airgun array is continuing firing. If the array is shut down for any reason, ramp up to restart the survey cannot be initiated at night or when monitoring the exclusion zone is not possible, for instance when there is fog. Although visual observers are the major component of monitoring the exclusion zone, other methodologies are available for monitoring, including passive acoustic and possibly the use of aerial drones.

API 014-065

Bioaccumulation of toxic compounds via food webs could include marine birds. Direct impacts to birds from a blowout also are unlikely (and are not expected to occur), but they are possible. We believe the EIS should include all potential impact categories, regardless of how likely an effect would occur.

API 014-066

The situation has received more attention in the past decade, and some efforts have been made to study or remove raptor nests on manmade structures. Several examples of raptors nesting on oil-development facilities are included in Ritchie (1991).

Expansion of ravens onto the North Slope is mentioned in Quakenbush et al. (1995) as cited in Appendix C (now available at http://www.mms.gov/alaska/ref/Biological_opinionsevaluations.htm or from MMS).

API 014-067

If API has “considerable information” on these animals from “other areas” and can demonstrate that there is a “high probability that the impacts would be minimal,” MMS suggests that API share that specific information with MMS. Our extensive reading of the scientific literature has produced no such certainty.

We also agree that it is very clear that there should be significantly more money put into the MMS Environmental Studies Program, and into the NMFS marine mammal studies program, so that adequate environmental data is available to support the policy decision to facilitate exploration for new energy resources in the OCS.

API 014-068

The text of Section IV.C.1.h(1), Conclusion, has been modified.

API 014-069

The text in the draft EIS is correct as written.

Although “seismic generally will not be conducted if there is ice in the area that would impede their progress,” smaller support vessels and aircraft still may disturb seals hauled out on ice as they transit through the area.

API 014-070

This statement was made based on consultations with our former fisheries biologist. The following citation has been added to this statement (Jeff Childs, pers. comm.).

API 014-071

This statement discusses “potential effects.” Basic biology establishes that “prolonged or repeated disturbance” will result in increased stress levels in walruses, as measured by increased energy expenditure as a result of avoidance behavior and displacement from preferred sites. The basis for including masking of communications also is based on simple biological logic. Walruses vocalize while underwater, which can reasonably be assumed to be for underwater communication. Seismic activities produce strong sounds underwater, which it is reasonable to assume could potentially mask walrus vocalizations. Therefore, the citation provided is appropriate, as it references the FWS’s agency expertise, and is appropriate when discussing “potential” effects of prolonged or repeated disturbance.

Furthermore, three paragraphs below the statement in question, the draft EIS goes on to state:

Walruses produce a variety of sounds (grunts, rasps, clicks), which range in frequency from 0.1 Hz-10 Hz (Richardson et al., 1995a). Quantitative research on the sensitivity of walruses to noise has been limited because no audiograms (a test to determine the range of frequencies and minimum hearing threshold) have been done on walruses.

This indicates that there is uncertainty with respect to potential effects; therefore, the potential effects on a marine mammal that vocalizes underwater cannot be discounted out of hand.

API 014-072

Again, this statement was made based on consultations with our former fisheries biologist and, as written, is incorporated by reference from the seismic-survey PEA (USDOI, MMS, 2006a).

API 014-073

Due to the uncertainty regarding cause and effect with this event, the text in question was removed from the EIS.

API 014-074

In the following sentence of the draft EIS, the term “habituate” equates to “the sound does not bother them at all, and they ignore it.” “One possible explanation is that these animals are more used to industrial noise and heavy traffic and, thus, are habituated to it.”

The preceding portion of the paragraph clearly shows that loud underwater sound *does* bother cetaceans. To further establish the potential effects of disturbance on cetaceans, additional text has been included in Section IV.C1.h(3)(a), Noise and Disturbance.

API 014-075

Discussions of funding options for these studies are not appropriate for the scope of this document. Questions about potential funding options for such studies should be directed to MMS Alaska Environmental Studies Section at 907-334-5281.

API 014-076

The MMS understands that leak-detection technologies used on the onshore North Slope pipeline would be comparable to the pipeline leak-detection technologies that would be used for OCS-related pipelines offshore. As such, we believe that it is appropriate to reference this spill incident.

API 014-077

See the response to comment **API 014-020**.

API 014-078

See the response to comment **API 014-020**.

API 014-079

The definition of “minimal industry traffic” is problematic because it is based on who—either industry or subsistence whalers—provides the definition. Nearshore “operational restrictions” are negotiated on a season-by-season basis, and it is only within the terms of Conflict Avoidance Agreements and marine mammal monitoring plans that such restrictions are specified.

API 014-080

The statement concerning fishing refers to subsistence fishing. The MMS has no information suggesting that subsistence fishing is “limited” in the region. The MMS has no specific provisions preventing seismic-survey activity from occurring nearshore.

API 014-081

This discussion comes from the mitigation discussion earlier in the EIS and is repeated here for the sake of clarity. The requirement for a 120-dB monitoring zone is an alternative under consideration in this EIS and in the NMFS/MMS programmatic EIS for seismic surveying in the Arctic Ocean. If mitigative criteria change, then the language of the mitigation discussed here will change.

API 014-082

This discussion comes from the mitigation discussion earlier in the EIS and is repeated here for the sake of clarity. If acoustic criteria change, then the language of the mitigation discussed here will change. The NMFS is a cooperating agency for this EIS and has provided revisions incorporating their information as they determined appropriate.

API 014-083

The USGS coring program (Phillips, 1986) found terrestrial sediments (peat) buried 4.6 m beneath the seafloor offshore in the Chukchi Sea that were dated at 11, 330 years before present in 46 m of water. The whole shelf was subareally exposed within the time period that human occupation of North America was occurring; therefore, all areas in the Chukchi Sea in water depths less than 60 m theoretically have the possibility to host prehistoric archaeological sites. The possibility of prehistoric sites is higher where there are preserved terrestrial landforms in water depths of less than 60 m. Some of these areas may have been eroded, destroyed by dynamic ice or hydraulic processes, or may never have existed—but this is determined on a case-by-case basis until a better regional picture emerges.

API 014-084

See response to comment **API 014-083**.



CENTER FOR BIOLOGICAL DIVERSITY

BECAUSE LIFE IS GOOD.

Submitted Via Electronic Delivery at <http://ocsconnect.mms.gov>

December 26, 2006

Mr. John Goll
Regional Director
Alaska OCS Region, Minerals Management Service
2801 Centerpoint Drive, #500
Anchorage, AK 99503-5823

RE: Comments on Proposed Chukchi Sea Planning Area Oil and Gas Lease Sale 193 and Seismic Surveying Activities in the Chukchi Sea, 71 Fed. Reg. 60751

Dear Mr. Goll:

Thank you for the opportunity to comment on the Minerals Management Service's ("MMS") Proposed Chukchi Sea Planning Area Oil and Gas Lease Sale 193 and Seismic Surveying Activities in the Chukchi Sea ("proposed project"). A compact disk which contains copies of all references cited in this comment letter was sent to you under separate cover via USPS Express Mail for delivery on December 26th (ER 264940602 US). This comment letter should be read together with the references submitted on the compact disk. We request that MMS carefully review and consider these important references, and include them in the administrative record for this rulemaking.

These comments are submitted on behalf of the Center for Biological Diversity ("Center"), a non-profit public interest conservation organization with over 25,000 members nationally. The Center is dedicated to protecting imperiled species and their habitats by combining scientific research, public organizing, and administrative and legal advocacy. The primary goal of the Center's Climate, Air, and Energy Program is to reduce United States greenhouse gases and other harmful air pollutants in order to protect biological diversity, public health, and the environment.

In short, we believe that the DEIS must be revised and recirculated prior to any approval of oil exploration and development activities in the Chukchi Sea as its deficiencies in content, analysis, and conclusion are so severe as to render the DEIS and any decision based on it legally infirm. The DEIS fails to comply with the mandates of the National Environmental Policy Act, 42 U.S.C. §§4331 et seq. ("NEPA") to analyze the environmental effects of the action and to consider a reasonable range of alternatives and mitigation measures to reduce impacts.

While the flaws of the DEIS are both numerous and diverse, in this comment letter we focus on the failure of the DEIS to disclose, analyze, mitigate and otherwise take into account the greenhouse gas emissions inevitably resulting from the proposed project. Additional comments submitted by Earthjustice on our behalf on December 22, 2006 are incorporated by reference.

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Failure to Analyze Greenhouse Gas Emissions

The DEIS fails to quantify, disclose, and analyze the greenhouse gas emissions that will result from the proposed project. This failure is arbitrary, capricious, and contrary to the express mandates of both the OCSLA and NEPA. NEPA is the “basic national charter for protection of the environment.” 40 C.F.R. § 1500.1(a). Congress passed NEPA in 1969, casting the statute as a landmark national effort to “encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation.” 42 U.S.C. § 4321.

To accomplish these goals, all federal agencies must assess the environmental impacts of their proposals before taking any action on them. The preparation of an Environmental Impact Statement (“EIS”) lies at the heart of NEPA, and must “provide full and fair discussion” of impacts like greenhouse gas emissions and global warming implications and must “inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize” these impacts. 40 C.F.R. § 1502.1.

The purpose of the NEPA review process is two-fold: “First, it places upon [the action] agency the obligation to consider every significant aspect of the environmental impact of a proposed action. Second, it ensures that the agency will inform the public that it has indeed considered environmental concerns in its decisionmaking process.” Kern v. United States Bureau of Land Management, 284 F.3d 1062, 1066 (9th Cir. 2002). See also Columbia Basin Protection Ass’n v. Schlesinger, 643 F.2d 585, 592 (9th Cir. 1981) (“[T]he preparation of an EIS ensures that other officials, Congress, and the public can evaluate the environmental consequences independently.”).

These dual objectives require that environmental information be disseminated “early enough so that it can serve practically as an important contribution to the decisionmaking and will not be used to rationalize or justify decisions already made.” 40 C.F.R. § 1502.5. See also Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 371 (1989) (“the broad dissemination mandated by NEPA permits the public and other government agencies to react to the effects of a proposed action at a meaningful time”); Metcalf v. Daley, 214 F.3d 1135, 1143-44 (9th Cir. 2000). Ultimately, an EIS does not satisfy NEPA unless “its form, content, and preparation substantially (1) provide decision-makers with an environmental disclosure sufficiently detailed to aid in the substantive decision whether to proceed with the project in light of its environmental consequences, and (2) make available to the public, information of the proposed project’s environmental impacts and encourage participation in the development of that information.” Trout Unlimited v. Morton, 509 F.2d 1276, 1283 (9th Cir. 1974).

The MMS proposes to approve Lease Sale 193 as part of the 2007-2012 leasing program, but has also failed to adequately deal with greenhouse gas emissions in its environmental analysis of the five year leasing program. The DEIS for the five year program discussed only the greenhouse gas emissions from the exploration, development, production, and transport of the crude oil, as well as decommissioning of development infrastructure. While these emissions, particularly methane, are substantial, they are only a small fraction of the overall emissions from the five year program, since by far the largest component of greenhouse gas emissions will be from combustion of the oil and gas

resources for energy. The DEIS here references the project's greenhouse gas emissions only in a cursory analysis of less than one page at V-19. The DEIS's reference to the five year program EIS is misleading, since that EIS did not analyze the greenhouse gas emissions from consuming the fossil fuels produced. The DEIS's reference to the Northstar EIS cannot substitute for an analysis of the impacts of proposed Lease Sale 193. The DEIS's analysis is extraordinarily cursory and completely inadequate. The DEIS has failed to even disclose the direct or cumulative greenhouse gas emissions of the proposed project, let alone explore their impacts and alternatives and mitigation measures to reduce those impacts.

015-002

The MMS anticipates that one billion barrels of oil (Bbbl) would be produced as a result of Lease Sale 193 and that the cumulative production would be 6.6-17.8 Bbbl. While we believe that the cumulative estimate severely understates the true cumulative impacts, since the cumulative case has been inappropriately constrained, nonetheless this is an extremely significant amount of fossil fuel production and both the direct and cumulative impacts must be thoroughly analyzed.

Yet in the place of actual analysis, the DEIS states "...because emissions from the actual combustion of oil products are much greater than the emissions from production operations, the effect on climate change from Alternative I would be negligible, as the level of oil consumed in the United States, with or without this Alternative, likely would not change." DEIS V-19. This conclusory assertion is incorrect at every level. The impacts of the proposed project are not negligible, and must be analyzed. Further, the MMS must truly analyze alternatives not within its jurisdiction, such as energy conservation, to reduce the impacts of the proposed project. The fossil fuel use from Lease Sale 193 could easily be offset through conservation measures including increasing building energy efficiency and increasing vehicle fuel economy. These measures would eliminate the need for consuming the fossil fuels that would be produced by Lease Sale 193. The DEIS's failure to disclose this information to the public violates NEPA. The DEIS's assumption that government policies and actions will not impact oil consumption in this country are unsupported and incorrect.

015-003

As a result of ignoring these emissions, the MMS has failed completely to consider a critical aspect of the problem, rendering each and every section of the DEIS incomplete and inadequate. Because the MMS chose, bizarrely, not to consider the greenhouse gas emissions from the oil and gas resources, the DEIS discusses global warming as if it were a phenomenon independent of the proposed project, instead of discussing the project's significant direct and cumulative contribution to global warming. The MMS's approach is an egregious violation of NEPA.

015-004

The MMS's failure to consider the greenhouse gas emissions from the oil and gas resources similarly infects the MMS's substantive decisionmaking under OCSLA. The MMS cannot properly consider the environmental damage and the adverse impact on the coastal zone of the Program without considering its greenhouse gas emissions and global warming implications. An analysis which has omitted entirely what is arguably the single most significant environmental impact of the project is per se inadequate.

As discussed further below, the public and decisionmakers are entitled to know the true costs and impacts of all aspects of the proposed project, including its greenhouse gas emissions. Laying bare the true impacts and costs of the direct and cumulative greenhouse gas emissions from the OCS production program, and disclosing alternatives and mitigation measures, would very likely lead to increased energy conservation and use of renewable energy sources. The MMS prevented this result by producing

a DEIS that hid the true greenhouse gas emissions of its proposal. Because, as explained further below this error has infected every aspect of the decisionmaking process, the MMS must prepare a revised DEIS that properly considers the greenhouse gas and global warming implications of the Program, prior to approving Lease Sale 193.

015-005

The DEIS Contains Incorrect and Misleading Information

In addition to the overarching failure of the MMS to consider the greenhouse gas emissions of the oil and gas resources, one of the most important environmental impacts of the Program, the DEIS also contains numerous instances of outdated, inaccurate information which fatally taints the analysis. Among other obligations, the MMS is required to “describe the environment of the areas to be affected or created by the alternatives under consideration.” 40 CFR 1502.15. The establishment of the baseline conditions of the affected environment is a practical requirement of the NEPA process. In Half Moon Bay Fisherman's Marketing Ass'n v. Carlucci, 857 F.2d 505, 510 (9th Cir. 1988), the Ninth Circuit states that “without establishing . . . baseline conditions . . . there is simply no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA.” The DEIS has failed utterly to accurately describe the baseline conditions with regard to atmospheric greenhouse gas concentrations, global warming, and other issues.

015-006

At II-18 the DEIS discusses climate change in the Arctic in a misleading and incorrect fashion, and fails to acknowledge that the best available science indicates that a significant portion of recent warming is due to anthropogenic greenhouse gas emissions, upon which other sources of variability, such as the Arctic Oscillation (AO), operate. At III-16, the DEIS states that the causes of sea-ice decline in the Arctic are “ambiguous.” This is incorrect, misleading, and renders the DEIS inadequate. The MMS appears to have contracted all or portions of the DEIS to authors who are not qualified to discuss global warming science, as the authors committed numerous other errors, including confusing the IPCC’s Third Assessment Report with the earlier Second Assessment Report. III-114.

015-007

In general, the DEIS understates the scientific understanding of global warming and overstates remaining uncertainties. The DEIS fails to acknowledge, for example, that the basic physics underlying global warming are as well established as any phenomena in the planetary sciences. The DEIS also ignores some of the most critical scientific advances of the past few years. For example, important advances in the detection and attribution of global warming have demonstrated, beyond any legitimate scientific debate, that a significant portion of recently observed warming is due to anthropogenic greenhouse gas emissions (Barnett et al. 2005, LLNL 2006). Scientists have also demonstrated that anthropogenic greenhouse gas emissions have altered the energy balance of the earth by 0.85 ± 0.15 watts per square meter (Hansen et al. 2005). Due to the lag time in the climate system, this energy imbalance commits the earth to additional warming of .6° C (1° F) of warming that is already “in the pipeline,” even absent additional greenhouse gas emissions (Hansen et al. 2005).

015-008

Perhaps most importantly, scientists’ ability to predict future change from continued greenhouse gas emissions is far greater than stated by the DEIS. Leading scientists are now able to tell us, with a high degree of certainty, that additional warming of more than 1° C (1.8° F) above year 2000 levels will constitute “dangerous climate change,” with particular reference to sea level rise and species extinction (Hansen 2006; Hansen et al. 2006a,b). Furthermore, scientists are able tell us the atmospheric greenhouse gas level “ceiling” that must not be exceeded in order to prevent additional warming of more

015-009

than 1° C (1.8° F) above year 2000 levels (Hansen 2006; Hansen et al. 2006a,b). In turn, scientists can tell us the limitations that must be placed on greenhouse gas emissions in order to not exceed this “ceiling” of approximately 450 ppm of carbon dioxide.¹

In order to stay within the ceiling, emissions must follow the “alternative,” rather than the “business as usual,” greenhouse gas emissions scenario (Hansen 2006; Hansen et al. 2006a,b; Hansen and Sato 2004). In the business as usual scenario, carbon dioxide emissions continue to grow at about 2% per year, and other greenhouse gases such as methane and nitrous oxide also continue to increase (Hansen 2006; Hansen et al. 2006a,b). In the alternative scenario, by contrast, carbon dioxide emissions decline moderately between now and 2050, and much more steeply after 2050, so that atmospheric carbon dioxide never exceeds 475 parts per million (Hansen 2006; Hansen et al. 2006a,b). The alternative scenario would limit global warming to less than an additional 1° C in this century (Hansen 2006; Hansen et al. 2006a,b).

Since the year 2000, however, society has not followed the alternative scenario. Instead, carbon dioxide emissions have continued to increase by 2% per year since 2000 (Hansen 2006; Hansen et al. 2006a,b). If this growth continues for just ten more years, the 35 % increase in CO₂ emissions between 2000 and 2015 will make it implausible to achieve the alternative scenario (Hansen 2006; Hansen et al. 2006a,b). Moreover, the “tripwire” between keeping global warming at less than 1° C, as opposed to having a warming that approaches the range of 2-3° C, may depend upon a relatively small difference in anthropogenic greenhouse gas emissions (Hansen 2006; Hansen et al. 2006a,b). This is because warming of greater than 1° C may induce positive climate feedbacks, such as the release of large amounts of methane from thawing arctic permafrost, that will further amplify the warming (Hansen 2006; Hansen et al. 2006a,b).

Just ten more years on current greenhouse gas emissions trajectories will essentially commit us to climate disaster. Dr. James E. Hansen, Director of the NASA Goddard Institute for Space Studies, and NASA’s top climate scientist, has stated: “In my opinion there is no significant doubt (probability > 99%) that . . . additional global warming of 2° C would push the earth beyond the tipping point and cause dramatic climate impacts including eventual sea level rise of at least several meters, extermination of a substantial fraction of the animal and plant species on the planet, and major regional climate disruptions” (Hansen 2006:30).

In order to avoid truly unacceptable consequences of global warming, we must stop the growth of greenhouse gas emissions, and, in relatively short order, begin reducing them. Achieving the reductions necessary to keep additional global warming beyond the year 2000 within 1° C will be extremely challenging.

Moreover, the impacts are occurring more rapidly than scientists anticipated even just a few years ago:

Animal and plant species have begun dying off or changing sooner than predicted because of global warming, a review of hundreds of research studies contends.

¹ This limit may increase slightly to 475 ppm carbon dioxide if other quantities of other greenhouse gases such as methane and nitrous oxide are reduced (Hansen 2006; Hansen et al. 2006a,b).

These fast-moving adaptations come as a surprise even to biologists and ecologists because they are occurring so rapidly.

At least 70 species of frogs, mostly mountain-dwellers that had nowhere to go to escape the creeping heat, have gone extinct because of climate change, the analysis says. It also reports that between 100 and 200 other cold-dependent animal species, such as penguins and polar bears are in deep trouble.

"We are finally seeing species going extinct," said University of Texas biologist Camille Parmesan, author of the study. "Now we've got the evidence. It's here. It's real. This is not just biologists' intuition. It's what's happening."

Her review of 866 scientific studies is summed up in the journal *Annual Review of Ecology, Evolution and Systematics*.

Parmesan reports seeing trends of animal populations moving northward if they can, of species adapting slightly because of climate change, of plants blooming earlier, and of an increase in pests and parasites.

Parmesan and others have been predicting such changes for years, but even she was surprised to find evidence that it's already happening; she figured it would be another decade away.

Just five years ago biologists, though not complacent, figured the harmful biological effects of global warming were much farther down the road, said Douglas Futuyma, professor of ecology and evolution at the State University of New York in Stony Brook.

"I feel as though we are staring crisis in the face," Futuyma said. "It's not just down the road somewhere. It is just hurtling toward us. Anyone who is 10 years old right now is going to be facing a very different and frightening world by the time that they are 50 or 60."

Borenstein 2006:1.

The rate of publication of articles relating to the biological responses to global warming increases each year (Parmesan 2006). Approximately 40 percent of 866 papers published between 1899 and January 2006 dealing with climate change impacts on species were published since January, 2003 (Parmesan 2006). This highlights the importance of utilizing current research. The DEIS has systematically failed to do so.

The DEIS fails to acknowledge this critical context in which the proposed project's enormous greenhouse gas emissions must be analyzed. It is well established that Administration officials have attempted to suppress and downplay scientific research related to global warming (Giles 2006). The DEIS's inaccurate statements regarding global warming reflects either ignorance of the science or a deliberate attempt to mislead. Neither has any place in a legally adequate DEIS. The MMS cannot comply with its legal obligation to fully analyze and disclose the impact of the project on the environment without accurately characterizing the global warming problem.

015-010

The DEIS Fails to Consider the Economic Cost of the Project's Greenhouse Gas Emissions

The DEIS also failed to disclose the economic cost of the Program’s greenhouse gas emissions. At IV 32-33, the DEIS states “[s]ubstituting energy-saving technology (adding insulation to buildings or more efficient engines in vehicles, etc.) or consuming less energy (lowering thermostat settings during the winter; using public transportation rather than private automobiles) will conserve energy. The former could result in positive net gains to the environment but will impose costs to manufacturers and consumers. The amount of environmental gain would be balanced by negative effects on the economy.” This is demonstrably incorrect.

015-011

A large, peer-reviewed literature exists on estimating the social costs of climate change and quantifying the cost of carbon dioxide emissions (Stern 2006). As this field has developed, the methodology and inclusiveness of economic studies has improved. At the same time, the scientific understanding of global warming impacts and predictive ability has also improved. The result is that the estimated cost of greenhouse gas emissions in the literature has increased steadily, and we now know that the cost of continued greenhouse gas emission trajectories would be astronomical (Stern 2006). While monetizing the impact of greenhouse gas emissions cannot substitute for a full discussion of all impacts under NEPA, an estimate of the economic costs should have been included in the DEIS. The failure to include this information further skewed the DEIS’s already bizarre and arbitrary perspective, discussed above, that energy conservation will have “negative effects on the economy.” DEIS IV-33.

015-012

Very few of the early economic studies included any non-market damages such as species extinction, or the risk of potential extreme weather such as hurricanes, droughts, and floods (Watkiss et al. 2005). None have included socially contingent effects, or the potential for longer-term effects and catastrophic events (Watkiss et al. 2005). This indicates that values in the literature are a subtotal of the full economic (or social) cost of greenhouse gas pollution, and therefore by definition are underestimates, though researchers cannot yet say by how much (Watkiss et al. 2005).

Researchers have concluded that \$73/tc² (year 2010) is a reasonable figure for decisionmakers to use as a lower benchmark of the economic cost of greenhouse gas emissions, but this figure rises sharply over time (Downing et al. 2005). An upper benchmark is more difficult to deduce from the current literature but the risk of higher values for the social cost of carbon is significant (Downing et al. 2005, Watkiss et al. 2005). One widely respected report commissioned for the British government recommended that decisionmakers use the range of values displayed in Table 1.

015-013

² tc = tonne carbon = 3.664 tons of carbon dioxide.

Table 1: Economic Cost of Carbon: Values for Use in Project Appraisal (USD per ton carbon)
 (Source: Adapted from Watkiss et al. 2005:ix)³

Year of Emission	Central Guidance	Lower Central Estimate	Upper Central Estimate
2000	\$101	\$64	\$238
2010	\$119	\$73	\$293
2020	\$146	\$91	\$375
2030	\$183	\$119	\$475
2040	\$256	\$165	\$603
2050	\$384	\$238	\$768

015-014

The Stern Review of the Economics of Climate Change, another comprehensive report commissioned by the British government, recently concluded that allowing current emissions trajectories to continue unabated would eventually cost the global economy between 5 to 20 percent of GDP each year within a decade, or up to \$7 trillion, and warned that these figures should be considered conservative estimates (Stern 2006). By contrast, measures to mitigate global warming by reducing emissions were estimated to cost about one percent of global GDP each year (Stern 2006). One percent of global GDP is roughly what the world spends annually on advertising.⁴

The DEIS’s failure to include information relating to the economic cost of the Program’s greenhouse gas emissions rendered it legally inadequate. The DEIS essentially advocates for a “business as usual” approach to offshore oil and gas production, while ignoring the true costs and impacts of this fossil fuel use and dismissing alternatives as having “negative impacts to the economy.” This approach is fundamentally flawed and the DEIS must be revised.

The DEIS Fails to Analyze the Project’s Cumulative Impacts

NEPA’s cumulative impacts analysis requirement was added to address problems like greenhouse gas emissions that may appear individually insignificant, but cumulatively create a serious environmental problem. It is difficult to imagine a more important cumulative impact analysis than that for the offshore oil and gas production program. The American public and our decisionmakers are entitled to understand the impacts that result from the greenhouse gas emissions of our oil and gas use. Once again, the DEIS utterly failed to provide this information. The DEIS should have disclosed and analyzed the greenhouse gas emissions from past, proposed, and estimated future production. The DEIS should also have examined other major sources of greenhouse gas emissions to provide an adequate overall description of cumulative impacts. The DEIS fails to do so.

The end result is an internally inconsistent DEIS with a serious logical disconnect between many of the statements. For example, a discussion of the impacts of global warming on polar bears at V-48-52 is followed by the non-sensical conclusion that, based on the impacts of global warming on polar bears, that the future effectiveness of mitigation measures must be carefully monitored. While this is true as

015-015

³ Figures from Watkiss et al. 2005:ix were converted from GBP (£) to USD (\$) with the exchange rate calculator at http://coinmill.com/GBP_USD.html on July 18, 2006 and rounded to the nearest dollar.

⁴ <http://www.grist.org/news/daily/2006/10/30/1/index.html> (accessed on November 21, 2006).

far as it goes, it is incomplete and inadequate to deal with the problem. The conclusion is misleading because it ignores the fact that no successful mitigation of the impact of global warming on polar bears is possible unless greenhouse gas emissions are reduced sufficiently to slow global warming and ultimately stabilize the climate system. It also ignores the contribution of the proposed project and the MMS's offshore oil and gas program to global warming and to the plight of the polar bear. The DEIS's cumulative impacts analysis section must be revised to include a real discussion of the impacts from global warming and the proposed project's cumulative contribution.

Global warming represents the most significant and pervasive threat to the future of biodiversity worldwide, affecting both terrestrial and marine species from the tropics to the poles. Peer-reviewed studies have concluded that 35 percent of species could be committed to extinction by the year 2050 if current emissions trajectories continue and that these extinctions could be significantly reduced if greenhouse gas emissions fall (Thomas 2004).

The current and future impact of global warming on marine mammals is unfortunately all too clear. Species like the polar bear simply cannot survive the loss of their arctic sea-ice habitat (Derocher et al. 2004). The Center has summarized both the global warming and polar bear biology literature and demonstrated that polar bears meet the definition of a threatened or endangered species under the U.S. Endangered Species Act and will become extinct if greenhouse gas emissions are not greatly reduced (Center for Biological Diversity 2006). Other Arctic species are similarly at risk (ACIA 2004; Cooper 2006).

015-016

Entire cultures and ways of life around the globe, including in the Arctic, are at risk. Many Arctic peoples, such as the Inuit, who rely upon hunting for their primary food supply, are suffering from these changes, as well as from a reduction in weather predictability and travel safety, and face "serious challenges to human health and food security, and possibly even the survival of some cultures" (ACIA 2004). Some communities and industrial facilities in coastal zones are already being forced to relocate due to severe coastal erosion as rising sea level and a reduction in sea ice allow higher waves and storm surges to reach the shore (ACIA 2004).

015-017

Calcifying marine species such as coral may be particularly hard-hit by a double impact of both increasing ocean temperatures and increasing ocean acidification from increasing levels of dissolved carbon dioxide in seawater (Hughes 2003).

The impacts to biological diversity go hand-in-hand with the impacts to human society. The World Health Organization estimates that as of the year 2000, 154,000 lives are already lost annually due to global warming (WHO 2002). In the Harvard Medical School publication *Climate Change Futures: Health, Ecological, and Economic Dimensions*, experts predict a number of profound consequences for human health if worldwide greenhouse gas emissions continue on current trajectories (Epstein and Mills 2005). Predictions include an increase in diseases such as malaria, West Nile Virus, and Lyme disease, as well as an increase in pollen production, allergies, and allergic diseases such as asthma (Epstein and Mills 2005).

015-018

Deaths from factors like dehydration and heat stroke associated with more frequent heat waves are projected to triple in many urban centers in the U.S. (Epstein and Mills 2005). "With the likelihood of [extreme heat waves] projected to increase 100-fold over the next four decades, it is difficult to avoid

the conclusion that potentially dangerous anthropogenic interference with the climate system is already underway . . . by the end of this century 2003 [in which between 22,000 and 35,000 Europeans died in heat waves] would be classed as an unusually cold summer.” (Epstein and Mills 2005). Damage to humans and infrastructure from floods is also predicted to increase (Epstein and Mills 2005).

Scientists have long predicted increasing weather variability and heightened intensity of storms like hurricanes due to increasing ocean temperatures (Epstein and Mills 2005). Extreme weather events have in fact increased, with catastrophic results, both in loss of lives and in economic costs (Epstein and Mills 2005). Global weather-related losses from extreme events have increased dramatically since the 1950s, measured in 2004 U.S. dollars (Epstein and Mills 2005). “While no one event is diagnostic of climate change, the relentless pace of unusually severe weather since 2001 – prolonged droughts, heat waves of extraordinary intensity, violent windstorms and more frequent ‘100 year’ floods – is descriptive of a changing climate” (Epstein and Mills 2005).

One of the most troubling recent findings is that the 2001 IPCC projection for sea level rise is almost certainly a significant underestimate. Melting of the Greenland ice sheet has accelerated far beyond what scientists predicted even just a few years ago, with melting in 2004 occurring at 10 times the rates observed in 2000 (Epstein and Mills 2005; ACIA 2004; Overpeck et al. 2006). Sea level rise in line with past underestimates would still inundate substantial areas of the coast and have far-reaching consequences. Yet just 2-3° C of additional warming would likely cause sea level to rise by at least 18 feet (6 m) within a century, and would flood vast areas and displace millions of people (Hansen 2006).

As discussed above, the economic costs of global warming, accordingly, will be astronomical. The DEIS must be revised to include a meaningful cumulative impacts analysis that fully analyzes the proposed project’s cumulative impacts in each of these areas.

The Requirements of the Global Change Research Act

Concerned that the consequences of human-induced global warming will “adversely affect world agricultural and marine production, coastal habitability, biological diversity, human health, and global economic and social well-being,” Congress passed the Global Change Research Act in 1990. 15 U.S.C. §2931(a)(2). The purpose of the GCRA is “to provide for development and coordination of a comprehensive and integrated United States research program which will assist the Nation and the world to understand, assess, predict, and respond to human-induced and natural processes of global change.” 15 U.S.C. § 2931(b).

To this end, the GCRA requires the Climate Change Science Program (“CCSP”) to prepare, not less frequently than every 4 years, a scientific assessment which:

- (1) integrates, evaluates, and interprets the findings of the Program and discusses the scientific uncertainties associated with such findings;
- (2) analyzes the effects of global change on the natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity; and
- (3) analyzes current trends in global change, both human-[induced] and natural, and projects major trends for the subsequent 25 to 100 years.

This scientific assessment (hereinafter “National Assessment”) is to be used by “all Federal agencies and departments” in “responding to human-induced and natural processes of global change pursuant to other statutory responsibilities.” 15 U.S.C. § 2938(b)(2). The MMS has a clear duty to use the National Assessment in its evaluation of the proposed project, and has failed to do so.

The last National Assessment was transmitted to Congress in November, 2000. This 600-page report entitled *Climate Change Impacts on the United States: The Potential Consequences of Climate Variability and Change* and its associated 154-page summary sought to identify the key climatic vulnerabilities of particular regions and economic sectors of the country in the context of the changes in the nation’s environment, resources, and economy. While the CCSP has missed the deadline of November, 2004, for completion of the updated National Assessment, this does not excuse the MMS from using the available version supplemented by the best available scientific information. Key publications since the November, 2000 National Assessment include IPCC (2001), ACIA (2004), Epstein and Mills (2005) and Shellnhuber (2006). At a bare minimum, these major synthesis reports must be considered along with the National Assessment in a revised EIS for the proposed project.

The Requirements of the Endangered Species Act

The ESA was enacted, in part, to provide a “means whereby the ecosystems upon which endangered species and threatened species depend may be conserved...[and] a program for the conservation of such endangered species and threatened species...” 16 U.S.C. § 1531(b). The ESA “is the most comprehensive legislation for the preservation of endangered species ever enacted by any nation.” *Tennessee Valley Authority v. Hill*, 437 U.S. 153, 180 (1978). The Supreme Court’s review of the ESA’s “language, history, and structure” convinced the Court “beyond a doubt” that “Congress intended endangered species to be afforded the highest of priorities.” *Id.* at 174. As the Court found, “the plain intent of Congress in enacting this statute was to halt and reverse the trend toward species extinction, whatever the cost.” *Id.* at 184.

The ESA vests primary responsibility for administering and enforcing the statute with the Secretaries of Commerce and Interior. The Secretaries of Commerce and Interior have delegated this responsibility to the National Marine Fisheries Service (“NMFS”) and the U.S. Fish and Wildlife Service (“FWS”) respectively. 50 C.F.R. §402.01(b). NMFS has primary responsibility for administering the ESA with regards to most marine species, including corals, sea turtles and most marine mammals, while FWS has responsibility for terrestrial species, as well as some marine mammals, and all seabirds.

Section 2(c) of the ESA establishes that it is “...the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act.” 16 U.S.C. § 1531(c)(1). The ESA defines “conservation” to mean “...the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary.” 16 U.S.C. § 1532(3). Similarly, Section 7(a)(1) of the ESA directs that the Secretary review “...other programs administered by him and utilize such programs in furtherance of the purposes of the Act.” 16 U.S.C. § 1536(a)(1). The purpose of the ESA is to conserve

endangered or threatened species. Among the “other programs administered by” the Secretary of the Interior is the administration of the Outer Continental Shelf Leasing Program through the MMS. See also Sierra Club v. Glickman, 156 F.3d 606, 617 (5th Cir. 1998) (Section 7(a)(1) “contains a clear statutory directive (it uses the word ‘shall’) requiring the federal agencies to consult and develop programs for the conservation of” listed species); accord Florida Key Deer v. Stickney, 864 F.Supp. 1222, 1238 (S.D. Fla. 1994).

In order to fulfill the substantive purposes of the ESA, Federal agencies, such as the MMS, are required to engage in consultation with NMFS or FWS to “insure that any action authorized, funded, or carried out by such agency...is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the adverse modification of habitat of such species...determined...to be critical...” 16 U.S.C. § 1536(a)(2) (Section 7 consultation).

Section 7 consultation is required for “any action [that] may affect listed species or critical habitat.” 50 C.F.R. § 402.14. Agency “action” is defined in the ESA’s implementing regulations to include “all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas. Examples include, but are not limited to: (a) actions intended to conserve listed species or their habitat; (b) the promulgation of regulations; (c) the granting of licenses, contracts, leases, easements, rights-of-way, permits, or grants-in-aid; or (d) actions directly or indirectly causing modifications to the land, water, or air.” 50 C.F.R. § 402.02. (emphasis added). See also Pacific Rivers Council v. Thomas, 30 F.3d 1050, 1054-55 (9th Cir. 1994), cert. denied, 514 U.S. 1082 (1995)(recognizing that Congress intended “agency action” to be interpreted broadly, admitting of no limitations).

When a proposed action may affect a protected species, consultation must occur and be completed before the federal action may take place. Pacific Rivers, 30 F.3d at 1056; Thomas v. Peterson, 753 F.2d 754, 764-65 (9th Cir. 1985). If an agency fails to consult on an action that affects listed species, all activities that “may affect” the species must be enjoined. Pacific Rivers, 30 F.3d at 1056-57. (“[The Forest Service’s] conclusion that these activities “may affect” the protected salmon is sufficient reason to enjoin these projects. Only after the Forest Service complies with § 7(a)(2) can any activity that may affect the protected salmon go forward.”).

During the course of consultation, NMFS or FWS may “suggest modifications” to the action to “avoid the likelihood of adverse effects” to the listed species. 50 C.F.R. § 402.13. At the completion of consultation NMFS or FWS issues a Biological Opinion (“BO”) that determines if the agency action is likely to jeopardize the species. See 50 C.F.R. § 402.02. If so, the agency may not proceed with any program, permit, or decision that would jeopardize a species’ survival unless the BO specifies reasonable and prudent alternatives that will avoid jeopardy and allow the agency to proceed with the action. 16 U.S.C. § 1536(b). See also Sierra Club v. Marsh, 816 F.2d 1376, 1384-86 (9th Cir. 1987) (enjoining highway construction because agency could not meet burden of absolute assurance that mitigation required to avoid jeopardy was possible).

Prior to entering consultation, the action agency (MMS in this instance) must first prepare a biological assessment. Section 7(c)(1) of the ESA provides that “each Federal agency shall, with respect to any agency action of such agency. . . , request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action. 16 U.S.C. §

1536(c)(1). In addition, this section provides that “if the Secretary advises. . . that such species may be present, such agency shall conduct a biological assessment for the purpose of identifying any endangered species or threatened species which is likely to be affected by such action.” 16 U.S.C. § 1536(c)(1).

Although procedural, consultation is the backbone of the ESA. As the Ninth Circuit recognized, “[o]nly by requiring substantial compliance with the act’s procedures can we effectuate” congressional intent to protect species. Sierra Club v. Marsh, 816 F.2d at 1384 (9th Cir. 1987).

Section 9 of the ESA and its implementing regulations prohibit any person from “taking” a threatened or endangered species. 16 U.S.C. § 1538(a)(1); 50 C.F.R. § 17.31; 50 C.F.R. § 227.11; 50 C.F.R. § 227.12; 50 C.F.R. § 227.21; 50 C.F.R. § 227.71. A “person” includes private parties as well as local, state, and federal agencies. 16 U.S.C. § 1532(13). “Take” is defined broadly under the ESA to include harming, harassing, trapping, capturing, wounding, or killing a protected species either directly or by degrading its habitat sufficiently to impair essential behavior patterns. 16 U.S.C. § 1532(19).

The ESA not only bans the acts of parties directly causing a take, but also bans the acts of third parties whose acts bring about the taking. Strahan v. Coxe, 127 F.3d 155, 163 (1st Cir. 1997), cert. denied, 119 S. Ct. 81 (1998) (“We believe that . . . a governmental third party pursuant to whose authority an actor directly exacts a taking of an endangered species may be deemed to have violated the provisions of the ESA.”). See also Babbitt v. Sweet Home Chapter of Communities for a Great Oregon, 515 U.S. 687, 704 (1995)(“Congress intended ‘take’ to apply broadly to cover indirect as well as purposeful actions.”); Palila v. Hawaii Dept. of Land and Natural Resources, 852 F.2d 1106, 1108 (9th Cir. 1988), citing S. Rep. No. 93-307, at 7 (1973) (“‘Take’ is defined... in the broadest possible manner to include every conceivable way in which a person can ‘take’ or attempt to ‘take’ any fish or wildlife.”).

MMS cannot reasonably dispute that the proposed project affects ESA-listed species. Numerous listed species inhabit the waters and adjacent terrestrial habitat subject to Lease Sale 193. However, the MMS must also analyze the direct, indirect, and cumulative impacts of the project on species that do not occur in the immediate vicinity of the oil exploration, production, and transportation, but will nonetheless be impacted by the proposed project’s greenhouse gas emissions or other impacts. Numerous listed species are affected by global warming and therefore the greenhouse gas emissions of the proposed project “may affect” such species, triggering the consultation requirement. While virtually every listed species is likely to be affected to some degree by global warming, we will focus our comments on the two listed coral species, elkhorn and staghorn corals, as the final listing rule for the species specifically discussed the impacts of global warming and greenhouse gas emissions on the species. See 71 Fed. Reg. 26852.

Coral reefs are among the first ecosystems to show the significant adverse impacts of global warming (Hoegh-Guldberg 1999). An estimated 30% are already severely degraded and 60% may be lost by 2030 (Hughes et al. 2003). The primary cause of coral reef degradation is bleaching, the expulsion of symbiotic algal zooxanthellae from coral due to elevated sea temperatures (Hoegh-Guldberg 1999). As the authors of an authoritative review in the leading journal *Science* put it:

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The link between increased greenhouse gases, climate change, and regional-scale bleaching of corals, considered dubious by many reef researchers only 10 to 20 years ago, is now incontrovertible. Moreover, future changes in ocean chemistry due to higher atmospheric carbon dioxide may cause weakening of coral skeletons and reduce the accretion of reefs, especially at higher latitudes. The frequency and intensity of hurricanes (tropical cyclones, typhoons) may also increase in some regions, leading to a shorter time for recovery between recurrences. The most pressing impact of climate change, however, is episodes of coral bleaching and disease that have already increased greatly in frequency and magnitude over the past 30 years.

(Hughes et al. 2003).

Elkhorn and staghorn coral were as recently as 30 years ago the dominant reef building corals in the Caribbean and Gulf of Mexico (Precht and Aronson 2004). They have subsequently declined by upwards of 90%. *Id.* The primary drivers of the decline have been disease and temperature induced bleaching. 71 Fed. Reg. 26852; (Pandofi et al. 2005). The coral diseases impacting the species have also been linked to elevated water temperatures (Harvell et al. 2002). As NMFS itself stated in the listing rule:

The major threats to these species' persistence (i.e., disease, elevated sea surface temperature, and hurricanes) are severe, unpredictable, have increased over the past 3 decades, and, at current levels of knowledge, the threats are unmanageable.

71 Fed. Reg. at 26858. Each of these threats is directly related to greenhouse gas emissions. Moreover, CO₂ emission themselves are resulting in acidification of the ocean, inhibiting coral growth.

Along with elevated sea surface temperature, atmospheric carbon dioxide levels have increased in the last century, and there is no apparent evidence the trend will not continue. As atmospheric carbon dioxide is dissolved in surface seawater, seawater becomes more acidic, shifting the balance of inorganic carbon away from carbon dioxide and carbonate toward bicarbonate. This shift decreases the ability of corals to calcify because corals are thought to use carbonate, not bicarbonate, to build their aragonite skeletons. Experiments have shown a reduction of coral calcification in response to elevated carbon dioxide levels; therefore, increased carbon dioxide levels in seawater may be contributing to the status of the two species.

71 Fed. Reg. at 26858-9.

The impacts of greenhouse gas emission and global warming on the elkhorn and staghorn corals are well established. MMS cannot simply ignore them in abrogation of its ESA responsibilities.⁵

MMS is Violating Sections 2, 7 and 9 of the ESA

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⁵ The DEIS's deficient treatment of direct and indirect impacts of the Program on the listed coral species renders its analysis deficient under NEPA and OCSLA as well.

MMS is also utterly ignoring its affirmative conservation mandates under Sections 2(c) and 7(a)(1) of the ESA. Section 7(a)(1) of the ESA specifically directs that the Secretary of Interior review "...other programs administered by him and utilize such programs in furtherance of the purposes of the Act." 16 U.S.C. § 1536(a)(1). The purpose of the ESA is to conserve endangered or threatened species. Among the "other programs administered by" the Secretary of the Interior is the administration of the OCSLA Program through the MMS. Nowhere in the DEIS or Program is there any indication that the Secretary/MMS has even considered these statutory obligations.

This plain language interpretation of the statute is also completely consistent with the "overriding need" of Congress, as expressed throughout the ESA, "to devote whatever effort and resources were necessary to avoid further diminution of national and worldwide resources." TVA v. Hill, 437 U.S. at 177 (internal citation omitted). In view of the clear statutory scheme that applies here, one need look no further than the Supreme Court's analysis in TVA v. Hill to reject completely any excuse put forward by MMS for why it need not consult to "insure" that its actions are not likely to jeopardize the continued existence of listed species such as the elkhorn and staghorn corals, the leatherback and loggerhead sea turtle, or the North Pacific right whale. In TVA v. Hill, the action agency insisted that the requirements of Section 7 could not possibly apply to its actions, as MMS claims now, because the Tellico dam was near completion, had already cost \$100 million, would provide much needed flood control and electric heat for 20,000 homes, and because "there [were] no alternatives to impoundment of the reservoir, short of scrapping the entire project." See 437 U.S. at 157, 166, 172.

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Conclusion

As discussed above, we believe that the DEIS is so deficient that MMS's only option is to completely revise and update it to include an accurate, current, and complete discussion of the impacts of the greenhouse gas emissions from the proposed project, of the impacts of global warming on the resources affected by the proposed project, and of impacts on listed species and marine mammals from the direct and indirect effects of the proposed project.

Copies of all references cited in the text and listed in the Literature Cited below were sent to you on compact disk under separate cover. We request that MMS carefully review and consider these important references. They are also part of the administrative record for this rulemaking.

Thank you very much for your consideration of these comments. Please contact either of us at (760) 366-2232 or at the address on this letterhead if you have any question or concerns.

Yours Sincerely,



Kassie Siegel
Climate, Air, and Energy Program Director



Brendan Cummings
Oceans Program Director

Center for Biological Diversity

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MMS Responses to Center for Biological Diversity Comments

CBD 015-001

The draft EIS clearly identifies the types of sources and emissions related to activities that could reasonably be expected to result from the proposed lease sale (Sec. IV.C.15.b(1)(a)). Carbon dioxide is not an emission regulated under the Clean Air Act. As discussed in Section III.A.6, emissions related to OCS activities are regulated by USEPA. Facilities within 25 miles of the State's seaward boundary would be subject to the State of Alaska air quality standards; facilities beyond 25 miles of the State's seaward boundary would be subject to the USEPA's New Source Performance Standards and Prevention of Significant Deterioration regulations.

CBD 015-002

The contribution of OCS activities to greenhouse gas emissions is discussed at the programmatic level in the final EIS for the 2002-2007 OCS Leasing Program (USDOJ, MMS, 2002:Section 4.1.2) and in the draft EIS for the 2007-2012 OCS Leasing Program (USDOJ, MMS, Herndon, 2006:Sec. IV.A.1), and this information is incorporated by reference. Activities projected to result from the proposed lease sale are expected to contribute a small amount to overall hydrocarbon emissions into the planet's atmosphere. If any activities are proposed as a result of the proposed lease sale, project- and site-specific air quality analysis will be done, emissions modeling would be completed if warranted, and mitigation measures appropriate to the location and specific equipment would be developed. Although carbon dioxide is not an emission regulated under the Clean Air Act and not subject to State of Alaska air quality standards and USEPA's New Source Performance Standards and Prevention of Significant Deterioration regulations, the MMS would work with operators to minimize such emissions and ensure use of the best available emissions control technology.

CBD 015-003

The greenhouse gas emissions associated with OCS oil and gas activities were analyzed in the final EIS for the OCS Leasing Program 2002-2007. Impacts from energy consumption are outside the scope of the EIS. Energy consumption is outside the control of MMS and can be analyzed only from a national perspective taking into account policy, technological, economic, and environmental factors. A discussion of alternative energy is presented in Section 4.7 of the FEIS for the OCS Leasing Program 2002-2007 and Section IV.I of the final EIS for the OCS Leasing Program 2007-2012. If the proposed leasing program does not occur, MMS projects that most of the lost oil production would be replaced by a combination of imports, fuel switching, and increased onshore production. The remaining percentage that would not be developed is expected to trigger some modest conservation measures, which would have some benefits in terms of reduced greenhouse gas emissions. However, this benefit could be offset by a boost in CO₂ emissions from tanker transport as a consequence of a greater reliance on oil imports. More importantly, if there is a significant switch from natural gas to oil as a result of lost OCS gas production, the benefits from conservation measures could be offset, because oil combustion causes more CO₂ emissions than gas combustion. A clean energy policy would not forestall the need to develop OCS oil and gas resources, however. Because the U.S. imports about 60% of its oil needs, OCS oil and gas resources will still fill a role in the Nation's energy production in the foreseeable future.

CBD 015-004

As discussed in Section III.A.6, emissions related to OCS activities are regulated by USEPA. See response to comment **CBC 015-001**.

CBD 015-005

An analysis of the true costs and impacts of the proposed lease sale is not possible, given the fact that the amount of oil and gas resources discovered and developed as a result of the proposed lease sale would be

small compared to national production levels. For a discussion of alternative energy sources, see the response to comment **CBD 015-003**.

CBD 015-006

An analysis of impacts from greenhouse gas emissions is found in the final EIS for the OCS Leasing Program 2002-2007. A more comprehensive and updated treatment is found in the EIS for the OCS Leasing Program 2007-2012. The treatment of baseline conditions in the EIS is appropriate. The baseline used in the EIS is defined by the existing environment at the time the Proposed Action is under consideration. The MMS realizes that the environment changes over time, but these changes occur in a way that cannot be assessed with certainty, so the cumulative analysis must be based on an extrapolation of trends. For this reason, MMS considers climate change as one of the impacting agents in the cumulative analysis in the final EIS for the OCS Leasing Program 2007-2012.

CBD 015-007

The discussion of changes in sea ice in Section III.A.4.f represents the best current knowledge of the existing environment. The discussion acknowledges that air temperatures over the Arctic Ocean have increased over the last 50 years. Changes in the global climate are having an effect on arctic sea ice. However, the effects of short-term variations can be significant and should not be ignored.

CBD 015-008

Details on the scientific understanding of global climate change are best treated at the programmatic level, rather than for a specific lease sale. A comprehensive discussion is found in the final EIS for the OCS Leasing Program 2007-2012. This document presents the best available current information about global climate science.

CBD 015-009

A discussion regarding the adoption of a greenhouse gas level “ceiling” is far beyond the scope of the EIS. Such a limit can only be discussed in the context of a policy at the national level involving all energy sectors.

CBD 015-010

See the response to comment **CBD 015-008**.

CBD 015-011

See the response to comment **CBD 015-008**.

CBD 015-012

We do not have enough confidence in the cost figures published in the literature to make any estimate of the economic costs of greenhouse gas emissions, nor is the issue in the scope of this EIS. Furthermore, the effects of the proposed lease sale on overall U.S. energy consumption are not known.

CBD 015-013

See the response to comment **CBD 015-012**.

CBD 015-014

See the response to comment **CBD 015-012**.

CBD 015-015

This analysis focuses strictly on mitigating the potential, specific impacts associated with the Proposed Action. Mitigating the impacts of global warming is beyond the scope of this project and this analysis. Section V.C.8.c(3), Climate Change, contains an extensive discussion of the potential and actual impacts on polar bears from climate change.

CBD 015-016

See the response to comment **CBD 015-015**.

CBD 015-017

For a discussion of the impacts of global climate change on subsistence resources and practices, sociocultural systems, and environmental justice, see Sections V.C.12, Subsistence-Harvest Patterns, and V.C.16.d., Cumulative Climate Change Impacts, and the response to comment **Barrow 003-029**.

CBD 015-018

For a discussion on the impacts of global climate change on human society and human health, see response to comment **CBD 015-017**. For a discussion of MMS's recent dialogue with the NSB and the Alaska Inter-Tribal Council on human health impacts, see responses to comments **Point Lay 001-008**, **Barrow 003-017**, **NSB 006-005**, and **NSB 006-011**.

CBD 015-019

See the response to comment **CBD 015-018**.

CBD 015-020

While MMS appreciates the fact that global warming and greenhouse gas emissions are linked to a number of phenomena posing threats to elkhorn and staghorn corals, the contribution of the potential recoverable hydrocarbon reserves in the Chukchi Sea, and the contribution of the use of these reserves might make to the collective greenhouse gas emissions and global warming, is unknown or speculative, and extremely small. The status of these species of coral at such time that Chukchi Sea reserves initially would be consumed and begin to contribute to greenhouse emissions is speculative and depends on a host of factors beyond the scope of the Proposed Action.

Upon initiation of Section 7 consultation with the FWS in the letter dated December 13, 2005, MMS specifically requested, in addition to the species listed therein, that FWS notify MMS with the FWS "concurrence with, or necessary revisions to, the above species and add any critical habitats which you believe would need to be considered in any biological evaluations related to the MMS proposed action..." A similar request was made of NMFS in a letter dated August 12, 2005. The FWS responded in a letter dated January 5, 2006 (note the letter in the draft EIS is January 5, 2005), with no revision or addition of the elkhorn and staghorn corals or their habitats to be evaluated within the scope of the Proposed Actions. The NMFS response dated September 30, 2005, did not include any references to staghorn and elkhorn coral. This would reasonably be understood to mean that the Proposed Actions are not likely to jeopardize the continued existence of elkhorn or staghorn coral or any listed species except the species specifically identified for biological evaluation by FWS and NMFS.

The conclusion is that MMS did initially consult and request any other species of concern for a biological evaluation with the appropriate agencies. The elkhorn and staghorn corals were not forwarded to MMS by the appropriate agencies for further evaluation or assessment in regard to the Proposed Actions.

Section 2, Findings, Purposes, and Policy of the ESA are broad. Section 2 (a)(4) FINDINGS notes: “the United States has pledged itself as a sovereign state in the international community to conserve to the extent practicable the various species of wildlife and plants facing extinction...”—emphasis on “to the extent practicable.” Section 2 (b) Purposes notes: “The purpose of this Act are to provide a means whereby the ecosystems upon which endangered and threatened species depend may be conserved”—emphasis on “means” and may be conserved.

Section 2 (c) POLICY states: “...all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this ACT.” The MMS appears to be in compliance with the items in Section 2 of the ESA. The FWS and the NMFS exercised through their agency protocols what is regarded as “to the extent practicable” in reference to forwarding to MMS the coral species noted and other listed species and provided MMS with the appropriate lists for biological evaluation.

Section 9 of the ESA is titled PROHIBITED ACTS. Section 9(a)(1)(B) deals with taking of endangered or threatened species within the United States or the territorial sea of the United States and (C) the same for taking on the high seas. It is difficult to correlate potential greenhouse gas emissions from potential hydrocarbons in the Chukchi Sea at some point in the future to specific loss (taking) of species currently 90% depleted and which could be functionally extinct before Chukchi Sea source greenhouse gases enter the global atmosphere system. The uncertainty and significance of the eventual results of the Proposed Section regarding taking of elkhorn and staghorn coral would appear to be impracticable and may not interpreted as be a violation of Section 9 of the ESA at this time.

CBD 015-021

See the response to comment **CBD 015-020**.

CBD 015-022

The MMS initially consulted and requested any other species of concern for a biological evaluation with the appropriate agencies. In our initiation of Section 7 consultation with the FWS in the letter dated December 13, 2005, MMS specifically requested, in addition to the species listed therein, that FWS notify MMS with the FWS “concurrence with, or necessary revisions to, the above species and add any critical habitats which you believe would need to be considered in any biological evaluations related to the MMS proposed action...” Similar request was made of NMFS in a letter dated August 12, 2005. The elkhorn and staghorn coral were not forwarded to MMS by the appropriate agencies for further evaluation or assessment in regard to the Proposed Actions. Please also see the response to comment **CBD 015-020**.

Document 16

Comment summaries submitted by Dr. Wernham as associated with the North Slope Borough

Generally, employment opportunity is viewed positively by NSB residents. However, to the extent that employment may sometimes conflict with the traditional subsistence seasonal round and thus the family and kinship sharing networks, increased employment could actually result in some disruption of sociocultural systems, and in this way be a source of stress and conflict in the community. Some data has suggested that increasing employment in Inupiat communities is, paradoxically, associated with a trend toward decreased measures of satisfaction. **(016-001)**

To the extent that disruption of sociocultural systems may be associated with increases in social pathology as discussed in “health effects” below, an increased demand on law enforcement and health services may occur, particularly in Barrow and Wainwright. Compounding this is the risk that as these communities become functionally less isolated through increased air travel and the construction of ice roads, illicit importation of drugs and alcohol may occur, also creating increased demand on law enforcement and health services. This problem has been described in testimony by residents of Nuiqsut after the construction of the Alpine facility began. **(016-002)**

Although Wainwright has experienced immigration of workers in the past, it is difficult to predict what level of sociocultural effects might accrue from the potential influx of permanent or temporary non-Native workers under the development scenario, given the other changes possible under currently predicted North Slope development. **(016-003)**

However, there are no existing restrictions on subsistence hunting by non-Native residents. And with any influx of non-Native personnel to a relatively isolated, predominantly Native community, the risk of sociocultural stress and change, associated with factors such as acculturation through increased contact with an outside culture, increased access to drugs and alcohol, sexual relationships between workers and residents, and perceived inequities in employment opportunities and income, may accrue. Hence, although we do not predict a large adverse sociocultural effect as a result of any influx of new residents, the potential for impacts exists. **(016-004)**

In particular, hiring and employment practices which value and facilitate continued participation in the subsistence seasonal round are encouraged by the NSB and local residents. **(016-005)**

A range of human health issues – including shortened lifespans among elders from degradation of air quality; increases in social pathology including drug and alcohol abuse, domestic violence, rape, child abuse, suicide and homicide, increases in respiratory problems, and increases in injuries because of more difficult subsistence conditions – have been raised but not analyzed in detail in these EIS. Additionally, cumulative subsistence impacts have also been raised, without discussion of the implications for metabolic health as we have delineated above. **(016-006)**

MMS Responses to Dr. Wernham's Comments

Wernham 016-001

The text has been changed to reflect the paradox cited in the comment and to provide citations from Kruse (1984), which examined the relationship between Inupiat labor, subsistence-harvest activities, and measures of economic and social well-being and URS (2005), which indicates wage employment can facilitate subsistence-harvest activity.

Population in many NSB communities declined with the completion of capital improvement projects, as some residents left to find employment. Outmigration continues to be a concern expressed in many of the villages. Retaining jobs in the community would contribute to stabilizing the population, slow the rate of population decline, and increase the stability of the community in the short term. To the extent that residents of Wainwright are able to secure employment at the nearby supply base, this should be the case. Table IV.C-1 indicates employment opportunities for NSB residents will not be sizeable.

As noted in table IV.C.-2, Workforce Changes, removal of harvesters and trained individuals from a community are variables examined under sociocultural systems. Wage employment appears to strengthen rather than weaken subsistence harvest activities. A recent study prepared for the NSB (URS, 2005) cites an earlier study to note that the cash economy has not displaced the subsistence economy, and that wage earners carry out subsistence activities. Wage earners contribute money to support subsistence activities and help ensure the provision of subsistence foods to the entire community. The report states that it is very common for a family member to work and monetarily sponsor someone else in their subsistence pursuits. A sponsor receives a measure of status and also part of the catch for assisting the hunt.

Wernham 016-002

The scenario indicates that until the airfield at the assumed shore base is completed, air service would be provided through Wainwright and Barrow. The importation and sale of alcohol is banned at Wainwright. Company policy generally prohibits possession and consumption of alcohol in enclaves. The text is changed to reflect that enforcement activities by public safety officers at the originating Alaska airports, such as Anchorage and Fairbanks, and at Wainwright by NSB Police would increase with the frequency of flights in proportion to the rate that this surveillance is currently conducted. These enforcement activities at Wainwright would cease with transfer of air operations to the shore base airfield. (Importation of alcohol is not prohibited in Barrow.) Stipulation 2, Orientation Program, is intended to "increase the sensitivity and understanding of personnel to community values, customs, and lifestyles." To the extent that this information includes notification of the prohibition on the importation of alcohol, the stipulation helps avoid the problem. Similarly, if this issue is included under Community Participation in Operations Planning encourage by ITL clause no. 1, it could also contribute to the avoidance of the problem.

Wernham 016-003

The text has been changed to differentiate between effects that may result from new residents and those that may result from nonresident workers.

Table IV.C-1, Sale 193 Employment and Personal Income Effects, projects that a total of 30 direct, indirect, and induced jobs would be created across the NSB from the development activities envisioned by the hypothetical scenario, and a total of 11 direct, indirect, and induced jobs across the NSB by production activities. Given that some of these positions may be filled by current NSB residents, and other factors, we do not envision an influx into the community that would cause disruption.

Community involvement in operations planning and development and current information on the experience of other NSB communities with oil and gas activities may help reduce disruption.

Wernham 016-004

Non-native subsistence hunting is restricted. For example, non-Native hunters are not allowed to hunt marine mammals.

Table IV.C-1, Sale 193 Employment and Personal Income Effects, projects that a total of 30 direct, indirect, and induced jobs would be created across the NSB from the development activities envisioned by the hypothetical scenario and a total of 11 direct, indirect, and induced jobs across the NSB by production activities. Given that some of these positions may be filled by current NSB residents, and other factors, we do not envision a large influx of people into the community. The paragraph has been changed to include the employment estimate and the concluding sentence changed to indicate that an influx of new residents from development and production-related employment would be expected to have little direct and indirect consequences to sociocultural systems.

We do include concerns in the cumulative effects analysis by summarizing effects described by previous analyses in Section V.C.13.a. Please see the response to comment **Wernham 016-006**.

Wernham 016-005

The section has been changed to incorporate this information.

Wernham 016-006

Some issues raised in scoping are not analyzed in detail in the EIS's because they have been addressed in other EIS's, they are not substantive, or they are speculative; that is, a causal link between the Proposed Action and the effect has not or cannot be demonstrated. This EIS addresses these effects to the extent that they are linked to the Proposed Action, either directly or indirectly. The many EIS's listed in Section V.C.13.a do examine these issues, so we summarize the information as required by NEPA. We have added another citation (USDOI, BLM, 2004b, Alpine Satellite Development Plan Final EIS) and summary information on community health and welfare (from Sec. 3, page 289 to 290, of the Alpine EIS) to Section V.C.13.a.

**Document 17 is found in the Federal and State Agency
Comment Letters Section**



March 16, 2007

Regional Director John T. Goll,
Alaska OCS Region, Minerals Management Service
3801 Centerpoint Drive, Suite 500
Anchorage, Alaska 99503-5820

Dear Alaska Regional Director Goll,

Thank you for this opportunity to comment on the Environmental Impact Statement (EIS) for the proposed Chukchi Sea Lease Sale 193. The proposed plan for drilling and exploration in the Chukchi Sea presents serious threat to the marine ecosystem and disproportionate impacts upon communities dependent on subsistence resources in the region. We oppose the proposed seismic exploration and oil and gas development in the Chukchi Sea and believe Lease Sale 193 should be cancelled and permanent protections enacted for America's Arctic.

The Minerals Management Service (MMS) has provided little baseline data upon which to justify the impacts of seismic exploration and oil and gas development. Indeed, the proposed EIS represents more of a "threshold assessment" rather than a meaningful analysis of the potential environmental effects of Lease Sale 193. Little is known about the resources of the Chukchi Sea, and MMS must conduct adequate baseline studies before the Secretary can reasonably consider whether oil exploration and development are appropriate. Moreover, no oil spill response technology exists to effectively remediate an oil spill during conditions present in the Chukchi during most of the year. We believe the EIS contains insufficient analysis in the following areas:

A. Cumulative Effects

i. General

NEPA requires that the EIS take a hard look at the cumulative impacts on the environment of activities occurring pursuant to Lease Sale 193. 40 C.F.R. § 1502.1; 40 C.F.R. § 1508.7. Cumulative impacts result "from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions," and "can result from individually minor but collectively significant actions taking place over a period of time." 40 C.F.R. § 1508.7. The DEIS fails to do so in several respects.

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ii. New Technology as Mitigation

The cumulative effects analysis asserts that new technology will mitigate the effects of widespread development on the North Slope and the Arctic Ocean. This assumption presents a significant logical gap. First, new technologies often fail to fulfill their promises. For instance, it was shown during the Exxon Valdez disaster that the "new technique" of using high pressure hoses and hot water to remove oil from beaches and direct it into shoreside skimmers may have actually caused more harm than good by driving the oil deeper into the shoreline gravel. Second, the production and effectiveness of new technology for oil and gas development is inherently uncertain. Reliance on technology must be based on existing technology, not science fiction. Thus, the assertion that new technology will mitigate the effects of development does not actually address the cumulative impacts, but merely asserts that an unknown will address the cumulative impacts at an uncertain time. This type of hollow analysis fails to meet the goals of NEPA to inform the public.

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iii. Future Oil Development

Furthermore, the cumulative effects analysis omits consideration of future oil activities from the aggressive leasing plan currently underway in the Beaufort Sea. MMS admits in the EIS that that development in the Chukchi would likely encourage a greater level of activity in the Beaufort Sea. DEIS at IV-1. This activity could have serious impacts on resources such as walrus, polar bears, and the bowhead whales that use both the Chukchi and Beaufort Seas. Migrating whales could be exposed to significant additional noise resulting from construction, shipping, and seismic operations related to development. Additionally, noise and structural disturbance of exploration and development could have substantial impacts on polar bears and walrus by affecting their feeding and breeding habits. The DEIS fails to sufficiently analyze the cumulative impacts of noise.

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Moreover, activities in the Beaufort and Chukchi could expose resources to multiple oil spills. The 5-year Plan DEIS states that up to 5 large spills are assumed to occur from OCS activities in the Alaska OCS. The Lease Sale 193 analysis must address the cumulative and compounding effects of multiple spills in the Chukchi and Beaufort Seas.

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iv. Climate Change

The analysis fails to acknowledge the cumulative impacts associated with climate change. Climate change represents one of the most serious threats to arctic resources and cannot be ignored as it relates to the proposed seismic exploration and oil and gas development in the Chukchi Sea. Climate change could completely alter the ecology of the arctic, resulting in significant acute effects on individual species and considerable population level effects among various species. Moreover, climate change could have substantial impacts on subsistence, beyond the population level effect it could have on various species. Increasing arctic temperatures and associated physical effects could compound the impacts of seismic exploration and oil and gas development. MMS must also more carefully consider the cumulative effects of

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the loss of sea ice habitat for wildlife species, such as polar bears and walrus. The effect of distribution of subsistence species altered by offshore development activities combined with the effects of climate change on subsistence needs to be discussed in the cumulative impacts analysis.

In assessing the likely effects of climate change, the EIS also should consider the following sources: Pew Center on Global Climate Change. Observed Impacts of Global Climate Change in the U.S. (Nov. 9, 2004), U.N. Environment Programme, GEO Year Book 2004/5: An Overview of Our Changing Environment 42-46, 80-84 (2005), National Academy of Sciences, Joint science academies' statement: Global response to climate change (June 7, 2005), The Wildlife Society, Global Climate Change and Wildlife in North America (2004), available at http://www.nwf.org/nwfwebadmin/binaryVault/Wildlife_Society_Report2.pdf, and Millennium Ecosystem Assessment, Millennium Ecosystem Assessment Synthesis Report 119 (Mar. 23, 2005), available at <http://www.millenniumassessment.org/en/products.aspx> (last visited Nov. 16, 2006). MMS should also consider the findings of the Arctic Climate Impact Assessment conducted by Arctic Council and the International Arctic Science Committee (IASC) and found at (<http://www.acia.uaf.edu/pages/scientific.html>). Furthermore, the paper "A Major Ecosystem Shift in the Northern Bering Sea" by Jacqueline M. Grebmeier and James E. Overland describes additional issues that MMS should consider regarding fishery and other wildlife resources when addressing cumulative effects in the Chukchi Sea.

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B. Information Quality Act

No statement in the EIS addresses its sufficiency under the Information Quality Act (IQA; P.L. 106-554). The science underlying any policy decisions in the EIS must meet the quality, objectivity, utility, and integrity standards required under the IQA. Additionally, this EIS is a Natural Resource Plan that must be subject to the peer review requirements under the IQA. It appears that the EIS would meet the narrative criteria of "novel, controversial, precedent-setting or of significant interagency interest" for establishing the EIS as a "highly influential scientific assessment." As a highly influential scientific assessment, the document must undergo substantial and rigorous peer review before release to the public. At a minimum, the EIS meets the "influential" standard of having a "clear and substantial impact on important public policies or private sector decisions" for peer review under the IQA. As an influential scientific assessment, peer review must be conducted commensurate with the significance of the information being disseminated and the likely implications for policy decisions, which in this case is considerable. MMS must address the requirements of the IQA in this action.

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C. Subsistence and Cultural Resources

Alaska Native communities have long used the marine resources of the Chukchi Sea for both subsistence practices and cultural identity. Although MMS recognizes the importance of the resources to these communities, the agency has failed to adequately address the disproportionate impacts of Lease Sale 193 on these communities. MMS has also failed to adequately consult with the Alaska Native tribes as required by the Executive Order (EO) 12898, Federal Actions to

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Address Environmental Justice in Minority Populations and Low-Income Populations and accompanying Presidential memorandum (1994), or Executive Order 13175, Consultation and Coordination With Indian Tribal Governments (2000). While MMS does address Executive Order 13175, MMS must make the tribal summary impact statement available to the public as part of the analysis, including the description of the extent of the agency's previous consultation with tribal officials, summary of the nature of their concerns and the agency's position supporting the need to issue the decision, and a statement of the extent to which the concerns of tribal officials have been met. DEIS I-8, III-128. Without this level of transparency, the public, especially the native community, cannot be assured that the spirit or intent of these Executive Orders has been met.

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Moreover, MMS understates the effects of a loss of subsistence resources in an area with limited infrastructure and commercial food availability. A complete loss of marine subsistence resources for one or more seasons resulting from a large spill could result in the displacement, if not starvation, of hundreds of Alaska Natives who depend on subsistence resources for sustenance. No "positive mitigating effect" can account for a complete loss of these subsistence resources from a cultural and sociological perspective. Furthermore, whenever the potential exists for the take of a subsistence resource to fall below the level required to meet subsistence need for a season, the effects must be considered significant and adverse. MMS must more carefully consider the impacts of seismic exploration and oil and gas development on subsistence communities.

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D. Marine Mammals

Lease Sale 193 appears to contravene the basic purpose of the MMPA, which is to prevent marine mammal populations from diminishing "below their optimal sustainable population." 16 U.S.C. § 1361(2). Because the affected populations of walrus and polar bears are already declining, any additive impacts to the populations will interfere with subsistence harvest. As previously noted, the cumulative impacts section fails to adequately address these potential additive impacts. Therefore, the MMPA may provide leverage to challenge future authorizations for Alaska Native harvest issued by Fish and Wildlife Service to incidentally take these species in the Chukchi Sea. See 16 U.S.C. §§ 1371(a)(5)(A)(i)(I), (a)(5)(D)(i)(II). Moreover, it seems disingenuous to suggest that seismic exploration and oil and gas development following the sale will not discernibly reduce the size of polar bear or Pacific walrus populations or depress subsistence harvest levels.

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i. Polar Bears

a. The Status of Affected Polar Bear Populations:

The DEIS describes the Chukchi/Bering Seas ("CBS") polar bear population as being "in peril." DEIS at III-81. The available evidence, including declining subsistence harvests, indicates that the CBS polar bear population is "already in decline" and that existing levels of legal harvest and

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poaching in Russia alone could halve the CBS population in less than twenty years. See DEIS at IV-240, III-81.

As the DEIS recognizes, anthropogenic climate change has already begun to fundamentally alter the Arctic environment. Along with over harvest of CBS polar bears, climate change will synergistically interact with the impacts of increasing oil and gas activities in the Arctic marine and coastal environments to adversely affect the CBS and Southern Beaufort Sea ("SBS") polar bear populations into the foreseeable future. Accordingly, the DEIS concludes that "[a]ny bears lost to a large oil spill . . . likely would exceed sustainable levels, affecting both productivity and subsistence use, and potentially causing a decline in the bear population." DEIS at IV-239. This conclusion applies equally to bears lost due to any activity related to oil and gas development. The DEIS should explicitly acknowledge this.

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The DEIS presents incomplete and inaccurate information concerning affected polar bear populations. First, the DEIS overstates both the population estimate and the population growth rate for the SBS polar bear population. Compare DEIS at III-82 with Eric Regehr, *et al.*, Polar bear population status in the southern Beaufort Sea: U.S. Geological Survey Open-File Report 2006-1337, 12 (2006). In addition, the DEIS assumes unrealistic survival rates for polar bear cubs of the year and yearlings, and consequently overstates the rate of recruitment. See DEIS at III-78, IV-240. Researchers recently estimated a survival rate for cubs of the year in the SBS population that is considerably lower than the 50-60% recruitment rate reported by the DEIS. See Eric Regehr, *et al.*, Polar bear population status in the southern Beaufort Sea, 11. This recent report represents the best available scientific data on the population dynamics of polar bear populations in Alaska, and MMS should incorporate the findings of this report into the EIS. Because the CBS polar bear population faces the added threats of over harvest in Russia, the survival and recruitment rates estimated for the SBS should serve as upper limits for these parameters for the CBS population.

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b. Informational and Analytical Gaps

Despite the current precarious status of the CBS and SBS polar bear populations, the DEIS arbitrarily concludes that the impacts from activities undertaken in connection with Lease Sale 193 will be "slight." DEIS at IV-234. Any additive mortality may reduce reproductive rates, diminish the availability of polar bears for subsistence uses and cause the affected population to decline. At present, polar bears in the Chukchi Sea exist relatively free from the harmful effects of industrial activities. Anticipated impacts from industrial activities associated with Lease Sale 193 will add to the variety of stressors that currently deteriorate polar bears' physical health. This, in turn, may cause additional mortality to a population that is already declining.

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The DEIS does discuss the potential impacts to the CBS polar bear population caused by changes to the Arctic environment attributable to climate change, but it fails to include the documented impacts to the SBS population caused by climate change, such as reduced recruitment rates and diminishing physical stature of polar bears. See Eric Regehr, *et al.*, Polar bear population status in the southern Beaufort Sea. This information is pertinent to a thorough and complete

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evaluation of the impacts of Lease Sale 193, because individuals from the SBS population spend considerable time in portions of the Chukchi Sea that MMS intends to offer for leasing. *See, e.g., Steven Amstrup, Movements, distribution, and population dynamics of polar bears in the Beaufort Sea (PhD Dissertation, University of Alaska-Fairbanks, 1995).* The EIS should discuss the documented impacts of climate change on SBS polar bears and should take steps to avoid exacerbating these impacts.

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The DEIS identifies coastal areas along the coast of the Beaufort Sea that have the highest densities of maternal den sites, but does not include similar information for the Chukchi Sea. This information is highly pertinent to the possible impacts that aircraft overflights, an onshore facility, and an onshore pipeline may have on CBS polar bears, and it should be included in the EIS. If MMS is unable to obtain this information, the EIS should provide a detailed summary of the existing credible evidence concerning polar bear denning habitat along the Chukchi coast. *See* 40 C.F.R. § 1502.22(b).

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c. Mitigation measures

NEPA demands that an agency take a hard look at mitigating measures when discussing the environmental consequences of a proposed project. *See* 40 C.F.R. § 1502.16. Pursuant to this standard, an EIS may not merely list, or only perfunctorily describe mitigation measures. Rather, the EIS should critically evaluate the effectiveness of proposed mitigation measures.

The DEIS fails to sufficiently identify or evaluate mitigation measures aimed at protecting polar bears. Rather than identify any particular mitigation measures with specificity, the DEIS adopts the approach of referring to mitigation measures in very general terms, grouping them under the following three broad categories: (1) conditions attached to incidental take authorization that Fish and Wildlife Service will issue pursuant to §101(a)(5) of the Marine Mammal Protection Act; (2) oil spill response plans ("OSPRs") that MMS will approve; and (3) information to lessees ("ITL") provisions that have been developed by MMS. DEIS at IV-241-45. This generalized discussion of mitigation measures deprives the public of a meaningful opportunity to comment on the desirability of these measures. Because many of these identified measures have not yet been developed and so cannot be identified with specificity or discussed in any detail (e.g., conditions to incidental take authorization and contents of OSRPs), the public cannot accurately assess MMS's conclusory determination that such measures will prove effective. This approach undermines MMS conclusion that the mitigation measures will prevent a significant impact to polar bears and impermissibly defers analysis of identified mitigation measures in violation of NEPA.

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Ultimately, the DEIS concludes that because of the cumulative impacts of overharvest, global climate change and industrial activities, "continued close attention and effective mitigation practices with respect to polar bears are warranted." DEIS at V-52-53. The DEIS does not identify these mitigation practices with specificity. Nor does the DEIS establish that any previously identified mitigation measures are effective or will continue to be so in the context of

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a dramatically changing arctic environment. In short, the DEIS fails to evaluate or identify these necessary mitigation measures.

The DEIS identifies future increases in polar bear-human conflicts as a concern arising from industrial development along Alaska's arctic coast. DEIS at IV-235, III-79. Such conflicts can prove lethal to polar bears. MMS fails, however, to suggest any mitigation measures to address this anticipated impact.

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To the limited extent that the DEIS actually identifies specific mitigation measures, these prove deficient to adequately address and avoid anticipated impacts to the CBS polar bear population. MMS relies on OSRPs to minimize adverse impacts from oil spills. Any such response plan depends on timely detection of oil spills. MMS indicates that recently, chronic leaks in oil pipelines have gone undetected despite MMS regulations that require monitoring measures. MMS observes that its regulations "are only as effective as their enforcement." DEIS at IV-244. Yet, the DEIS fails to prescribe measures to ensure improved enforcement of MMS monitoring regulations.

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MMS's apparent assumption that lessees will be able to effectively respond to oil spills is not factually supported. The DEIS indicates that "effective mitigation measures will be developed" to minimize potential impacts to polar bears "on a case-by-case basis." DEIS at IV-245. MMS identifies two methods of response to an oil spill: mechanical methods and non-mechanical methods. MMS anticipates that mechanical methods will be unavailable during broken ice periods (or during the majority of any calendar year), yet the DEIS identifies only in situ burning as a non-mechanical method for containing or eliminating spilled oil. In situ burning will not prove effective if spilled oil is trapped beneath sea ice for any appreciable period of time. Indeed, MMS fails to present any means of effectively responding to oil that is spilled beneath sea ice. If MMS lacks any such means, it should openly acknowledge this. If MMS is aware of an effective method for responding to oil spilled beneath sea ice, the EIS should clearly identify it and establish its effectiveness. Absent identification of an effective method of responding to an underwater oil spill that occurs during the winter, MMS cannot reasonably conclude that the potential impacts to polar bears from an oil spill are not significant.

The DEIS identifies several ITLs as mitigation measures. Critical provisions of these ITLs, however, contain precatory language rendering them effectively unenforceable. The ITLs cannot, as MMS seems to suggest, moderate the impacts of offshore oil and gas leasing and development in the Chukchi Sea unless lessees voluntarily act in accordance with the ITLs. MMS arbitrarily assumes that lessees will voluntarily abide by the guidance included in the ITLs. MMS likewise assumes that lessees will obtain authorization to incidentally take marine mammals, and subject themselves to the consequent conditions imposed by Fish and Wildlife Service. MMS neglects, however, to establish that such an approach would prove economically rational for all lessees. The DEIS improperly relies on these mitigation measures in violation of NEPA.

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The DEIS suggests that whale carcasses should be removed from the coast to mitigate the potential impacts of an oil spill. DEIS at IV-245. MMS' reliance on this measure to reduce impacts to polar bears is misplaced. Any such action is not within the purview of MMS to effectuate and should not be relied on by the agency as an effective mitigation technique. Furthermore, removal of whale carcasses will likely have the countervailing effect of increasing the mortality of polar bears in the SBS and CBS populations. If accomplished, it will deprive bears of access to a vital food source during the fall, when bears have minimal access to alternate food sources. Preventing bears from utilizing this important food source will diminish the physical condition of individual bears and may lead to increased mortality.

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d. Cumulative Impacts Analysis

The DEIS fails to adequately assess the cumulative impacts of offshore oil spills on polar bears. The DEIS only refers to the truncated discussion of the potential for an oil spill included in the environmental assessment prepared by MMS in connection with Lease Sale 202 in the Beaufort Sea, DEIS at V-49. That document, in turn, fails to rigorously evaluate the likelihood of an oil spill occurring as a result of past or future lease sales, indicating merely that "[d]evelopment of additional offshore production facilities and pipelines will increase the potential for large offshore spills." MMS, Environmental Assessment for Proposed OCS Lease Sale 202, 55 (August 2006). Instead of segmenting the risk of an offshore oil spill by discretely referring to the risk of a spill in the Beaufort Sea, the EIS should combine the probability of a spill in the Chukchi with the probability of a spill in the Beaufort and present an additional figure representing the overall probability of a large offshore oil spill. Moreover, the DEIS should account for all past, present, and reasonably foreseeable future lease sales in the Chukchi and Beaufort Seas when deriving these combined probabilities, including all lease sales provided for by the proposed five year plan for OCS lease sales (2007-2012). See 40 C.F.R. § 1508.27(b)(7).

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The DEIS overlooks the potential impacts of past, present and reasonably foreseeable future onshore leasing, exploration and development of oil and gas deposits in coastal areas of the National Petroleum Reserve-Alaska in violation of NEPA. Such development has the potential to further exacerbate human-polar bear conflicts during the fall when bears congregate along the coast of the Chukchi Sea, as well as to adversely affect polar bears' terrestrial denning habitat. The EIS should address these cumulative impacts.

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Finally, the DEIS arbitrarily concludes that the combined impacts to polar bears from climate change and oil-related industrial activities merit only "continued close attention and effective mitigation practices." DEIS at V-53. Climate change induced changes are already evident in polar bear populations in Alaska and elsewhere. See, e.g., Eric Regehr, *et al.*, Polar bear population status in the southern Beaufort Sea. The DEIS forecasts additional impacts to "virtually every aspect" of polar bears' existence as a result of the synergistic interplay between climate change and industrial activity in the Arctic. DEIS at V-52. The DEIS overlooks the dramatic changes to the Arctic marine environment that have already adversely affected polar bear populations in Alaska. Consequently, the DEIS improperly adopts a "wait and see" approach to restricting offshore oil and gas activities that will further harm polar bears.

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World Wildlife Fund

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Moreover, the DEIS relies on "effective mitigation practices" without specifically identifying these measures or critically evaluating them to ensure that they are effective or will remain so in the future. DEIS at V-53. Pursuant to NEPA, the EIS may not rely on these unspecified, unimplemented, and unproven mitigation measures to reduce identified impacts.

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ii. Pacific walrus

The Pacific walrus population is presently in decline. Population declines have contributed to declining subsistence harvest of Pacific walrus. Oil and gas industry activities in the Chukchi Sea, including seismic activities, aircraft and vessel traffic, and the risk of oil spills may inhibit walrus recovery or may cause further decline of the Pacific walrus population. MMS should take steps to stem further declines in walrus populations and the subsistence harvest of walrus.

The EIS should identify those areas where the edge of sea ice frequently occurs over waters less than 60 m deep. Information available from existing sources produced by the USGS and found at (<http://www.absc.usgs.gov/research/walrus/pwid/manager.html>) could easily be incorporated into a GIS representation of these important walrus habitat areas. The risk posed to Pacific walrus by spilled oil is especially acute in such areas, see DEIS at III-71, and such areas should be specifically discussed and illustrated in MMS's evaluation of the potential risk from an oil spill. The EIS should prescribe measures to eliminate such risks.

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The DEIS arbitrarily concludes that seismic activities will only negligibly affect Pacific walrus. Much of the very information that MMS provides suggests that the cumulative effects of climate change and proposed oil and gas development would be substantially more than negligible by any standard. MMS must more clearly describe their reasoning why a continuing decline in the population combined with inevitable impacts from development is negligible.

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Likewise, the DEIS arbitrarily concludes that Pacific walrus in sea ice habitats will not react to aircraft at elevations above 1,000 feet. It does not indicate any elevation threshold above which Pacific walrus at terrestrial haulouts will not react to aircraft. Terrestrial haulouts have become increasingly important to western arctic populations of Pacific walrus and likely will become more important in the Chukchi Sea with decreasing and irregular ice formation resulting from climate change. MMS recognizes that when suitable pack-ice is not available walrus haul out to rest on land. DEIS III-72. However, MMS fails to adequately address the fact that disturbance events, such as overflight by aircraft, can cause walrus to stampede into the water. The risk of stampede-related injuries and mortalities increases with the number of animals hauled out and the frequency of disturbance. Calves and young animals at the perimeter of these herds are particularly vulnerable to trampling injuries, thus increasing juvenile mortality and recruitment. Moreover, any additional displacement of Pacific walrus from forage areas will likely further contribute to declines in the walrus population. Without additional studies of aircraft effects on walrus behavior, MMS cannot expressly conclude there will be no effect on walrus based on the 1,000 foot altitude criteria. Furthermore, unless MMS can establish that industrial activities will have no effect on Pacific walrus in forage areas, it should conclude that such activities will significantly impact Pacific walrus.

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E. Conclusion

In conclusion, we believe the DEIS provided for Lease Sale 193 fails to adequately address the sensitive ecosystems and unique communities of the Chukchi Sea. We believe the only alternative that should be considered for the Chukchi Sea is Alternative II (No Lease Sale) and cancellation of Sale 193. The U.S. must adopt a responsible energy policy that does not rely upon uncertain and unproven fossil fuel deposits in America's Arctic as a short-term fix to our oil addiction. According to MMS, the most liberal accounting of oil and gas projected for the combined North Slope, Beaufort Sea, and Chukchi Sea amounts to only 17.8 Bbbl, which at the current estimated US consumption levels of 20.5 Mbbl per day would amount to approximately 2.4 years worth of available oil. The U.S. imports more than 11.8 Mbbl per day. Thus, it would be a complete fallacy to say that opening the Chukchi Sea gets the U.S. any closer to energy independence. MMS must cancel this lease sale, the U.S. must reduce its consumption of fossil fuels, and we must enact permanent protections for America's Arctic ecosystems.

Sincerely,



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MMS Responses to World Wildlife Fund Comments

WWF 018-001

While the EIS asserts there will be improvements in both pollution prevention and response equipment, this in no way precludes the effective use of existing technologies for either of these areas of endeavor. The MMS conducts an active oil-spill-research program to further help the development of new and improved technologies designed to prevent spills and to clean up spills should they occur. This program is mandated and funded through provisions of the Oil Pollution Act of 1990.

Through the oil-spill-response research program we have addressed issues that were raised from the *Exxon Valdez* spill and others around the world. Recently funded research has resulted in an oil skimmer with a new surface design that has increased recovery of oil by over 200%; research using ground penetrating radar to detect oil located in and under ice has proven highly effective and work continues to develop an airborne version that will speed detection in the event of a release; research conducted on in situ burn has resulted in better identifying the parameters for conducting successful burns that have the potential to dramatically reduce oil on the water surface and thereby limiting impacts to the environment (<http://www.mms.gov/taroilspills/>). Based on this information, our assertion that improved technology will exist to help mitigate spill effects is a safe assumption.

The MMS also provides for an extensive regulatory review of planned operations to ensure that the safest and most appropriate technology is used to prevent a spill from occurring in the first place. The MMS reviews an operator's proposal prior to giving any approvals to drill for oil or gas. The MMS also has a Technical Assessment and Research Branch, which evaluates new technologies for safety aspects as well as appropriateness for use in the environments they are proposed for. This attention to the details of any proposed operation provides for a safe and pollution free operation.

WWF 018-002

The cumulative effects analysis does not omit consideration of future oil activities from the leasing plan currently underway in the Beaufort Sea. As explained in Section V.B.3, we include onshore and offshore future lease sales in Alaska and on Federal lands. The cumulative scenario includes potential exploration activities as a result of these lease sales, but does not include speculative production activities for the reasons explained in Section V.B.3. As described in Sections V.B.3 through V.B.9 and as shown in Table V-5, we do include in the cumulative effects analysis the production of resources that have been discovered and whose development and production is reasonably foreseeable. As such, the cumulative analysis accounts for the entire range of effects from noise and structural disturbance from these projects. We have added text in Section IV.A to clarify how development in the Chukchi Sea OCS might influence the level of future activity in the Beaufort Sea. Such influence is highly speculative at this time, as there are currently no proved commercial quantities of oil or gas resources in the Chukchi Sea Planning Area. As explained in Section V.B, speculative activities are not included in our cumulative case analysis.

WWF 018-003

Table IV-17 of the 2007-2012 5-Year Program EIS (USDOJ, MMS, 2006c) shows up to five large spills ($\geq 1,000$ bbl) in the Alaska OCS are assumed for the cumulative case analysis. The table shows that three of these spills are assumed for the Arctic subregion, one spill is assumed for the Bering Sea subregion, and one spill is assumed for the South Alaska (Cook Inlet Planning Area) subregion. This is consistent with the cumulative scenario in the Sale 193 EIS. A likelihood of a spill occurring in either the Bering Sea or South Alaska subregion is remote at this time because of the low level of interest in leasing in Cook Inlet (no industry participation in the last two scheduled sales) and the frontier nature of the gas-prone North Aleutian Basin. For the cumulative analysis, it is not reasonably expected that an OCS spill would occur in either of these areas and impact the same resources that are found in the Arctic subregion.

The EIS fully discusses the potential impacts of spilled oil on the sensitive biological resources and human environment. The risk of one or more large spills occurring in the Chukchi Sea Planning Area and the probability of oil spilled from OCS activities in the Chukchi Sea contacting resources in the Beaufort Sea Planning Area are presented and discussed in Appendix A. The cumulative case scenario includes spills from the both the Proposed Action and reasonably foreseeable Federal and State activities in the Beaufort Sea. Our definition of reasonably foreseeable activities is presented in Section V.B.

The enormous number of potential permutations of multiple spills occurring at different time intervals at different locations and contacting the same resources is beyond the capabilities of the MMS oil-spill-risk model. Evaluating the potential effects of such permutations at the lease-sale stage when the influencing parameters (where development and production occur, what technologies are used, production and pipeline flow rates, and the projected ultimate production volume) are unknown. Further, analysis of such permutations would not vary by alternative and would not help the decisionmaker decide between the alternatives.

WWF 018-004

An analysis of impacts associated with global climate change belongs more properly in an EIS at the programmatic level, rather than in the analysis for a specific lease sale. The final EIS for the OCS Leasing Program 2007-2012 has a discussion of climate change in the section on cumulative impacts (Sec. IV.J).

WWF 018-005

In the final EIS for the OCS Leasing Program 2007-2012, MMS presents a general overview of climate change and its possible future environmental effects. The EIS presents the most essential elements of the current knowledge based on the best available information. It was not possible to cite all of the numerous articles and publications about global climate change. We relied heavily on the 2001 Intergovernmental Panel on Climate Change (IPCC) document because we consider it the most comprehensive and authoritative. For impacts in the Arctic, the MMS cited the Arctic Climate Impact Assessment reports published in 2004 and 2005. These reports provide an exhaustive treatment of possible impacts of climate change on all critical components of the Arctic environment. We included the major findings of *Climate Change 2007: The Physical Science Basis, Summary for Policymakers* published by the IPCC.

WWF 018-006

The MMS agrees that Federal Agencies have an obligation to use and disseminate accurate information and, as required by NEPA and CEQ implementing regulations, to use the best available information in preparing NEPA documents. In preparing the draft EIS, MMS reviewed, considered, and cites hundreds of sources. In addition to peer-reviewed scientific evidence, MMS incorporates consideration of Traditional Ecological Knowledge in preparing EIS's. The draft EIS specifically notes where information is lacking and there is uncertainty in the analysis. In response to comments, MMS has reviewed the literature used in the draft EIS, and the additional references cited by commenters, and has made revisions to the final EIS as appropriate. The MMS disagrees with the statement that "this EIS is a Natural Resource Plan that must be subject to the peer review requirements under IQA."

WWF 018-007

For a discussion on potential disproportionate impacts on Chukchi Sea coastal communities, see the Environmental Justice analyses Sections IV.C.1.p(1), Environmental Justice (effects from the Proposed action) and V.C.16, Environmental Justice (cumulative impacts). Public meetings with Chukchi Sea coastal communities and government-to-government consultation with local tribes in the region are specified and discussed in Section III.B.6, Environmental Justice (the affected environment); this section also has an extensive list of environmental justice issues and concerns raised. Section II of the draft EIS discusses at length the purpose and need for the action, concerns raised in the scoping process, and potential mitigation considered to alleviate potential impacts resulting from the action.

WWF 018-008

The MMS does not believe that OCS activities would cause a loss of subsistence resources that would raise the potential for starvation. Local, Regional, State, and Federal response would preclude such a dire and drastic outcome. Nevertheless, we do believe that a loss of subsistence resources for a single harvest season, particularly those resources normally required to meet subsistence needs, would constitute a significant adverse impact. The MMS approval of industry-proposed activities is conditional upon the operator obtaining appropriate MMPA authorization from NMFS and/or FWS. The MMPA authorization requires the issuing Service to make a finding of no unmitigable adverse impacts to subsistence. Recent MMPA authorizations have included Conflict Avoidance Agreements with subsistence whalers. See also responses to comments **Point Lay 001-008** (mitigation), **Point Hope 002-008** (outreach and government-to-government consultation), and **Point Hope 002-009** (conflict avoidance agreements).

WWF 018-009

Section IV.C.1.p(1), Environmental Justice (effects from the Proposed Action) discusses at length the impacts of seismic activity on subsistence resources and practices in the region.

WWF 018-010

The commenter fails to note that since 1968, there has been only one documented case of a lethal take of a polar bear associated with oil and gas activities in Alaska, and that occurred in 1990. As far as is known, there have been no lethal takes of walrus associated with oil and gas activities in Alaska. Furthermore, although there are no current population estimates for either species in the Chukchi Sea, neither polar bears nor walrus are listed as “depleted” under the MMPA.

The issue of the effects of subsistence harvest on polar bears are covered in depth in Section V.C.8.c(1). If the World Wildlife Fund has specific information regarding interference with subsistence harvest, industrial impacts that have “discernibly reduced” the size of the polar bear or Pacific walrus populations, or “depressed” subsistence harvest levels, MMS would be interested in obtaining those data.

WWF 018-011

See response to comment **WWF 018-010**.

WWF 018-012

The opening paragraph of Section IV.C.1.h(4)(a), Conclusion, has been modified to address the concern.

WWF 018-013

The MMS is aware of the report noted, although it was not available at the time the draft EIS was written. Sections III.B.6.c and IV.C.1.h(4)(e) have been revised to incorporate information from this report.

WWF 018-014

Only one lethal take of a polar bear associated with oil and gas activities has been documented in Alaska. See response to comment **WWF 018-010**, which implies that industrial development in the Alaskan Arctic has proceeded over the last 40 years without apparent impact to polar bear populations.

The World Wildlife Fund is correct to note that any additive mortality may reduce reproductive rates, diminish the availability of polar bears for subsistence uses, and cause the affected population to decline. Furthermore, industrial development of the Chukchi Sea may indeed add to the variety of stressors that

currently affect the polar bear's physical health, which in turn may cause additional mortality to polar bears. The MMS is aware of no studies that establish a direct link between industrial activities and polar bear population dynamics with the exception of potential impacts to maternal polar bear den sites. Any proposed activities that potentially may affect maternal den sites would be carefully reviewed and mitigated by both MMS and FWS to greatly reduce any such potential impacts.

If the World Wildlife Fund is aware of any specific data or research that draw a direct correlation between industrial activities and polar bear population dynamics, MMS would be very interested in them.

WWF 018-015

See response to comment WWF 018-013. The commenter has slightly misrepresented the findings of Regehr, Amstrup, and Stirling (2006). Although climate change is implied as the causative agent of the observed changes in the SBS population dynamics, the authors stopped short of stating that climate change was the *definitive* cause of observed changes. Rather, the authors drew parallels between changes that have been observed in the SBS polar bear population and what has occurred in the Western Hudson Bay polar bear population, stating that:

...in Western Hudson Bay, Canada, a significant decline in population size was preceded by observed declines in cub survival and physical stature. The evidence of declining recruitment and body size reported here, therefore, suggests vigilance regarding the future of polar bears in the SBS region.

The authors go on to state that:

In other parts of the polar bear range, reductions in the spatiotemporal availability of sea ice have been shown to negatively impact polar bear stature, productivity, and survival of juvenile, subadult, and senescent animals (Stirling and other, 1999; Stirling, 2002).

The text in the final paragraph of Section V.C.8.c(3) has been revised to incorporate information from this report.

WWF 018-016

The text in Section III.B.6.c., Marine Fissipeds – Polar Bear, has been revised.

WWF 018-017

As stated in Section II.B, ITL No. 14, Information on Planning for Protection of Polar Bears, it is not possible or appropriate at this time to craft specific measures to mitigate potential effects of future activities, because:

Polar bears are part of a dynamic rather than a static system. Changes in their distributions and populations in recent years indicate that adaptive management is required to adequately mitigate potential impacts to their populations (i.e., specific mitigation measures developed today may not be applicable 5, 10, or 20 years from now). The U.S. Fish and Wildlife Service (FWS) is the management agency responsible for polar bear management; as such, they have the most current information about the status of polar bear populations, the issues facing them, and the most recent research findings applicable to them. Therefore, MMS will be implementing increased coordination with FWS for the protection of polar bears.

The MMS believes it is entirely appropriate to rely on close coordination with FWS to track continued changes in polar bears' distributions and populations to craft project-specific mitigation measures when specific activities are proposed.

Furthermore, MMS believes that FWS's proven track record of effectively mitigating industry activities, via restrictions imposed through their Incidental Take Authorization authority under the MMPA, validates this approach. See responses to comments **WWF 018-010** and **WWF 018-011**.

As far as the ability to assess specific potential future mitigation measures and their effectiveness, the public will be allowed to view and comment on any Incidental Take Authorizations which FWS proposes to issue under the MMPA when they are published in the *Federal Register*, prior to the commencement of any actual industry activities.

Finally, the World Wildlife Fund is encouraged to recommend specific mitigation measures to MMS that they feel will mitigate potential future effects to polar bears. We will be happy to consider them when developing appropriate mitigation measures for future activities.

WWF 018-018

The reader is informed that there is no comment **WWF 018-018**.

WWF 018-019

The commenter is correct that bear-human conflicts can prove lethal to bears. However, that outcome is extremely unlikely for bears entering industrial areas in Alaska's Arctic, as workers are not armed. The MMPA prohibits the arbitrary killing and unauthorized harassment of polar bears. Educating North Slope workers on the issues associated with working in polar bear habitat is adequately covered under Stipulation No. 2 Orientation Program, ITL No. 2 Information on Bird and Marine Mammal Protection, and ITL No. 14 Information on Planning for Protection of Polar Bears. See also responses to **WWF 018-010**, **WWF 018-011**, and **WWF 018-017**.

WWF 018-020

The commenter is incorrect in suggesting that the pipeline that leaked on the North Slope was operating under MMS regulations. The MMS regulatory authority for pipelines is limited to the OCS.

However, on September 6, 2006, the Pipeline and Hazardous Materials Safety Administration proposed to extend Federal pipeline safety regulations to rural onshore hazardous-liquid gathering lines and low-stress lines within a defined buffer of previously defined "unusually sensitive areas." These are nonpopulated areas requiring extra protection because of the presence of sole-source drinking water resources, endangered species, or other ecological resources. This rule will bring the so-called "transit lines" on the North Slope under the Federal pipeline safety regulations. The Alaska Dept. of Environmental Conservation also modified their regulations in December 2006 to increase regulations on the North Slope pipelines.

There are multiple methods to respond to oil spills under ice. In solid-ice conditions, trenches can be cut into the ice surface that will allow oil to rise to the surface where it can then be collected using oil recovery skimmers or burned in situ. Oil will become encapsulated in the ice sheet as the ocean surface freezes and when a solid sheet of ice is present. In these instances, if the oil is in a large enough pool, holes can be drilled into the pool and the oil pumped out. Another response method for encapsulated oil is to track the oil throughout the winter using buoys and once the ice sheet begins to melt, the oil will surface through the brine channels at which time it may be collected using skimmers or may be burned in situ.

WWF 018-021

Section II.B.3.c(2) briefly explains how ITL clauses facilitate mitigation. The following paragraphs expand on that brief explanation.

The ITL's are part of the proposed and final Notice of Sale. They provide information to the lessee about MMS and other agencies' requirements, rules, and regulations that are in place, and they are effective in reducing potential adverse effects from the Proposed Action. All leases issued by the Federal Government require the lessee to comply with all Federal laws and regulations. Compliance with these laws and regulations is enforced by the Federal Agency with jurisdiction for the resource, for example NMFS and the FWS are the responsible agencies for enforcing the rules and requirements of the ESA and the MMPA. The ITL clauses contain measures that, if followed, help ensure compliance with the laws and regulation. If the impact occurs in violation of the law or regulation, the government may bring a range of enforcement actions against the operators. For example, ITL 2, Bird and Marine Mammal Protection, do not create new requirements, but they do provide awareness to the lessee of practices for avoiding harm to resources that the law and regulations are designed to protect.

The ITL clauses also contain "benchmarks" or "best practices" that operators may follow to comply with provisions of existing laws such as the MMPA, the ESA, and the OCS Lands Act and the implementing regulations of these laws. The ITL information also explicitly state the standards and objectives to which the actual activities proposed in an operator's exploration plan or development and production plan will be evaluated during the NEPA review of those plans. These benchmarks in the ITL clearly illuminate when practices proposed by the operator meet or do not meet the standard, indicating the need for additional mitigation measures, and MMS intent to require those measures. As such, the ITL, along with lease stipulations, are an appropriate mechanism at the lease sale stage where a general scenario is used to explore potential effects from typical activities.

WWF 018-022

The MMS agrees with the commenter's appraisal of this issue; all the points the commenter raises are valid. However, two points need to be clarified. The MMS is not "relying" on this measure as a mitigation measure, but merely suggests it as one way to reduce polar bear aggregations on the coast during the fall open-water period. Furthermore, MMS is not advocating removing all whale carcasses from the coast; we are identifying removal of whale carcasses as a potential action that could reduce the risk of an oil spill contacting polar bears. The MMS acknowledges in the draft EIS that this action is outside of MMS's purview, and states that "the whale remains are on Native-owned lands; thus, that decision will have to be negotiated with the Native communities themselves." The commenter is correct in pointing out that this is a complex issue and that many factors will have to be considered. The MMS will rely on the scientific expertise of the FWS, USGS, and the North Slope communities when considering this issue.

It is worth pointing out that whale carcasses outside of Native villages represents a huge attractant to bears during the fall open-water period. Any bears attracted to villages along the coast have an increased chance of coming into conflict with humans in and around the villages, and of being shot as "nuisance" bears. This is another issue to be considered in any future decisions related to polar bears and bone piles.

WWF 018-023

The EIS fully discusses the potential impact on polar bears from contact with oil under the Proposed Action analysis in Section IV.C.1.h(4)(e). The cumulative case scenario is presented in Section V.B. Our definition of "reasonably foreseeable" and the future Federal and State activities that are considered reasonably foreseeable for the cumulative analysis are presented in Section V.B. For the Chukchi Sea Sale 193 cumulative scenario, only exploration from future leasing in the Beaufort Sea is considered reasonably foreseeable. The oil-spill scenario for the cumulative case is presented in Section V.C. This section was inadvertently left out of the draft EIS and has been included in the final EIS. The cumulative oil-spill scenario includes spills from reasonably foreseeable activities (as defined in Sec. V.B.) from past, current, and future Federal and State actions. The analysis of cumulative impacts to polar bears does consider the effects of past, current, and reasonably foreseeable activities including the cumulative case oil spills.

WWF 018-024

The cumulative oil-spill scenario includes spills from reasonably foreseeable activities. Our definition of “reasonably foreseeable” and the future Federal and State activities that are considered reasonably foreseeable for the cumulative analysis are presented in Section V.B. The mean number of spills occurring is estimated based on the rates of spill occurrence and volumes of oil that may be produced and transported. The cumulative oil-spill scenario includes the oil assumed to be produced and transported as a result of the Proposed Action and the oil projected from production in Federal OCS and State waters in the Arctic as a result of past, current, and reasonably foreseeable Federal and State actions. As production from leases resulting from future lease sales is considered speculative and not reasonable foreseeable for our cumulative case scenario. Oil spills from future lease sales are not included in the cumulative oil-spill scenario. The analysis of cumulative impacts to polar bears does consider the effects of past, current, and reasonably foreseeable activities including the cumulative case oil spills. See also the response to comment **WWF 018-023**.

WWF 018-025

The cumulative effects analysis does include potential impact of past, present, and reasonably foreseeable future effects of oil and gas development in the coastal area. Section V.B.1 describes fields and infrastructure that are considered in the cumulative effects analysis. Section V.B.2 describes fields currently producing or in the stages of development. Section V.B.3 describes reasonably foreseeable future development and production projects. These effects are accounted for in the analysis of potential cumulative effects on the various resources in Sections V.C.1 through V.C.16.

WWF 018-026

We disagree that the EIS overlooks the “changes to the Arctic marine environment that have already adversely affected polar bear populations in Alaska.” Conditions that are occurring or already have occurred are most appropriately described in Section III, Description of the Affected Environment. Section III.B.6.c, Marine Fissipeds—Polar Bears, clearly and extensively describes effects to bears from changes in the marine environment.

WWF 018-027

The mitigation measures are listed in Section IV.C.1.h(5), Benefits of Standard Mitigation. The text has been changed to refer the reader to these measures. The effectiveness of these and potential measures are described in Section IV.C.1(h)(6). Additional measures may be identified and implemented through the Exploration Plan and Development and Production Plan, should lessees apply to undertake these actions.

WWF 018-028

Water depth is identified in the bathymetry map of the lease sale area, see Figure III.A-1. Sea ice coverage varies from season to season and from year to year; however, Figure III.A-1 captures a generalized view of the maximum retreat of sea ice in recent years. Habitat used by Pacific walrus varies seasonally and from year to year and is dependent on the movements and extent of the sea ice, as well as other factors such as prey availability. Pacific walrus occur seasonally throughout much of the central lease-sale area (Jay and Garlich-Miller, pers. commun.) See Section III.B.6.a(5) for further discussion of Pacific walrus movements.

Oil-spill prevention and response are discussed in Section IV.A.5. Specific oil-spill response mitigation measures will be developed at the time that specific exploratory drilling and development activities are proposed. Areas acutely sensitive to disturbance, such as seasonal coastal haulouts, will be addressed at that time. The MMS is the regulatory agency charged with ensuring that provisions of the Oil Pollution Act of 1990 are complied with by the responsible party for OCS operations; MMS requirements can be

found in 30 CFR 254. Concerns regarding the Pacific walrus would be addressed by MMS in close consultation with FWS at that time.

The operator would be required to identify sensitive environments of concern such as the ice edge or haulouts that may be impacted by a spill from their operations and identify methods to protect those areas. Protection could involve deflection of the oil, placement of exclusion booms and/or hazing procedures to keep animals from entering a contaminated area. They would be responsible for ensuring their plans are consistent with the Alaska Federal and State Preparedness Plan for Response to Oil and Hazardous Substance Discharges and Releases and the appropriate Alaska Sub-area Contingency Plan. The MMS also may impose additional requirements to further protect sensitive environments if the proposed mitigation is insufficient.

WWF 018-029

Most seismic surveys will occur in areas of open water, where walrus densities are expected to be low. Although some Pacific walruses may be temporarily displaced by seismic cruises, those effects are expected to be insignificant. Furthermore, as far as is known, there have been no lethal takes of walruses associated with oil and gas activities in Alaska, including from seismic operations. If the commenter is aware of any information that documents lethal takes of walruses as a result of oil and gas activities, MMS would be very interested in including that information in future analysis.

Suspected declines in the Pacific walrus population are discussed in Section III.B.6.a(5). Cumulative effects of climate change on the Pacific walrus are discussed in Section V.C.8.b.

WWF 018-030

The altitude restrictions contained in the draft EIS were based on close consultations with FWS. The commenter is correct in pointing out that displacing walruses from forage areas ultimately could have population-level effects. However, MMS is unaware of any delineation of walrus habitat precise enough to allow an evaluation of important walrus feeding areas. Therefore, it is not possible to conclude that there will be significant impacts to Pacific walrus-foraging areas without more specific information on the location of those areas and the effects of disturbance at a population level. If the commenter knows of any research that precisely delineates important walrus-foraging areas in the Chukchi Sea and/or analyzes the effects of disturbance on the Pacific walrus, MMS would be very happy to consider that information in future analyses.

Determining a specific height at which Pacific walruses will not react to overflights is difficult. Aircraft occasionally cause extreme reactions; however, the variability of walrus response is large and unpredictable (Kruse, 1997). Pacific walruses react differently on icefloes than on terrestrial haulouts, and the level of disturbance depends on the type of aircraft, speed and direction of the aircraft, the number and age of walruses present, surrounding ambient noise from wind or wave action, and other factors. However, MMS, in consultation with FWS, has reevaluated this issue and determined that 1,500-ft AGL or ASL and 0.5 miles lateral distance is an adequate buffer in most cases when walrus are hauled out on ice (Efroymsen and Suter, 2001). This mitigation measure also will ensure that the height restrictions for aircraft overflying walruses are consistent with those for cetaceans and marine birds, which will make it easier for pilots to comply with all flight restriction mitigation measures. Section II.B.3 will be updated accordingly.

The danger of trampling events is highest when walruses are hauled out in large herds on terrestrial sites. Calves are particularly vulnerable to trampling injuries in such cases (Kochnev, 2004). Walruses are most likely to stampede from flights that pass directly overhead and from repeated over flights (Kruse, 1997; Johnson et al., 1988). The 1,500-ft AGL and 0.5 miles lateral distance will apply to terrestrial haulouts and will minimize potential disturbances. In addition, pilots that harass or disturb marine mammals (defined under the MMPA as “the negligent or intentional operation of an aircraft or vessel, or the doing of any other negligent or intentional act which results in disturbing or molesting a marine mammal;”) are in direct

violation of the MMPA. The FWS may impose additional restrictions, through their Incidental Take authority under the MMPA, to protect seasonal haulouts that may form along the coast.

**ALASKA COALITION, ALASKA WATCH, ALASKA WILDERNESS LEAGUE,
CENTER FOR BIOLOGICAL DIVERSITY, GREENPEACE, EARTHJUSTICE,
NATURAL RESOURCES DEFENSE COUNCIL, NORTHERN ALASKA
ENVIRONMENTAL CENTER, PACIFIC ENVIRONMENT, THE WILDERNESS
SOCIETY, TRUSTEES FOR ALASKA**

December 21, 2006

Mr. John Goll
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**RE: Comments on Chukchi Sea Planning Area Oil and Gas Lease Sale 193
and Seismic Surveying Activities Draft Environmental Impact
Statement**

Dear Mr. Goll:

I. INTRODUCTION

Our groups have asked that the Chukchi Sea be deleted from the Five-Year Plan. Please incorporate our comment letters on the plan and DEIS by reference. The Chukchi is one of the most productive areas of the Arctic Ocean and provides important habitat for many species of marine mammals, birds and fish. Not only is the Chukchi a productive intact habitat, it is vital to many Native subsistence users who have relied on its resources for thousands of years. The Chukchi is far from existing infrastructure, and it would present many technological challenges.

The Chukchi Sea is Alaska's most pristine Arctic Ocean resource. The region hosts endangered and depleted species, highly productive marine life and rich feeding and subsistence grounds for important marine species and the people who depend upon them. Yet not enough is known about the population, distribution, and behavior of many species in the region to justify the risks associated with OCS leasing, exploration and development. Too little is known about the resources of the Chukchi Sea, and adequate baseline studies are necessary before the Secretary can legitimately consider whether oil exploration and development are appropriate there. Moreover, there is no oil spill response technology available to remediate an oil spill during conditions present in the Chukchi during most of the year.

Marine ecosystems, marine mammals, sea birds, and coastal communities are all at risk from oil spills, noise and other disturbance and habitat impacts, which would inevitably occur during exploration and development. Devastating spills that cannot be cleaned up in broken ice risk endangered bowhead and other whales and migratory birds,

including the threatened spectacled and Steller's eiders. Oil pollution causes direct mortality, increases susceptibility to diseases in fishes, inhibits phytoplankton productivity, and interferes with reproduction, development, growth, and behavior of many species. In addition to the dangers of oil pollution, a number of other potential pollutants are common in offshore oil operations, including the dumping of toxic drilling muds and other chemicals involved in drilling

In addition, we are concerned about the impacts, especially to caribou and subsistence resources and activities, from a new overland pipeline and road across the National Petroleum Reserve-Alaska and other lands for the transport of oil from the Chukchi Sea. This pipeline could cross areas that were deferred from oil leasing under the Northwest NPR-A Integrated Activity Plan/ EIS in recognition of their high biological and subsistence values. The expansion of activity into these important and pristine areas justifies cancellation of Chukchi Sea Sale 193 (DEIS Alternative II, "No Lease Sale,") as well as deletion of the Chukchi Sea Program Area from the entire Five-Year Plan for 2007 to 2012.

II. OVERARCHING PROBLEMS WITH THE DEIS

A. MMS Should Not Be Considering Lease Sales in the Chukchi Before Completing the Five-Year Plan for 2007-2012.

Leasing large tracts in the Chukchi Sea represents a major departure from the status quo over the past decade or more and will cause significant impacts to an area where there are currently no active leases. Although public testimony from a multitude of interests have indicated that the current Beaufort leases and onshore development are "too much, too fast, too soon," MMS refuses to address the cumulative impacts of development and instead is pushing forward with an enormous lease sale in the Chukchi Sea. Although there was little interest in leasing this area over the life of the 2002-2007 5-Year Plan, as soon as industry indicated that they would like to prospect the Chukchi, MMS rushed to get out a lease sale as fast as possible. Indeed, MMS is preparing this lease sale before the new 5-Year Plan is complete.

It was not appropriate for MMS to launch this lease sale planning process prior to completion of the pending Five-Year Plan because it is not proposing the "special-interest" focused sale envisioned, described and evaluated in that plan. MMS acknowledges that Sale 193 is beyond the scope of "special interest leasing" option that had been contained in the 2002-2007 Five year plan (DEIS at I-9).

This "cart before the horse" approach is confusing, is an irrational planning process and represents a major shift in current policy. While Lease Sale 193 is purportedly being offered under the 2002-2007 5 Yr. Plan, it represents an area much greater than that envisioned in this plan. DEIS at ES-i To further complicate matters, the proposed 2007-2012 5 Yr. Plan makes reference to different buffer areas and has led to confusion at public meetings in the communities that will face the majority of impacts in these areas. Despite this, and the fact that the most common public comment on the sale was "cancel the sale," DEIS at II-3, MMS continues to fast-track a lease sale that will

cause significant impacts to the ecology and communities of the Chukchi. Even members of the petroleum industry have asked that the sale at least be delayed. DEIS at II-4.

MMS should take the time to address these concerns before rushing Lease Sale 193 out the door.

B. General Lack of Information.

One of the most striking aspects of the draft EIS is the glaring lack of information for most fish and wildlife, ecological and cultural (human) resources and synthesis of the relevant information necessary for evaluating environmental impacts of oil and gas exploration and development. While the Chukchi is known to be a productive Arctic Ocean area, shockingly little is known about its resources. As a result of this absence of baseline data, the EIS does not serve its intended purpose of informing the public and decision maker of the impacts of the proposal. There should be no leasing in the Chukchi until better information is available.

While there was initial information collected in the late 1970's and early 1980's under the OCSEAP program, current surveys and comparisons with past data are necessary to establish the current conditions for pre-leasing and post-lease baseline studies required by OCSLA. This is especially crucial since rapid changes caused by global warming may render much of the data used by MMS for its description of the existing environment as well as in the impact analysis inaccurate as a baseline or for predicting post-lease impacts regarding fish and wildlife population numbers and trends, migrations, habitat use, subsistence resources and use, and cultural and other human impacts. Existing ecological relationships are also not well presented.

The conclusions of low and minor impacts asserted in the Executive Summary are substantially inappropriate given the MMS's own acknowledgement of inability to estimate impacts. Thus, the conclusions must be assumed to be politically motivated versus based on established scientific analysis.

The plan to lease the Chukchi Sea is particularly improvident given the lack of baseline scientific data, and fails to admit the significance of this lack of basic information. The Chukchi Sea EIS could not be considered scientifically thorough and many of its conclusions are also unwarranted given this lack of baseline scientific data. Given the inadequate science, one must conclude that the lack of baseline abundance, distribution, and behavior knowledge of most species in the Chukchi results would result in an inability for industry or MMS to monitor population changes or impacts. Moreover, the conditions in the Chukchi make development there more risky and risks more uncertain. As the draft EIS notes "no platform . . . has operated in environmental conditions equivalent to the Chukchi shelf." DEIS at IV-13.

Lack of baseline information would make it difficult to identify "special biological communities" that MMS states it will require industry to avoid. MMS states repeatedly (see, e.g., DEIS at IV-62-68, IV-372, V-20) that significant impacts could occur if development takes place near these special biological communities. MMS further

states that “The future MMS and the Corps’ review of proposals for offshore platforms and pipelines would make sure that the facilities avoid special biological communities....” DEIS at IV-68. However, the significant lack of baseline data would make locating these communities nearly impossible, except for those areas that are known currently. At the MMS Workshop on COMIDA (November 1-3, 2006) agency scientists had virtual consensus on the need for baseline data for most marine species utilizing the Chukchi. Data needed included a basic inventory of new species, particularly whale, that are moving into the region due to climate change; abundance of all species; distribution data for most species; and behavioral data, including calving and feeding areas, particularly for endangered species such as the bowhead.

The examples of unknowns are staggering. For instance, in the case of fish, the draft EIS reveals,

several data deficiencies remain. Information of current distribution and abundance . . . estimates, age structure, population trends, or habitat use areas are not available for fish populations in the northeast Chukchi Sea.

DEIS at III-28. The draft EIS goes on to note that “another important data gap is the lack of information concerning discrete populations for arctic fishes.” Id. Moreover, [s]everal species are known only from a single specimen of each species; others are known from perhaps a handful of specimens collected years to decades ago. Population information is entirely lacking for such species.” Id.

The catalogue of unknowns goes on. The draft EIS lists the current status of the following species in the Chukchi as unknown:

- black-legged kittiwake
- northern fulmar
- parakeet, least and crested auklets
- black guillemot
- ivory gull
- Arctic tern
- Kittlitz’s murrelet

Baseline information, including mapping of current habitat use is necessary for the analysis of potential impacts on these species, many of which feed in the proposed Sale 193 area and nest in the adjacent Chukchi Sea units of the Alaska Maritime National Wildlife Refuge – including the “Ann Stevens- Cape Lisburne” sub-unit, Cape Thompson and Chamisso. Under the Alaska National Interest Lands Conservation Act, this refuge’s purposes include fulfilling the international treaty obligations of the United States, including treaties for the conservation of whales, polar bears, and migratory birds, yet this issue was ignored by the DEIS. Description of national parks, preserves, refuges and conservation system units and special areas such as Kasegaluk lagoon that may be affected directly or through cumulative effects need to be provided in the existing environment section.

The maps of feeding areas for Common and Thick-billed murre colonies at Cape Lisburne and Cape Thompson fail to identify the fact that these two areas are Chukchi Sea units of the Alaska Maritime Refuge (Fig. III.B-7). Furthermore, neither trends in habitat use nor past and current use is provided.

019-001

There are no reliable estimates of the stocks of ringed seals, spotted seals, ribbon seals, polar bears, Pacific walrus, and minke whales or information on their current feeding, resting, and migration habitats. Pacific Right whale use of the Chukchi Sea should also be addressed. Current maps of gray whale, Pacific walrus, beluga, polar bear, and other marine mammal feeding and migration areas are needed. Recent information should be compared with past information on benthic feeding areas for Gray whales and walrus, including important areas for these species in the Chukchi polynya and sea ice edge (see maps in Phillips, R.L. 1987, Summary of geology, processes, and potential geohazards in the Northeastern Chukchi Sea at 21-31 in: D.A. Hale (ed.), Chukchi Sea Information Update. NOAA Ocean Assessments Division, Alaska Office. (OCS Study MMS 86-0097)).

019-002

Wildlife habitat data for the Chukchi Sea was also synthesized and mapped in the past (see Marine Mammals in Arctic Alaska, Land Mammals of Arctic Alaska, and Birds of Arctic Alaska in P.A. Miller, D.A. Smith, and P.K. Miller, 1993, Oil in Arctic Waters: The untold story of offshore drilling in Alaska. 122 pp).

Even in the case of the endangered bowhead whale many crucial facts are unknown. For instance, it is unknown whether some of the population summers in the Chukchi. Moreover, “there are major question about bowhead whale feeding that remain to be answered.” DEIS at III-48. In the end, MMS’s conclusion for all marine mammals is that “because lack of data on marine mammal distributions and habitat use in offshore areas of the Chukchi Seas, it is uncertain what the level of effects would be in offshore areas.” DEIS at II-40. This type of conclusion undermines NEPA’s goal of encouraging informed decision making and it is contrary to OCSLA’s requirements for pre-leasing and post-leasing data. In the absence of basic information, MMS should not go ahead with its leasing plan.

In terms of monitoring and mitigating impacts, without key information, such as distribution, abundance and breeding area knowledge, it is not possible to know how species are adapting their behavior or what the impacts are. Requiring industry to monitor when there is no baseline data or historical data to compare current findings with would render monitoring plans worthless in terms of assessing impacts. The draft EIS states, “Population-monitoring studies for key species need to be implemented in areas where significant industrial activities are likely to occur, so that it will be possible to compare future impacts with historical patterns and thus determine the magnitude of any potential effects.” Draft EIS at _____. While such studies are advisable, and required by OCSLA, MMS’s premise-- that an adequate baseline can be established--is incompatible with the current leasing schedule. MMS and other agencies confirmed the lack of baseline data at the science meetings in November of 2006. Therefore, the EIS fails to effectively acknowledge the significance of missing or insufficient data on the abundance,

distribution, foraging and breeding behavior of numerous species. In sum, the EIS fails to adequately assess potential impacts and cannot possibly estimate population level impacts or significant impacts.

The map of caribou calving areas (Fig. III.B-4) referred to in the text (DEIS p. III-84) actually shows bowhead whales. Caribou insect relief habitat is also critical and up to date and historical information should also be shown.

019-003

The DEIS contains inadequate information about affected physical environment in the Chukchi Sea as well as explanations of how physical hazards to oil and gas activities, including existing marine and coastal oceanographic conditions; sea ice (including changes in pack ice, shorefast ice, and various broken ice conditions); air temperature; precipitation; wind speeds; hydrological factors including freshwater drainage into ocean and sources of fresh water human and industrial uses; existing air quality including greenhouse gas emissions; existing water quality; various hazards including earthquakes, streudal scour, pressure ridge, gravel, coastal current sand; rates of current shoreline erosion, subsea and tundra permafrost and rates of melt, and climate change trends for all these conditions; potential petroleum resources; and potential renewable energy resources.

There is also no integration of any of the important physical features, such as sea ice, with fish and wildlife habitat use, such as populations of Pacific walrus and other species and how this is changing over time. Little physical information is mapped, and what is presented is either outdated (without the context of maps derived from new data for comparison of conditions given climate change), e.g. ice gouge density map is from 1982 and 1987 (Fig.III.A-4) or incomplete (some data on ice leads shown in Fig. III.A-14 does not include the entire Chukchi Sea area, may obscure the actual physical conditions of leads during any one season, and does not make a comparison with earlier ice conditions). Some examples of existing information include:

Alaska Department of Environmental Conservation, 2006, *North Slope Nearshore and Offshore Breakup study literature search and analysis of conditions and dates*. Summary only: <http://www.dec.state.ak.us/spar/ipp/docs/IceTOC.pdf> (Accessed December 21, 2006); CD available from ADEC Anchorage.

Zhang, X. and J.E. Walsh, 2006, Toward a seasonally ice-covered Arctic Ocean: Scenarios from the IPCC AR4 Model simulations. *Journal of Climate*, Vol. 19: pp. 1730-1747.

Subsistence use areas are not shown for Barrow, Atqasuk, Wainwright or Point Lay in the DEIS (Map 4 refers to web links for information about these communities but does not synthesize the current information for the DEIS). It is impossible for a reader without a high speed internet connection to use this information. Furthermore, based on a random check of links this one was not working on December 21, 2006 (http://www.co-north-slope.ak.us/acmp/resource_atlas.htm).

019-004

Even though impacts on subsistence are a major issue for local Inupiat communities, as well as of national concern as an environmental justice issue and due to

019-005

ANILCA title 8 and subsistence purposes of the Alaska Maritime refuge, there is inadequate basic information provided about these resources so that a credible analysis of effects of oil and gas activities on these resources could be done. The lack of mapped fish and wildlife, environmental and subsistence resource and use data, as well as such information with overlays of expected oil and gas activities, renders the EIS inadequate. Such techniques of presentation of information are standard practice, even by MMS in the past. Mapped information is readily understood by the general public. There were no maps in the executive summary showing the proposed alternatives or resources at stake, nor was a short summary document even produced for wide public distribution to local communities or the general public.

019-005

Furthermore taxpayers are already spending funds to compile such information including for Barrow subsistence for the stated purpose of MMS's "evaluation of potential effects of OCS exploration and development in the Beaufort Sea OCS region, as needed for future Environmental Assess and Environmental Impact Statement analyses," (Braund, S.R., et al. 2005, Subsistence mapping Nuiqsut, Kaktovik, and Barrow. Pp. 111 – 112 in: Alaska OCS Region, Tenth information transfer meeting and Barrow information update meeting: Final Proceedings, OCS Study MMS 2005-036.). That said, it is essential that such information be presented within the proper context, as discussion at that presentation indicated that lifetime subsistence use areas must be shown on maps if "contemporary subsistence use" is portrayed.

019-006

There is a lack of information in the draft EIS's discussion of the existing environment on subsistence uses in Russia and Canada that depend on potentially impacted Chukchi Sea resources such as Bowhead whales. In addition the cumulative impacts of such oil and gas activity on these communities need to be described. Some relevant past studies include Myrmin, M.I., The Communities of Novoe Chaplino; Serenkiki, Uelen, and Yanrakinnot, and H.P. Huntington. 1999, *Traditional knowledge of the ecology of beluga whales in the Northern Bering Sea, Chukotka, Russia*. Arctic, Vol. 52(1): pp. 62-70; Justice Thomas R. Berger, 1977, *Northern Frontier, Northern Homeland: The Report of the Mackenzie Valley Pipeline Inquiry*.

019-007

Baseline data on existing changes to subsistence resources and uses and predictions of future changes caused by climate change need to be included. While the short, generalized paragraph regarding traditional knowledge on climate change in the entire Bering Sea and Chukchi Sea regions (DEIS p. III-9) introduces the topic, information for each local community is also needed, as well as for the marine and coastal waters in order to conduct an impact analysis. See sources we list in the climate change section.

019-008

C. The DEIS Does Not Adequately Address Mitigation Measures.

Under NEPA, an agency must describe and analyze the effectiveness of proposed mitigation measures. See 40 C.F.R. § 1502.16(h) (stating an EIS "shall include discussions of ... [m]eans to mitigate adverse environmental impacts"). "The requirement

019-009

that an EIS contain a detailed discussion of possible mitigation measures flows both from the language of the Act and, more expressly, from CEQ's implementing regulations." Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 351 (1989). "Mitigation must 'be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated.'" Neighbors of Cuddy Mountain v. United States Forest Serv., 137 F.3d 1372, 1380 (9th Cir. 1998) (quoting Carmel-By-the-Sea v. United States Dep't of Transp., 123 F.3d 1142, 1154 (9th Cir. 1997) (quoting Robertson, 490 U.S. at 353)). The proposed mitigation measures and their analysis in the draft EIS fall short in many respects.

019-009

Most notably, the draft EIS admits "the potential mitigation measures for various resources associated with the Chukchi Sea were identified for some resource categories but not included for analysis in this EIS." DEIS at II-5. This is a blatant violation of NEPA law. See, e.g., Neighbors of Cuddy Mtn., 137 F.3d at 1380.

019-010

Where mitigation measures are discussed, there is a lack of analysis and an over reliance on their effectiveness. In the case of oil spill response technology, there is no effective oil spill clean up technology. The only technology MMS cites as being practicable for removing oil from broken ice conditions is in situ burning. This method has serious environmental impacts, none of which are dealt with in the draft EIS. If these measures are expected to be allowed, as clearly they are by their repeated citation in the draft EIS (DEIS at IV-37, 46, 52, 226), then the draft EIS must include analysis of their impacts. Given the lack of effective oil spill clean up methods, MMS should not continually rely on the future oil spill response plans as mitigation.

019-011

In many areas, MMS states that mitigation will consist of monitoring requirements and the agency makes reference to "adaptive management". As discussed above, however, there is a dearth of information on the resources of the Chukchi. Without baseline data, monitoring is nearly meaningless and adaptive management is impossible.

019-012

Mitigation and monitoring activities are a clearly mandated component of leasing programs under the OCSLA. Accordingly, the design, impacts of the measures themselves, such as aerial flights or other vessel traffic, and effectiveness of these measures need to be comprehensively assessed in the public NEPA review of the proposed lease sales and seismic survey activities. Yet, even for the most controversial resources, such as endangered bowhead whales, only vague references to past EIS stipulations are given (DEIS at II-30). Those past plans did not have requirements for monitoring during the development phases.

019-013

This past open-water season, ConocoPhillips Alaska Inc. (CPAI) conducted seismic testing in the Chukchi without monitoring the 120 dB exclusion zone for cow/calf pairs that was required to mitigate impacts on the bowhead whale. CPAI received a preliminary injunction from the United States District Court for the District of Alaska after arguing, in part, that aerial monitoring of the Chukchi was too difficult.

019-014

Clearly these are controversial issues that should be addressed in the draft EIS on the proposed lease sale.

MMS clearly realized that it needed additional information for Chukchi Sea leasing activities when it held the workshop titled “Chukchi offshore monitoring in drilling area” on November 1-3, 2006 in Anchorage. MMS described the purpose of this workshop “to review existing research; to identify information needs; and to recommend research monitoring concepts, experimental designs, and scope of field studies to address MMS needs for environmental monitoring of potential Outer Continental Shelf oil and gas exploration and development,” in its “Notice of MMS Workshop.” This workshop therefore covered issues rightly to be addressed in the NEPA DEIS, such as mitigation, necessary monitoring, etc. MMS’s workshop was held after the DEIS had been released to the public, did not have required public notice in the Federal Register, and as we understand it, there was no attendance by local community representatives (except a paid representative of Shell Oil). The proceedings of this meeting were not available for consideration in our review of the DEIS. Workshop observers noted that the scientists discussed the lack of ecological information for the Chukchi Sea. The OCSLA requires adequate pre-leasing baseline information and post-leasing monitoring of impacts and therefore the NEPA analysis should adequately address these issues given the controversial nature of the lease sale.

019-015

Similarly, the National Marine Fisheries Service held the “Arctic Ocean Open Water Seismic Meeting” on October 23-25, 2006, also during the Chukchi Sea Sale 193 *and Seismic Surveying Activities* [emphasis added] draft EIS comment period. This meeting also failed to have a federal register notice, public announcements or invitations. However, it addressed issues of seismic impacts related to leasing programs, and may have discussed cumulative impacts of seismic disturbance on bowhead whales in the Beaufort and Chukchi Seas. Still, that meeting covered bowhead whale impacts, not those of other marine mammals, birds, or fish. Given that National Marine Fisheries Service is a cooperating agency on the Chukchi Sea Sale 193 DEIS, it is incumbent upon the agency to conduct public review and comment as well as agency review as part of the on-going NEPA review. The lack of local outreach and participation by the federal agencies in both of these workshops belies the claims the these past workshops and projects that are not as relevant to Sale 193 analysis of impacts meet Environmental Justice requirements (DEIS at V-83 to 84). Moreover, the results of these recent meetings should have been analyzed in the draft EIS.

019-016

D. The DEIS Does Not Address the National Need.

MMS fails clearly to describe the national need for the proposed action. It does not show that potential oil and gas production will meet a significant national energy need. It does not even give a prediction of how much oil might be produced. MMS states that “future production from this frontier area is unlikely to ever reach the full economic potential as estimated by petroleum-resource assessments (USDOJ, MMS, 2005) DEIS at IV-7. It fails to explain how the potential “one large oil field” that it assumes will be developed, DEIS at IV-3; IV-7, will make more than a drop in the bucket

019-017

of our national energy consumption nor how this justifies the potential damage to the pristine area if a major spill should take place.

MMS states that “After 30 years of leasing in the Alaska OCS, there are no commercial oil or gas fields located on Federal OCS lands (DEIS at V-6). Perhaps it is time to stop wasting federal funds on an ineffective pursuit that causes real environmental justice harm to the Alaska Native people in the region. Given the great distance of the Chukchi Sea from existing production infrastructure of the Trans-Alaska Pipeline, “Sale 193 does not meet OCSLA’s goals for “orderly” development of the OCS. The national interest in the OCS waters also consists of the living resources, and given the lack of current information about the human and biological environment it is currently impossible to conduct the necessary “balancing” of these values of the potential energy resources.

E. The DEIS Does Not Contain An Adequate Analysis of Alternatives.

The purpose of an EIS is to “rigorously explore and objectively evaluate[s] all reasonable alternatives” to the proposed action. 40 C.F.R. § 1502.14(a) (2003). That discussion of alternatives “is the heart of the [EIS],” *id.* § 1502.14, and it “guarantee[s] that agency decisionmakers have before them and take into proper account all possible approaches to a particular project (including total abandonment of the project) which would alter the environmental impact and the cost-benefit balance.” Alaska Wilderness Recreation & Tourism Ass’n v. Morrison, 67 F.3d 723, 729 (9th Cir. 1995) (quoting Bob Marshall Alliance v. Hodel, 852 F.2d 1223, 1228 (9th Cir. 1988); see also Angoon v. Hodel, 803 F.2d 1016, 1020 (9th Cir. 1986) (“[T]he touchstone for our inquiry is whether an EIS’s selection and discussion of alternatives fosters informed decision-making and informed public participation.”) (quoting California v. Block, 690 F.2d 753, 767 (9th Cir. 1982))).

Here, the draft EIS does not foster informed decision making because it does not contain a rigorous analysis of alternatives. The analysis of alternatives III and IV is cursory and based on unclear and unsupported assumptions. Apparently, MMS assumes that there would be the same level of development under these alternatives as for alternative I, but the agency provides no supporting data for the notion that leasing fewer acres will lead to the same level of development. Generally, MMS assumes that the deferral areas will protect resources, but again provides insufficient analysis to support these assumption. The critical importance of the Chukchi polynya and spring lead zone to migrating whales and birds and subsistence harvests is not well explained in either the existing environment section nor is the rationale for the various deferrals provided. Furthermore, it is not clearly documented that either alternative III or IV’s proposed buffer zones would adequately protect these resources from oil industry impacts. As well, the Five-Year plan has a different 25-mile buffer zone that inexplicably was not analyzed in this EIS. In other places in the draft EIS, the agency recognizes that forcing development further offshore can increase some impacts. DEIS at IV-26 (“increased pipeline distances would increase the potential for a pipeline spill and would result in larger pipeline construction impacts.”).

The DEIS needs to consider a renewable energy alternative as this could serve to address the national need for sustainable energy in remote, Native American tribal communities, a clearly unmet national need. A useful source is Alaska Energy Authority and Renewable Energy Alaska Project. 2006. Renewable energy atlas of Alaska: A guide to Alaska's clean, local and inexhaustible energy resources. Furthermore, MMS now has statutory authority over renewable energy resources on the OCS and a plan for the Chukchi Sea should also address these resources. The draft EIS needs to consider a carbon reduction alternative, in order to address the national need to reduce greenhouse gas emissions and solve global warming.

019-018

F. The Cumulative Impacts Analysis Is Inadequate.

NEPA requires that the EIS take a hard look at the cumulative impacts on the environment of activities occurring pursuant to Lease Sale 193. 40 C.F.R. § 1502.1; 40 C.F.R. § 1508.7. Cumulative impacts result “from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions,” and “can result from individually minor but collectively significant actions taking place over a period of time.” 40 C.F.R. § 1508.7. The DEIS fails to provide an adequate cumulative impacts analysis in several respects.

019-019

The draft EIS section devoted to cumulative impacts contains a perfunctory analysis that fails to fulfill NEPA’s “hard look” requirement. “Although the FEIS contains sections headed ‘Cumulative Impacts,’ in truth, nothing in the FEIS provides the requisite analysis. . . . [I]t makes only conclusory remarks, statements that do not equip a decisionmaker to make an informed decision about alternative courses of action or a court to review the Secretary’s reasoning.” NRDC v. Hodel, 865 F.2d at 865 F.2d 288, 298 (D.C. Cir. 1988). The courts have repeatedly held that the duty to consider cumulative impacts is fulfilled only when the agency takes a “hard look” at the environmental consequences of the various actions. See, e.g., Neighbors of Cuddy Mountain, 137 F.3d at 1379 (agency must take “hard look” at cumulative impacts); Hodel, 865 F.2d at 298 (cumulative impacts analysis must be sufficiently detailed to “equip a decisionmaker to make an informed decision about alternative courses of action”); North Slope Borough v. Andrus, 642 F.2d 589, 599 (D.C. Cir. 1980) (agency must take “a good ‘hard look’ at the pertinent environmental questions”). To satisfy this requirement, a cumulative impacts analysis must contain “quantified or detailed information,” Neighbors of Cuddy Mountain v. U.S. Forest Serv., 137 F.3d 1372, 1379 (9th Cir. 1998), and should include supporting “references to scientific studies and other materials so that a decisionmaker would have ready access to the information underlying the Secretary’s findings and conclusions.” Hodel, 865 F.2d at 300.

019-020

The cumulative effects analysis asserts that new technology will mitigate the effects of widespread development on the North Slope and the Arctic Ocean (DEIS at V-4). This assumption is unfounded. First, most of the examples pertain to onshore development. Second, many new technologies have failed to fulfill their promises. For instance, the draft EIS refers to “roadless” development as a new onshore technology that can reduce environmental impacts. Presumably this is a reference to the Alpine development. What the draft EIS fails to mention is that Alpine, the supposed small footprint oil development, is now being expanded dramatically, becoming a sprawling development that will be connected to the NPR-A by a road and a bridge over the Colville. If a major offshore spill occurs it would have devastating effects and there is no new technology to improve spill response in broken ice or most open water conditions in the Arctic Ocean. Due to global warming the much touted “ice road” technology is now severely limited in duration, (ACIA 2004 at 86) especially given the long travel distances of the Chukchi Sea shores from existing oil and gas infrastructure. Other limitations of the effectiveness of directional drilling, seasonal restrictions and other

019-021

mitigations that end up being weakened after initial leasing, are described by P.A. Miller. Broken Promises: The Reality of Big Oil in America's Arctic.

<http://www.wilderness.org/Library/Documents/upload/Broken-Promises-The-Reality-of-Big-Oil-in-America-s-Arctic.pdf> (accessed December 21, 2006).

The cumulative case omits consideration of future oil activities from the aggressive leasing plan currently underway in the Beaufort Sea. The draft EIS itself admits that development in the Chukchi would likely encourage a greater level of activity in the Beaufort. DEIS at IV-1 ("Offshore development in the Chukchi outer continental shelf (OCS) would have synergistic effect on the level of offshore activities in the adjacent Beaufort Sea."). This activity could have serious impacts on resources, such as the bowhead whale and Southern Beaufort Sea polar bear population, that use both the Chukchi and Beaufort. Migrating whales could be exposed to multiple noise producing activities. The draft EIS fails to analyze the full cumulative impacts of noise.

019-022

Moreover, activities in the Beaufort and Chukchi could expose resources to multiple oil spills. The 5-year Plan DEIS states that up to 5 large spills are assumed to occur from OCS activities in the Alaska OCS.

The draft EIS fails to address the cumulative impacts to fish and wildlife from marine impacts including spills caused by the proposed expansion of the Red Dog Deep-water Marine Terminal. The Sale 193 and cumulative case analysis of subsistence resources and uses and impacts on cultures should include compliance with Section 810 of ANILCA since the proposed oil production relies on an assumed onshore pipeline traversing federal lands including the National Petroleum Reserve Alaska.

019-023

The DEIS fails to conduct adequate cumulative impact analysis for marine mammals, especially the combination of global warming and oil and gas exploration and production impacts. Indeed, the draft EIS fails to provide any cumulative impact analysis of Pacific Walrus (DEIS at V-41).

019-024

Climate change is another area that should be given more serious consideration in the cumulative impacts analysis. Global warming could have a serious impact on subsistence and human culture and environment beyond the population level effect it could have on various species. According to the NRC, "if migrations of bowhead whales (*Balaena mysticetus*), for example, were to shift farther offshore and if populations of seals near the coast were to be seriously reduced, the consequences for coastal human subsistence cultures could be dramatic." NRC Report at 92. The effect of distribution of subsistence species altered by offshore activities combined with the effects of global warming on subsistence need to be discussed in the cumulative impacts analysis; maps would also be particularly useful to the public understanding of this complicated issue.

019-025

In assessing the likely effects of global warming, the EIS also should consider the following sources: Pew Center on Global Climate Change, *Observed Impacts of Global Climate Change in the U.S.* (Nov. 9, 2004); U.N. Environment Programme, *GEO Year Book 2004/5: An Overview of Our Changing Environment* 42-46, 80-84 (2005); National

019-026

Academy of Sciences, *Joint science academies' statement: Global response to climate change* (June 7, 2005); The Wildlife Society, *Global Climate Change and Wildlife in North America* (2004), available at http://www.nwf.org/nwfwebadmin/binaryVault/Wildlife_Society_Report2.pdf, and Millennium Ecosystem Assessment, *Millennium Ecosystem Assessment Synthesis Report* 119 (Mar. 23, 2005), available at <http://www.millenniumassessment.org/en/products.aspx> (last visited Nov. 16, 2006); Huntington, H.P., and the communities of Buckland, Elim, Koyuk, Point Lay, and Shaktoolik, 1999, Traditional knowledge of the ecology of beluga whales (*Delphinapterus leucas*) in the Eastern Chukchi and Northern Bering Seas, Alaska. *Arctic* 52(1): p. 49-61. This paper and others also describe the high sensitivity of belugas to noise disturbance from boats and other vehicles and traffic.

One example of a relevant type of information that should be considered includes observations of Alaska Native (Yupik) experts from Savoonga and Gambell on marine ice, ice and weather observations, stories, and historical records. See Oozeva, C., C. Noongwook, G. Noonwook, C. Alowa, and I. Krupnik. 2004, *Watching ice and weather our way / Alulka, Tapghaghmii, Mangataaquli, Sunqaanga, Igor Krupnik. Sikumengllu Eslamengllu Eshgpallegput*, Edited by Igor Krupnik, Henry Huntington, Christopher Koonooka, and George Noongwook, Washington DC: Arctic Studies Center, Smithsonian Institution. 208. pp.

Another useful reference explaining the magnitude of cultural and environmental change and how it may affect subsistence including in the Barrow area of the Chukchi Sea is Krupnik, I. and Jolly, D. (eds), 2002, *The Earth is Faster Now: Indigenous observations of Arctic environmental Chang*, Fairbanks, Alaska: Arctic Research Consortium of the United States. 384 pp.

Some information based on traditional knowledge gained in the communities is also available in Gibson, M.A., and S.B. Schullinger. 1998. *Answers from the ice edge: The consequences of climate change on life in the Bering and Chukchi Seas*. Anchorage: Arctic Network and Greenpeace. 32 pp.

There is also substantial existing information regarding the effects of coastal erosion on Chukchi Sea communities, including Kivalina, Point Hope and Barrow that was ignored by the DEIS, e.g. GAO 2003. *Alaska Native Villages: Most are affected by erosion and flooding but few qualify for federal assistance*. GAO-04-142. 91 pp. (accessed December 21, 2006, <http://www.gao.gov/new.items/d04142.pdf>); Orson P. Smith. 2006. *Coastal Erosion Responses for Alaska: Workshop Proceedings*. Alaska Sea Grant <http://seagrant.uaf.edu/bookstore/pubs/AK-SG-06-03.html>; *Arctic Sounder* December 14, 2006, at 1-2, *Latest attempts to stem Kivalina's erosion problems fail: Most of \$3 million sea wall falls into the Chukchi Sea*. Such information on coastal erosion is also crucial to evaluate potential feasibility impacts of hypothetical port sites and pipeline landings along the Chukchi Sea.

Issues related to the cumulative impacts analysis of particular resources are further discussed in the discussion of specific resources below.

G. The Significance Thresholds Are Inappropriate.

The significance criteria are arbitrary. MMS uses a significance threshold for biological resources of an adverse impact that will result in a decline taking three or more generations to recover. MMS does not provide scientific justification for the criteria used or explain why three generations of recovery is an appropriate threshold for a variety of different species that have very different reproductive and population trends. It is also important to evaluate impacts to fish and wildlife habitats, not just populations and the significance thresholds do not reflect this.

019-027

H. Failure To Consider Important Issues.

According to the draft EIS, “the issue of aquatic invasive species is directly pertinent to the conservation and management of fishery resources.” DEIS at III-27. Yet, in the draft EIS MMS explicitly excluded the issue from its analysis. See DEIS at II-27 (listing aquatic invasive species as an issue eliminated from analysis). The draft EIS eliminates this issue from consideration based on the assumption that the climate of the Arctic will not support introduced species. There is no support for this assumption provided, however. Accordingly, this issue should be fully analyzed in the EIS.

019-028

I. The Development Scenario is Incomplete and Unreasonable.

The analysis of environmental impacts (Chapter 4) should begin with a complete and detailed explanation of the assumptions made and the activities projected to take place. It needs to provide an estimate of the location and number of barrels of oil in the “one large oil field” that will be developed (DEIS at IV-3; IV-7) and scientific justification for its estimate of potential production. While Table IV.A-5 shows “estimated resources of 1 billion barrels,” nowhere is this figure justified with scientific analysis. There are no maps of petroleum resource potential, past exploratory well locations, past seismic surveys used to justify the development scenario that is provided. Further, it is not clear from the document what oil price range MMS used for a basis of its projections. If the oil price range used to estimate the amount of available oil is low the analysis will fail to cover the potential environmental effects at the high end of potential oil prices.

019-029

MMS should provide a hypothetical scenario map with location of seismic surveys, predicted exploratory and delineation wells, and the production scenarios including location of platforms, pipelines, processing plants, staging areas, docks and ports, potential sources of fresh water withdrawals and gravel, etc. whether onshore or offshore.

019-030

Drilling waste disposal for exploratory wells was not addressed in the assumptions for the effects assessment (DEIS at IV); potential sites for a potential onshore drilling waste treatment and disposal facility at the shorebase need to be shown (DEIS at IV-13, IV-15). Zero discharge is state of the art for drilling muds and cuttings disposal and needs to be evaluated as a mitigation measure (see Jonathon Wills. 2000. *Muddied Waters*, <http://www.alaskaforum.org/other/muddiedwaters.pdf>, accessed December 21, 2006)

019-031

Only vague information is provided regarding the highly risky potential production platforms and the discussion of the bottom-founded platform to be used as a central production facility states “no platform has operated in environmental conditions equivalent to the Chukchi Shelf.” (DEIS at IV-13). These are major issues, especially given the damage to offshore rigs during the recent Rita and Katrina hurricanes in the Gulf of Mexico.

019-032

The location of the “shorebase” and “pipeline landfalls” are not provided (DEIS at IV-14). The estimate of “one to two barge trips” and 5 aircraft trips per day in the summer open-water season for shorebase construction (DEIS at IV-15) seems very low, given the thousands of plane flights and hundreds of barge and boat trips required to construct the facilities at the Northstar field. Analysis of past construction and operations activity levels for the offshore Northstar field, Endicott, and others should be provided.

019-033

The topic of whether oil and gas tankers may be used to transport oil, especially if seas become ice-free, needs to be addressed in the development scenario.

019-034

The cumulative impact scenario (Chapter V) similarly fails to give a complete and detailed explanation of the assumptions made and the activities and infrastructure expected to take place. It fails to analyze on-ice seismic surveys, even though those are being considered in the Beaufort Sea and have been extensively used in the past. Potential noise disturbance from barging of onshore and offshore drilling rigs and supplies for exploration and production is ignored as are other sources.

019-035

Nowhere does the draft EIS specify the total potential production of oil and gas from the Chukchi Sea (from either the “contribution by Vol. of OCS oil,” Table V-7b or the “Speculative production” in Table V-7c). Although the text implies it is only the 1 billion barrels assumed for Sale 193, this overlooks the potential for the two other Chukchi sea sales proposed in the 5-year Plan. The MMS Five-year Plan shows anticipated production for the proposed program totaling 1 billion barrels for all three sales (Table 6), if this amount is anticipated from a single sale there is no reason not to cancel the first sale.

019-036

For the cumulative effects analysis to be meaningful, a hypothetical scenario map should be provided. One example based on Department of Interior information compiled from many sources onto one map is “Arctic Alaska: Offshore and onshore oil and gas development,” (P.A. Miller, D.A. Smith, and P.K. Miller. 1993. Oil in Arctic Waters: The untold story of offshore drilling in Alaska. Anchorage: Greenpeace. 122 pp).

019-037

J. Economic Analysis

MMS fails to disclose fully the true economic costs to the public for development in the Chukchi, including huge public costs for baseline and post-lease monitoring and development of mitigation measures, volunteer public and community time required for public meetings, comment and review of actions. No costs for federal and state agency human resources for the vast permitting that will be required is calculated. In addition, no

019-038

costs for supplemental state and federal infrastructure or oversight are factored in. In fact no “costs” are discussed at all, only projections of profits. Such an analysis only provides a gross revenue projection without the real expense costs factored in. A true cost-benefit analysis needs to be provided which includes contingent valuation and passive use values. We expect that a true cost/benefit analysis could find that the minor amount of oil recoverable in the Chukchi would cost more to the taxpayer than the value of the product. The true costs to taxpayers would be excessive if all public costs were calculated (community and ecological costs, pollution cleanup costs, carbon and climate costs).

019-038

In the dismantling, rehabilitation and restoration phase at the end of activities in an area, MMS needs to consider full removal of all infrastructure instead of only requiring industry to plug offshore wells and leave pipelines in place. See DEIS at II-30. The requirement that the taxpayer pay the costs for oversight of a pipeline and plugged wells far offshore in one of the harshest ocean environments in the country is an outright abuse of the U.S. taxpayer - particularly given the profits the oil industry is currently making. The draft EIS and the Five-Year Plan also failed to address existing royalty relief that could significantly reduce OCS revenues.

019-039

K. The Oil Spill Projections and Impact Analysis Are Flawed.

The DEIS understates the potential consequences from a large spill. MMS projects a 40% chance of a large oil spill (greater than 42,000 gallons – 1,000 barrels) and project the chances this would foul an “environmental resource area” as up to 7% within 30 days (DEIS at IV-3, IV-25). Yet, it fails to describe the risks during longer durations of time, including the subsequent years following the spill incident and these should be included in the text.

019-040

A blowout scenario from exploratory well needs to be analyzed. Barge spills are relatively common and it can be expected that there will be far more barging of supplies to support Chukchi Sea operations given the lack of connection with the Dalton Highway compared to Beaufort Sea operations near the existing Prudhoe Bay field. MMS implicitly assumes, though does not explain, that there will be no tanker transport of crude oil from production wells yet does not provide an explicit lease stipulation that would prohibit this. Impacts of tanker spills need to be analyzed for the Chukchi production operations. MMS also needs to describe potential response, cleanup and remediation measures for spills and more clearly describe the lack of response measures. See E. DeCola, T. Robertson, S. Fletcher, S. Harvey, 2000, Offshore oil spill response in dynamic ice conditions: A report to WWF on considerations for the Sakhalin II Project.

019-041

The sources of information used to define the environmental resource areas in the oil-spill trajectory analysis need to be provided as without this one cannot understand what resources would be affected. The ecological significance of the various “ERA’s” shown on Appendix A.2 maps need to be depicted in the legend so the general public can comprehend the resources for which a trajectory analysis was done. We are pleased that MMS has run an analysis of “grouped land segments.” However, the results of the analysis are not explained clearly for a reader not versed in MMS’s analysis method; the text needs to better explain the consequences to the natural resources at risk. It would be

019-042

very helpful to the public to show the “spillet” tracks for at least some of the trajectory analysis in order for the public to have a clearer understanding of the MMS work. The effects of spills on wilderness values of shorelines were not described.

019-043

The DEIS downplays the risks or consequences of chronic smaller crude oil spills. The analysis should also analyze pills of other substances including diesel oil, which is commonly spilled on the North Slope, glycols, which are toxic to animals, and others. While Table IV.A-6 predicts 444 refined oil spills totaling 408 barrels (17,136 gallons) this does not include other toxic substances reported annually to be spilled from the North Slope oil fields by Alaska Department of Environmental Conservation records.

019-044

The cumulative impacts of spills ignores effects of potential spills from the new and existing onshore transmission pipelines, as well as spills from the Trans-Alaska Pipeline System including the Valdez Marine Terminal operations and shipping in tankers to market and associated vessels.

019-045

The draft EIS fails to fully analyze the potential for pipeline leaks. According to the draft EIS there is “seafloor disturbance caused by the deep ice keels that ground almost yearly on the relatively shallow Hanna Shoal near the center of the proposed lease area.” DEIS at IV-65. However, the draft EIS fails to integrate this information into the discussion of oil spills. Given that Hannah Shoal is the center of the proposed development, these ice keels could severely and regularly damage pipelines. The draft EIS states, “Ice has gouged the seafloor in water up to about 50 m in depth, so almost all of the pipelines would have to be buried deep enough to avoid disturbance from ice keels.” Id.

019-046

There is virtually no example of this type of pipeline construction globally and no examples of how such a construction could withstand the impact of tons of pressure presented with an ice keel. The suggestion that pipelines be buried deeper than 50 m is not a proven viable solution to the problem of ice keels. Provided that both Beaufort Sea and Chukchi Sea seafloor is unconsolidated, one should extrapolate that an even deeper trench would be required. Seemingly unaccounted for in this hypothetical engineering proposal is the fact that the seafloor likely undergoes soil movement. The potential for oil spills or chronic leaks due to pipeline damage from ice keels is extremely high, and these impacts are ignored by the draft EIS. Such pipeline leaks could go undetected for years, seriously impacting endangered species and subsistence, and impairing the health quality of the ecosystem.

019-047

II. PARTICULAR RESOURCES OF CONCERN

A. Water Quality

The analysis of water quality is overly dismissive of the potential for chronic degradation of water quality. There are many potential pollutants, such as drilling mud and process water, that are routinely discharged as a part of offshore oil production. Just because the receiving water is relatively uncontaminated and the discharge may be far offshore, does not mean that the impact will be negligible. Drilling muds contain heavy

019-048

metals that will bioaccumulate in the food chain. Moreover, even localized effects can be significant. See, e.g., Anderson v. Evans, 371 F.3d 475, 491 (9th Cir. 2004). The EIS should give more serious consideration to the effect these contaminants will have on the ecosystem.

019-048

B. Lower Trophic-Level Organisms

The Chukchi Sea benthos generally is richer than other arctic shelves and contains many areas important to benthic grazers such as ducks, walrus, and gray whales. DEIS at III-25. The draft EIS acknowledges that there will be an effect on these organisms, characterizing the effect as “moderate.” DEIS at IV-63. This conclusion, however, may be understated. Given the lack of information about where particularly productive areas are located, the effect could be more than anticipated. Indeed, the draft EIS itself recognizes that pipeline installation would have a “major level of effect.” Id.

019-049

C. Fish

The analysis of fish has many shortcomings and fails to analyze the full potential for offshore activities to impact fish. Fish are the primary prey for many of the marine mammals in the planning area and represent an important subsistence resource. Many important issues are inadequately analyzed. For instance, the draft EIS reveals that gravel causeways will be used at landfall for pipelines. Such causeways previously have had negative impacts on Arctic fishes, but the draft EIS fails to discuss this history.

019-050

The draft EIS fails to reveal the full extent of the impact seismic activities may have on fish. Fish are equipped, like all vertebrates, with thousands of sensory hair cells that vibrate with sound. Some fish species have specialized organs, like the abdominal sac, called a “swim bladder,” which can boost hearing and a “lateral line” of sensory and hair cells that run the length of their bodies. Fish use sound in many of the ways that marine mammals do: to communicate, defend territory, avoid predators, and, in some cases, locate prey.¹

019-051

One series of recent studies showed that fish sustained extensive damage to the hair cells located at the sensory epithelia of the inner ear after they were exposed to impulsive air gun noise.² The damage, described as “blebbing” and “blistering” on the surface of the epithelia, “suggest that hair cells had been ‘ripped’ from the epithelia (immediate mechanical damage) or, alternatively, had ‘exploded’ after exposure (physiological damage).”³ In the context of the DEIS, this study is particularly

019-052

¹ See, e.g., A.N. Popper, Effects of Anthropogenic Sounds on Fishes, 28(10) Fisheries 26-27 (2003); M.C. Hastings & A.N. Popper, Effects of Sound on Fish 19 (2005) (Report to the California Department of Transportation, Contract No. 43A0139) ; D.A. Croll, Marine Vertebrates and Low Frequency Sound—Technical Report for LFA EIS 1-90 (1999).

² McCauley et al., High Intensity Anthropogenic Sound Damages Fish Ears, J. Acoust. Soc. Am. 113 (Jan. 2003).

³ Id. at 640.

significant because the inner ear of the species examined (pink snapper) “is typical” of a number of important fish species found in the Chukchi Sea, including salmon, cod, and haddock.⁴ Fish, unlike mammals, are thought to regenerate hair cells, but the pink snapper in those studies did not appear to recover within approximately two months after exposure, leading researchers to conclude that the damage was permanent.⁵ As researchers have consistently acknowledged, even a short-term loss in hearing can (let alone the virtually permanent damage seen in snapper) will substantially diminish its chance of survival: “[f]ishes with impaired hearing would have reduced fitness, potentially leaving them vulnerable to predators, possibly unable to locate prey, sense their acoustic environment, or, in the case of vocal fishes, unable to communicate acoustically.”⁶

As with marine mammals, sound has also been shown to induce temporary hearing loss in fish. Even at fairly moderate levels, for example, noise from outboard motor engines is capable of temporarily deafening some species of fish, and other sounds have been shown to affect the short-term hearing of a number of other species, including sunfish and tilapia.⁷

Nor is hearing loss the only effect that ocean noise can have on fish. Numerous studies, for example, have noted that fish display marked “alarm” responses to airguns and other forms of anthropogenic noise.⁸ And for years fishermen in various parts of the world have complained about declines in their catch after intense acoustic activities

⁴ Id. at 641

⁵ Id. (some fish in the experimental group sacrificed and examined 58 days after exposure).

⁶ See McCauley et al., High Intensity Anthropogenic Sound Damages Fish Ears, at 641; Popper, Effects of Anthropogenic Sounds at 29.

⁷ A.R. Scholik and H.Y. Yan, Effects of Boat Engine Noise on the Auditory Sensitivity of the Fathead Minnow, *Pimephales promelas*, 63 *Environmental Biology of Fishes* 203-09 (2002); A.R. Scholik and H.Y. Yan, The Effects of Noise on the Auditory Sensitivity of the Bluegill Sunfish, *Lepomis macrochirus*, 133 *Comparative Biochemistry and Physiology Part A* at 43-52 (2002); M.E. Smith, A.S. Kane, & A.N. Popper, Noise-Induced Stress Response and Hearing Loss in Goldfish (*Carassius auratus*), 207 *Journal of Experimental Biology* 427-35 (2003); Popper, Effects of Anthropogenic Sounds at 28.

⁸ See F.R. Knudsen, et al., Awareness reactions and avoidance responses to sound in juveniles Atlantic salmon, *salmo salar L.*, *Journal of Fish Biology* (1992) **40**, 523-534; Robert D. McCauley, et al. Marine Mammal Seismic Surveys: Analysis and Propagation of Air-Gun Signals; and Effects of Air-Gun Exposure on Humpback Whales, Sea Turtles, Fishes and Squid, Curtin University, Centre for Marine Science and Technology (August 1999); C.S. Wardle, et al., Effects of seismic air guns on marine fish, *Continental Shelf Research* **21**, 1005-1027 (2001).

moved into the area, suggesting that noise is seriously altering the behavior of some commercial species.⁹ A group of Norwegian scientists attempted to document these declines in a Barents Sea fishery and found that catch rates of haddock and cod (the latter known for its particular sensitivity to low-frequency sound) plummeted in the vicinity of an airgun survey across a 1600-square-mile area, an area larger than the state of Rhode Island. In another experiment, catch rates of rockfish were similarly shown to decline.¹⁰ Drops in catch rates in these experiments range from 40 to 80 percent.¹¹

A number of studies, including one on non-impulsive noise, have also shown that intense sound can kill eggs, larvae, and fry outright or retard their growth in ways that may hinder their survival later.¹² Increased mortality for fish eggs has been shown to

⁹ See “‘Noisy’ Royal Navy Sonar Blamed for Falling Catches,” Western Morning News, Apr. 22, 2002 (sonar off the U.K.); Percy J. Hayne, President of Gulf Nova Scotia Fleet Planning Board, “Coexistence of the Fishery & Petroleum Industries,” www.elements.nb.ca/theme/fuels/percy/hayne.htm (accessed May 15, 2005) (airguns off Cape Breton); R.D. McCauley, J. Fewtrell, A.J. Duncan, C. Jenner, M.-N. Jenner, J.D. Penrose, R.I.T. Prince, A. Adhitya, J. Murdoch, and K. McCabe, Marine Seismic Surveys: Analysis and Propagation of Air-Gun Signals, and Effects of Air-Gun Exposure on Humpback Whales, Sea Turtles, Fishes, and Squid 185 (2000) (airguns in general).

¹⁰ See A. Engås, S. Løkkeborg, E. Ona, and A.V. Soldal, Effects of Seismic Shooting on Local Abundance and Catch Rates of Cod (*Gadus morhua*) and Haddock (*Melanogrammus aeglefinus*), 53 Canadian Journal of Fisheries and Aquatic Sciences 2238-49 (1996); J.R. Skalski, W.H. Pearson, and C.I. Malme, Effects of Sound from a Geophysical Survey Device on Catch-Per-Unit-Effort in a Hook-and-Line Fishery for Rockfish (*Sebastes spp.*), 49 Canadian Journal of Fisheries and Aquatic Sciences 1357-65 (1992). See also S. Løkkeborg and A.V. Soldal, The Influence of Seismic Exploration with Airguns on Cod (*Gadus morhua*) Behaviour and Catch Rates, 196 ICES Marine Science Symposium 62-67 (1993).

¹¹ Id.

¹² See, e.g., C. Booman, J. Dalen, H. Leivestad, A. Levsen, T. van der Meeren, and K. Toklum, Effekter av luftkanonskyting på egg, larver og yngel (Effects from Airgun Shooting on Eggs, Larvae, and Fry), 3 Fisken og Havet 1-83 (1996) (Norwegian with English summary); J. Dalen and G.M. Knutsen, Scaring Effects on Fish and Harmful Effects on Eggs, Larvae and Fry by Offshore Seismic Explorations, in H.M. Merklinger, Progress in Underwater Acoustics 93-102 (1987); A. Banner and M. Hyatt, Effects of Noise on Eggs and Larvae of Two Estuarine Fishes, 1 Transactions of the American Fisheries Society 134-36 (1973); L.P. Kostyuchenko, Effect of Elastic Waves Generated in Marine Seismic Prospecting on Fish

occur at distances of 5 meters from an airgun source; mortality rates approaching 50 percent affected yolksac larvae at distances of 2 to 3 meters.¹³ Also, larvae in at least some species are known to use sound in selecting and orienting toward settlement sites.¹⁴ Acoustic disruption at that stage of development could have significant consequences on effected species.¹⁵

The DEIS Underestimates Potential Impacts To Fish.

Although the DEIS acknowledges the potential for seismic survey operations to cause significant harm to fish, it contains unsupported assertions that no adverse impacts are expected. MMS, however, fails to provide any support for these assertions, which are sometimes contradicted by MMS's own statements. This calls into question MMS's conclusions. It also suggests that the strong disagreements between MMS's own fish analyst and MMS's managers over the analysis in the 2006 Programmatic Environmental Assessment continue in the DEIS.

019-053

For example, the DEIS notes that the noise from seismic survey airguns can cause significant behavioral changes in fish and fish stocks, particularly when multiple sources are proposed. In such cases, the "[c]oncurrent seismic surveys may facilitate the stranding of some schooling or aggregated arctic fishes onto coastal or insular beaches in the proposed sale area." DEIS at IV-78. Further, the DEIS explains that studies have shown that "[p]elagic fish-catch rates and local abundance were reduced within 33 km of the airgun array for at least 5 days after shooting," indicating that whether and when the fish returned to the area is unknown. *Id.* at IV-76 (emphasis added).

019-054

MMS nonetheless asserts that the effects from such concurrent seismic surveys "most likely would be temporary and localized, and only a moderate level of disturbance or displacement would occur." DEIS at IV-77. This conclusion appears to be based on MMS's assumption that the "3D/2D seismic surveys typically cover a relatively small area and only stay in a particular area for hours, thereby posing somewhat transient disturbances." *Id.* However, the surveys can cover large areas and may last for five months.

019-055

As indicated by this past summer's operations, 2D and 3D surveys in the Chukchi Sea can last 5 months or longer, from July (assuming MMS prohibits operations in June) through November (weather permitting). *See* DEIS at II-4; II-28. The 3D surveys are conducted 24 hours a day, weather permitting. *Id.* at IV-10. Over a 20- to 30-day period, the surveys can cover a 200 square mile area. *Id.* Thus, over 5 five months, they could cover at least 1,000 square miles. The 2D surveys operate in a similar fashion, but they can cover even larger areas. *Id.* at IV-10 to IV-11. This past summer, for example, a

019-056

Eggs on the Black Sea, 9 Hydrobiology Journal 45-48 (1973).

¹³ Booman et al., Effector av luftkanonskyting på egg, larver og yngel at 1-83.

¹⁴ S.D. Simpson, M. Meekan, J. Montgomery, R. McCauley, R., and A. Jeffs, Homeward Sound, 308 Science 221 (2005).

¹⁵ Popper, Effects of Anthropogenic Sounds at 27.

single 2D surveyor expected to survey over 3,000 miles. *See* 71 Fed. Reg. 49,418, 49,419 (Aug. 23, 2006). It thus is not clear how MMS can claim that these the surveys cover “small” areas and are “transient” in nature.

Similarly, MMS dismisses potential fish strandings from concurrent seismic surveys, explaining that “[g]iven that seismic surveys would be operating at least 17 km (10 mi) from shore, it is improbable that this would occur. A mitigation measure to separate concurrent or coincidental seismic survey operations (Sec. II.B.4) would largely alleviate all risk of fish strandings.” IV-78. However, as noted above, scientific studies observed that fish catch-rates and abundance were reduced at 33 km from the seismic survey source. Not only is this greater than 17 km, but it should be noted that the studies on which this number is based (Engås et al. (1996); Løkkeborg and Soldal (1993)) did not conclude that a 33 km radius around an air gun array is the outer-most extent of a potential fish displacement area. Rather, these studies simply did not survey catch rates beyond 33 km. It is therefore likely that the distance where displacement would occur is even greater.

019-057

Finally, in a few instances, the DEIS misstates the conclusion of relevant studies or makes unwarranted (and unconservative) extrapolations based upon others. As a result, the DEIS’s conclusion that the potential seismic surveys will have only insignificant impacts is dubious, at best.

For example, the DEIS states that “sound sources that have resulted in documented physiological damage and mortality of adult, juvenile, and larval fish have all been at or above 180 dB re 1 μ Pa (Turnpenny and Nedwell, 1994).” DEIS at IV-75. This conclusion ignores McCauley et al. (2000 and 2003), which found physiological damage (likely permanent) to the hair cells of the inner ears of adult fish. Although McCauley et al. exposed fish to a maximum sound level of 182 dB re 1 mPa².s (193 dB re 1 mPa), the study calculates when potentially damaging displacement of the hair cells began, concluding that “[t]he point at which the maximum displacement begins to rapidly increase lies between 155-160 dB re 1 mPa².s” or, using McCauley’s assumptions, approximately 166 - 171 re 1 μ Pa for a single pulse (see Figure 1, taken from McCauley et al. (2000)). Thus, the DEIS’s implicit conclusion of that physiological damage or mortality to adult or juvenile fish will not be caused at levels below 180 dB re 1 μ Pa is unwarranted.

019-058

Similarly, when discussing the widespread reductions in catch rates recorded by Engås, et al. (1996) and Løkkeborg and Soldal, (1993), the DEIS states that the local abundance “were reduced within 33 km of the airgun array.” DEIS at IV-76. As noted above, this is an unconservative assumption that is not supported by either study. Neither Engås et al. 1996 nor Løkkeborg and Soldal 1993 conclude that a 33 km radius around an air gun array is the outer-most extent of a potential fish displacement area, as the DEIS seems to assume. Given the dramatic reduction in catch rates that resulted from these studies—as high as 80% in one survey—MMS should assume that the use of air gun arrays may exclude fish over greater distances.

019-059

Fish play an important role in the Chukchi Sea ecosystem. They serve as prey for larger marine mammals and subsistence for Native Alaskans. Therefore, impacts to fish may have cascading effects. As the DEIS notes, if “seismic surveys cause pinnipeds’ prey to become less accessible, either because they move out of an area or become more difficult to catch, than pinniped distributions and feeding rates are likely to be affected.” DEIS at IV-213. Consequently, it is imperative that MMS adequately assess potential impacts on fish and accurately explain the bases for its conclusions to ensure that the potential impacts are not underestimated.

Moreover, MMS has failed to make any attempt to analyze the cumulative impacts on fish from seismic survey operations. MMS baldly asserts that the “cumulative effect of seismic exploration on fish resources probably would be minor,” but explains that “the effects of specific seismic proposals will be assessed later.” V-21. NEPA requires MMS to consider those impacts now. Once the leases are sold, the lease holders may conduct ancillary activities, including seismic surveys. In addition, it is likely that the oil industry will conduct surveys each year for the next several years. While MMS is preparing another EIS for those activities, NEPA requires MMS to consider them as cumulative impacts in connection with this federal action, *i.e.*, the lease sale.

019-060

D. Threatened and Endangered Species

I. Marine Mammals

Many issues of concern were not adequately addressed in the DEIS. See Marz, S. 2006, Ice dependent marine mammals: A survey of background information and issues of concern regarding: ice seals, Pacific Walrus, polar bears and bowhead whales. Anchorage: Alaska Oceans Program. 127 pp.

Bowhead

The potential impacts to the population of the bowhead are underestimated in the primary conclusions of the draft EIS even though in several places the MMS admits that there are population risks. That the Chukchi/Beaufort Sea population is the only “robust” and recovering population of bowhead world-wide is acknowledged by the draft EIS. The draft EIS states, “The population that could be exposed to the Proposed Action is important to the long-term viability of the species as a whole.” at IV-117. Yet, the population effects that could and are likely to come with bioaccumulation and biomagnification are seriously minimized or ignored. A conclusion that population effects are “unlikely” cannot be justified or substantiated. Instead, given the reduction of killer whale population in Prince William Sound and in the Puget Sound, the MMS should conclude that population level effects are likely to occur with the aggregate leasing plans proposed in the 5-Year Plan.

019-061

Oil Spills and Bowhead

The draft EIS states, “Effects of a large oil spill in Federal or State waters most likely would result in nonlethal temporary or permanent effects.” DEIS at V-63. Not only is there no substantiation for this conclusion, the draft EIS immediately contradicts the conclusion with a subsequent statement asserting that there is not enough information to

019-062

even formulate such a conclusion: “However, we reiterate that due to the limitations of available information and due to the limitations inherent in the study of baleen whales, there is uncertainty about the range of potential effects of a large spill on bowhead whales, especially if a large aggregation of females with calves were to be contacted with fresh oil.” Id. The lack of the information necessary to make such a conclusion is reiterated elsewhere in the draft EIS, “There are no data on cetaceans adequate to evaluate the probability of such effects [whale mortality].” DEIS at IV-177. The reiteration of faulty conclusions is particularly concerning as they occur repeatedly in the Executive Summary and in the Cumulative Impact Summary in the document - both of which will be relied on by the Secretary of the Interior for his decision on the Chukchi 193 leasing proposal.

019-062

The conclusion that the effects of a large spill would impact bowhead with merely “non-lethal” impacts does not follow the draft EIS’s discussion and citation of oil spill impacts. MMS clearly identifies numerous concerns regarding the impact of oil on marine wildlife including whales and summarizes the NMFS’ conclusion that while “leasing and exploration are not likely to jeopardize the continued existence of the bowhead whale....potential additive effects of oil and gas activities associated with exploration, production, and transportation throughout the Chukchi and Beaufort seas is of concern.” at IV-178.

019-063

The DEIS fails to adequately inform its discussion of potential lethal impacts to cetacean with oil spills by down-playing the studies of environmental impacts to whales with EVOS. The impacts to Orca whales following EVOS is minimized in the draft EIS. In MMS’s discussion of potential whale mortality or population level effects on bowhead, the MMS falsely concludes that there are “limitations of available information” and “no data on cetaceans adequate to evaluate the probability of such effects.” This conclusion explicitly contradicts findings from EVOS. The statement also contradicts studies cited in the draft EIS regarding oil spills near Santa Barbara. DEIS at IV-228. Post EVOS NOAA findings report that, “After exceptionally high mortality of 20% between September 1988 and spring 1989 and another 20% during the following year in the AB pod of resident (fish-eating) killer whales that had been observed to swim through the spill, losses of adult females from these matriarchially organized family groups led to suppressed reproduction (2). In another pod (AT1) of transient (mammal-eating) killer whales, the 40% loss during the spill is leading to likely disintegration” (Peterson, C., et. al. Science, Vol 302). Matkin also has documented the loss of killer whales following the EVOS. The draft EIS makes minor reference to Matkin’s research and under-represents findings from EVOS about cetacean impacts from oil spills. (See Matkin, C. EVOS Restoration Project, Annual Report, 1999).

019-064

In addition, impacts to bowhead whale due to direct contact with oil are seriously underestimated. The draft EIS’s conclusion that oil would have non-lethal impacts on bowhead is undermined by the statement elsewhere in the draft EIS that “bowhead whale are, over some of their migratory pathway, relatively fixed in at least part of the ‘road’ they travel during spring migration.” DEIS at IV-117. Thus, the whales would likely not move away from the spilled oil. Nor could it be concluded that oil contact would have

019-065

only minor impacts on bowhead whale. Extensive exposure could cause lethal impacts, particularly due to the epidermal make-up of the bowhead. MMS states that, “Although oil is unlikely to adhere to smooth skin, it may stick to rough areas on the surface [on bowhead] (Henk and Mullan, 1997).” At IV-229. The draft EIS fails to discuss further findings of Henk and Mullan and does not discuss the implications of significant oil contact with the roughened skin of the bowhead. MMS cites an MMS study by Albert (1981) that concludes oil contact “...could irritate the skin, especially the eroded areas, and interfere with information the animal receives through the tactile hairs. Because we do not know how these hairs work, we cannot assess how any damage to them might affect whales.” Id.

019-065

The 1994 National Research Center science review found bowhead whales to have “dozens to hundreds of roughened areas . . . of skin surface. . . . The great increase in exposed surface (microrelief) of these roughened areas increases the area to which oil can adhere...it is likely that oil contact would be harmful.” NRC at 102. In addition, the bowhead whale eye area is another area that oil can penetrate. “The conjunctival sac associated with the eye is . . . extensive. . . . Thus a large surface exists for an irritant (such as spilled oil) to contact sensitive visual structures.” NRC at 102. Given the above potential sources for oil adherence to skin and ability to contaminate past the dermal wall, the bowhead may be impacted to a greater degree than estimated by the draft EIS.

019-066

Cumulative Effects on Bowhead

As discussed above, the draft EIS fails to adequately assess the cumulative effects of leasing in the Chukchi by ignoring known future projects that are currently in the planning stages, primarily the extensive leasing proposed for the Beaufort Sea. The DEIS does provide ample evidence that there is particular concern for deleterious impacts to bowhead given their long life-spans. Infrastructure, chronic pollution and noise pose serious risks to an animal that can live up to 100 years. In addition, the bowhead is known to almost exclusively use the Chukchi and Beaufort Seas. They do not migrate out of the region for any significant period and when they do, it is only to the Bering Sea. Unlike many whales that traverse several oceans, the bowhead would be forced to survive, given proposed leasing plans, in an environment where at least half of its range has extensive offshore development.

019-067

There is substantial research on bioaccumulation, bioconcentration and biomagnification in whales, pinnipeds and other marine wildlife. Much of this research has been performed in the Puget Sound where significant development takes place in a marine environment. See Grant, SCH, et. al., Can. Tech. Rep. Fish. Aquat. Sci., no. 2412, 2002; Hayteas, DL, et. al., Marine Pollution Bulletin, Vol. 40, No. 6 2000; Hall, JE, Paper “Bioconcentration, Bioaccumulation, and Biomagnification in Puget Sound Biota,” UofW Tacoma, 2002. Hall’s paper summarizes the results of numerous studies regarding bioaccumulation and states, “Research has shown that certain chemicals have the ability to be bioconcentrated in organisms directly from the water, and bioaccumulated and biomagnified within food chains, causing higher trophic organisms to become contaminated with higher concentrations of chemical contaminants than their prey....” World-wide, both toothed and baleen whales are showing bioaccumulation of chemicals.

019-068

This is particularly true in the Arctic. The DEIS fails to integrate the impacts of global chemical pollution with the impacts from the proposed lease sales. Cumulative impact discussion in the DEIS ignores the global nature of pollution and how that will exacerbate with the proposed development.

019-068

Mitigation for Bowhead Impacts

Mitigation proposals are insufficient to prevent long-term impacts to bowhead. The MMS acknowledges significant lack of data on how the bowhead use the Chukchi Sea for feeding, calving and mating. Yet, the whale's presence in the Chukchi for significant parts of the year is well-documented. Without basic data about bowhead use of the Chukchi, mitigation proposals are rendered useless.

019-069

In addition, mitigation measures such as those contained in MMPA incidental take authorizations do nothing to reduce population level effects. Mitigation measures are acknowledged repeatedly to be unpredictable in their effectiveness. In addition, the lack of an enforcement protocol renders these mitigation measures ineffective.

019-070

Humpback, Gray, Minke and Fin Whales

The humpback and fin are endangered species, and the minke is listed as threatened. The Western North Pacific gray whale remains endangered, while the Eastern North Pacific gray whale was delisted in 1994; it is the Eastern stock that utilizes the Chukchi Sea. Although the Eastern Gray is delisted, the importance of its protection should not be underestimated. There is significant lack of data about the distribution of fin, minke and humpback whales in the Chukchi. Yet, there is increased evidence that with climate change, more of these whales are moving into the area.

019-071

The draft EIS incorrectly discounts the potential for offshore development to impact these whales, stating, "we conclude it is unlikely there would be adverse effects from noise and disturbance associated with oil and gas seismic-survey activities in the Chukchi Sea evaluation area on fin or humpback whales because of the distance they are expected to be from such activities." DEIS at IV-150. This conclusion contradicts other findings in the DEIS that identify impacts from noise. Additionally, this conclusion contradicts the 5-Year Plan DEIS and the Chukchi Lease Sale 193 draft EIS as both assume that OCS activity may occur in deeper waters away from the shore. At the COMIDA meetings in November 2006, the Hannah Shoal region was presented as the focus and central area of interest for leasing. Clearly, with the location of humpback and fin whales away from the shorelines it should be assumed that impacts could in fact occur to these whales and substantially more discussion should be included of those impacts.

019-072

The DEIS notes the potential for vessel traffic impacts as it is likely that the whales will leave the Chukchi Sea region once the pack ice begins to move into the region. Vessels associated with development are likely to do the same. Increased traffic impacts are likely particularly in the narrow passage-way of the Bering Strait. The laws cited by the draft EIS are not adequate mitigation measures because they cannot be enforced in a meaningful way.

019-073

The DEIS states, “Neither fin whales nor humpback whales are known to typically inhabit the proposed Chukchi Sea Sale 193 area.” DEIS at IV-180. However, local reports and agency scientists (NSB, COMIDA Meetings, Nov. 2006) document increased sightings of humpback, fin and gray whales. At the Chukchi COMIDA meetings it was noted that a current inventory of whales that utilize the Chukchi Sea is needed.

019-074

The draft EIS’s discussion of oil impacts on fin, humpback and gray whales is problematic due to the vague conclusions asserted. In fact, much of the discussion of impacts contradicts other statements within the DEIS, leading to significant inconsistencies throughout the analysis. For example, while the draft EIS cites observations of whales behaving normally in oiled waters and seems to suggest that whales are relatively unaffected by contact with oil, it also cites research that undermines this conclusion. For example the draft EIS discusses the Santa Barbara spill which killed numerous humpback whales. The draft EIS also cites Matkin et al. (1994) who, “reported that killer whales had the potential to contact or consume oil, because they did not avoid oil or avoid surfacing in slicks.” IV-226. Thus, a correct conclusion by MMS should be that these whales may not be able to detect oil in the water or know how to avoid it. Additionally, because of the lack of study of these whales it would be virtually impossible to know what the effects of that oil contact would be because the animals could not be kept track of to determine their fate. The draft EIS fails to make accurate conclusions about impacts to these whales and lacks enough significant data to be able to establish impacts to fin and humpback whales.

019-075

Gray whales are particularly at risk with the proposed development, yet the draft EIS fails to accurately document those impacts. While the draft EIS provides some information about gray whale use of the area it fails to acknowledge the significance of this habitat and its overlap with seismic, drilling, and other operations.

Currently, gray whales are believed to congregate along offshore shoals in the northern Bering and Chukchi seas for feeding during the summer months. Larger aggregations of feeding whales have been reported at these shoals. It is likely that shallow coastal and offshore-shoal areas provide habitat rich in gray whale prey, and their association and congregation in larger numbers with offshore shoals in the northern Chukchi Sea may indicate that these are important feeding areas for the expanding population (Moore and DeMaster, 1997).
DEIS at IV-219.

019-076

One of the above cited highly used shoals is the Hannah Shoal in the Northeast corner of the leasing area, just off of the Barrow point. This is also the central location expected to be developed by industry. However, the DEIS fails to mention this fact at all or analyze the impact to gray whales of the loss of this primary feeding area. With Hannah Shoal development, gray whale impacts are bound to occur, particularly given the extensive pipeline infrastructure planned for the area.

Both gray whales and walrus are at great risk from pipeline development in the Hannah Shoal area (COMIDA Meetings, Nov. 2006). Both marine mammals are bottom feeders that rely on benthic species populations. The impact from pipeline infrastructure displacement is greatly minimized by the draft EIS (see Walrus section). The impact to gray whales from infrastructure disturbance to feeding area may result in movement away from the area. If the whales continue to feed in the area, a greater risk is assumed with the impacts of bioaccumulation. For example, "drilling muds probably would not kill benthic organisms, but any heavy metals in them might be accumulated by benthic organisms, adding to the body burden in vertebrate consumers." DEIS at IV-65.

019-077

The Hannah Shoal area is known to have annual ice keels (deep gouges into the sea floor). DEIS at IV-65. The impact of these on pipelines are not discussed in the DEIS. There is mention of the possibility of chronic, undetected oil leaks, but this concept is not integrated into any of the other discussions of impacts from oil spills or discharges. Undetected leaks from underwater pipelines could impact gray whales by contaminating the benthic communities they feed on and subsequently accumulating in the whale. Additionally, if the whales continue to choose to feed in this area, then traffic and other impacts would be realistic.

019-078

North Pacific Right Whale

The right whale is the most endangered whale with a population perhaps as low as 100 individuals. The Chukchi provides potential habitat for this whale. According to NMFS, "The North Pacific right whale (*Eubalaena japonica*), historically ranging in the North Pacific Ocean from latitudes 70° N to 20° N;" 69 Fed. Reg. 17560 at 17561; see Hideo Omura et al., *Black Right Whales in the North Pacific*, 13 SCI. REP. WHALES RES. INST. 1, 44 (1969). Moreover, North Slope Natives have reported seeing right whales in the Chukchi. Testimony was provided on this at the public hearing in Point Hope. Given this species perilous status, an activity that could potentially impact even one individual, or impact current or potential habitat, should have been analyzed in the EIS.

019-079

2. Marine and Coastal Birds

Kittlitz's murrelets

The DEIS, by way of the Biological Evaluation included as Appendix C, briefly addresses potential impacts to Kittlitz's murrelet, a candidate species. Because Kittlitz's murrelets spend much of their time on the water, offshore oil spills may prove devastating to this species. Unless MMS can establish the efficacy of some method to promptly contain and remove spilled oil throughout the year, the EIS should conclude that such spills pose a considerable threat to Kittlitz's murrelets.

019-080

Spectacled eiders and Steller's eiders

Because MMS has concluded that without comprehensive mitigation measures, Lease Sale 193 is likely to adversely affect spectacled eiders and Steller's eiders, and is

019-081

likely to adversely modify the Ledyard Bay Critical Habitat area, Fish and Wildlife Service (FWS) must prepare a Biological Opinion pursuant to Section 7(b) of the ESA. The mitigation measures identified by MMS are wholly inadequate to address the threats posed by Lease Sale 193 and subsequent development. Absent a blanket prohibition on any and all activities within the Ledyard Bay Critical Habitat Area, FWS must find that Lease Sale 193 will adversely modify designated critical habitat. Moreover, without a method for effectively responding to oil spills that occur during the broken-ice period, FWS cannot reasonably find that Lease Sale 193 is not likely to jeopardize the continued existence of threatened populations of either spectacled eiders or Steller's eiders.

019-081

MMS's failure to discuss impacts to spectacled eiders and Steller's eiders in the text of the DEIS itself violates NEPA. MMS cannot satisfy its obligations pursuant to NEPA by preparing a document that purports to serve as both a Biological Assessment, under Section 7(c) of the ESA, and a portion of an EIS. MMS cannot relegate this discussion of important environmental impacts to an appendix where it may escape the scrutiny of the public and the decision maker. Even if we accepted that the Biological Evaluation satisfies, as a matter of form, MMS's obligation, pursuant to NEPA, to evaluate environmental impacts to ESA-listed eiders under NEPA (which we do not), the Biological Evaluation is flawed in several respects. In addition to its many substantive deficiencies, which are described below, the Biological Evaluation does not include three of the figures listed in its table of contents, and important to any critical independent evaluation of the conclusions reached by MMS.

019-082

As proposed, Lease Sale 193 actually encompasses portions of the Ledyard Bay Critical Habitat Area in violation of the ESA.

019-083

Even assuming that it qualifies as a portion of the DEIS, the Biological Evaluation presents an insufficient analysis of cumulative impacts.

The majority of both ESA-listed populations of eiders utilize the Arctic Coastal Plain for nesting, including the National Petroleum Reserve-Alaska (NPR-A). This is the location of the proposed transport pipeline route for Chukchi Sea oil to Trans-Alaska Pipeline Pump Station 1 described in the DEIS. With limited exceptions, the Bureau of Land Management has opened the entire NPR-A to oil and gas leasing. Indeed, winter exploration in the vicinity of Peard Bay is imminent. Onshore activities occurring pursuant to lease sales and existing oil leases in the NPR-A may have considerable impacts to both spectacled eiders and Steller's eiders. Indeed, FWS's biological opinion for the Northwest NPR-A expressed serious concerns about the effects of oil activity on eiders and recommended that the high density nesting areas be put off limits to leasing. BLM rejected this suggestion and many of these areas have been leased. Existing leases and future lease sales in the Beaufort Sea may adversely affect both spectacled eiders and Steller's eiders. Proposed offshore leasing in the Bering Sea may adversely affect Steller's eiders. Notwithstanding any future consultation under the ESA, such impacts must be incorporated into the cumulative impacts analysis for Lease Sale 193. MMS's failure to discuss and substantively evaluate the cumulative impacts of oil and gas leasing and development in adjacent onshore and offshore environments violates NEPA.

019-084

The Biological Evaluation acknowledges that global warming will “likely have significant stochastic impacts on Steller’s eiders,” but inexplicably declines to evaluate these anticipated impacts in any further detail. DEIS App. C at 59. Global warming has already modified, and will continue to alter, the Arctic landscape utilized by both spectacled eiders and Steller’s eiders. The EIS should analyze in detail the anticipated effects of global warming on the molting, staging, foraging, nesting and migration habitats and behavior of both spectacled eiders and Steller’s eiders.

019-085

The Biological Evaluation misrepresents the risk of an oil spill and neglects to discuss and evaluate critical aspects of the potential threat that spilled oil poses to eiders.

019-086

In its discussion of the risk of an oil spill having a population-level impact on ESA-listed eiders, the Biological Evaluation impermissibly departs from the fundamental assumption underlying MMS’s analysis of the environmental impacts of Lease Sale 193: that the lease sale will result in the development of a single commercially viable field that will produce one billion barrels of oil. After reporting probabilities ranging up to 8% that spilled oil will contaminate spectacled eider critical habitat in Ledyard Bay or any of four Spring Lead Systems, the Biological Evaluation attempts to discount the significance of this risk by suggesting that “the probability of a successful commercial find is in the range of 10%, indicating that production is unlikely.” DEIS App. C at 58. MMS may not undercut the assumption on which its entire NEPA analysis rests in order to minimize the considerable risk that spilled oil poses to spectacled eiders and Steller’s eiders.

019-087

Moreover, the Biological Evaluation impermissibly segments the risk of spilled oil affecting spectacled eider and Steller’s eider populations. The EIS should present, as a single number, the combined probability of spilled oil contacting any one of the four Spring Lead Systems or the Ledyard Bay critical habitat area. The probability of such an outcome would approach 16%. See DEIS App. C at 56 (reporting discrete probabilities of oil contaminating any one important area, the sums of which are as high as 16%). Moreover, the EIS should clearly indicate that oil spilled offshore in the fall or winter could not feasibly be removed or contained but would persist in the marine environment at least through the Spring of the following year and into the summer.

019-088

The Biological Evaluation anticipates 25 “small-volume” oil spills during the life of production, or 750 to 1,000 such spills overall, totaling between 12,906 and 17,210 gallons of spilled oil. DEIS App. C at 57; see also DEIS at IV-14.¹⁶ Sea-ice and inclement weather will preclude effective removal or containment of the large majority of this spilled oil. Yet, the Biological Evaluation avoids analyzing the impacts of these anticipated oil spills in any detail, invoking uncertainty concerning the amount of this oil that will contact spectacled eiders or Steller’s eiders. The EIS should analyze the threat

019-089

¹⁶ The Biological Evaluation reports that the production period will last 25 years, while the DEIS indicates that the production period will last between 30 and 40 years. The EIS and oil spill analysis should operate on the same set of assumptions concerning the duration of oil production. Thirty to forty years is a more realistic assumption.

posed by small oil spills. Moreover, the EIS should clearly indicate that if spilled oil migrated into the vicinity of Ledyard Bay, then response activities would adversely affect both spectacled eiders (who occupy this area during the majority of the open water season) and spectacled eider critical habitat.

019-089

The Biological Evaluation fails to discuss or evaluate the possibility that oil spilled from an onshore facility or pipeline will affect the nesting habitat of spectacled eiders and Steller's eiders and contribute to these species' decline.

019-090

Before proceeding with any offshore lease sale in the Chukchi Sea, MMS should establish that an effective method exists for containing and removing oil from marine environments during the broken-ice season. In addition, MMS should restrict leasing and any related activities in proximity to areas that are of greatest importance to spectacled eiders and Steller's eiders, including the Ledyard Bay Critical Habitat area and Peard Bay.

019-091

The Biological Evaluation does not include any alternatives that would avoid impacts to ESA-listed eiders and spectacled eider critical habitat. The EIS should consider such alternatives.

019-092

The Biological Evaluation contains several arbitrary assertions, assumptions and analytical gaps that undermine its evaluation of environmental impacts.

019-093

The Biological Evaluation makes a critical assumption about the location of an onshore facility (i.e., that it will be constructed between Point Belcher and Icy Cape), but it neglects to provide any basis or support for this assumption. DEIS App. C at 8. This industrial facility could just as easily be located between Cape Lisburne and Icy Cape, adjacent to spectacled eider critical habitat, which would then be subjected to frequent over flights and vessel traffic. MMS must justify its assumption about the location of the onshore facility. Regardless of any such justification, however, the EIS should clearly identify those portions of the lease sale that, if developed, would likely lead to construction of an underwater pipeline through the Ledyard Bay Critical Habitat area and an onshore facility abutting it. MMS should complete similar analysis for near shore coastal areas that are important to Steller's eiders, such as Peard Bay.

019-094

In evaluating the impacts to nesting habitat from the construction of an onshore facility and pipeline, MMS erroneously assumes that spectacled eider and Steller's eider nests are evenly distributed throughout the Arctic Coastal Plain. This arbitrary assumption is contradicted by several of the studies referenced by MMS in the Biological Evaluation. The EIS should evaluate the potential range of impact to ESA-listed eiders depending on the location of an onshore facility and pipeline. Moreover, the EIS should evaluate an alternative that specifically restricts the location of any onshore facility and pipeline so as to minimize impacts to the most densely utilized eider nesting areas.

019-095

The Biological Evaluation arbitrarily declines to discuss the indirect impact to spectacled eiders of increased access to their nesting habitat as a result of the construction

019-096

of a road adjacent to an onshore pipeline. Notwithstanding any restrictions on the use of lead shot, increased access for waterfowl hunters could increase spectacled eiders' exposure to lead shot, which has been identified as a major cause of the decline of the species. The EIS and BiOp should address this threat explicitly.

019-096

Although it identifies predation as a principal cause of nesting failure for spectacled eiders, the Biological Evaluation arbitrarily fails to explicitly state that predation is also a principal cause of nesting failure and mortality for Steller's eiders. *See* DEIS App. C at 28. The EIS and BiOp should clarify that predation poses a severe threat to the nesting success and survival of both spectacled eiders and Steller's eiders.

019-097

The Biological Evaluation arbitrarily assumes that future mitigation measures to control predator populations—in the form of best management practices—will completely neutralize the threat to spectacled eiders and Steller's eiders posed by the increases in predator populations that have historically accompanied industrial development on the Arctic Coastal Plain. DEIS App. C at 50. Without knowing what these mitigation measures consist of, or even whether any such measures will ever be implemented, MMS should not assume that they will be completely effective in reducing the threat of predation.

019-098

The Biological Evaluation arbitrarily assumes that prohibitions on seismic activity within the Ledyard Bay Critical Habitat Area will render exploration and development within this area impractical. Rather than make this spurious assumption, MMS should simply prohibit any activities within or immediately adjacent to the Ledyard Bay Critical Habitat Area.

019-099

The Biological Evaluation arbitrarily declines to analyze possible impacts to non-breeding male spectacled eiders that molt in Ledyard Bay, in contravention of NEPA and the ESA.

019-100

The Biological Evaluation asserts that spectacled eiders concentrate in waters from 12 to 30 miles offshore in Ledyard Bay. DEIS App. C at 37. This arbitrary assertion is not supported by the article that MMS cites.

019-101

Similarly, the Biological Evaluation suggests that a 1,500 foot elevation restriction on flights over Ledyard Bay will minimize disturbance to eiders from aircraft, but fails to cite any evidence of the efficacy of such an elevation restriction. DEIS App. C at 39. Even if such over flight restrictions will prove effective, their duration and scope are too restricted. Such restrictions should begin in late May, should extend until spectacled eiders have all left Ledyard Bay, and should apply during all phases of oil and gas development, not simply during seismic exploration.

019-102

The Biological Evaluation's discussion of and conclusions regarding the potential for fatal collisions with aircraft, vessels and structures is fatally flawed. MMS arbitrarily adopts FWS's prior estimate of mortality from collisions with oil and gas structures in the *Beaufort Sea*, and concludes that this estimate proves sufficiently accurate in the *Chukchi*

019-103

Sea. DEIS App. C at 46. These different areas are utilized by eiders with differing frequency and intensity and for different purposes. Migration corridors along the coast of the Chukchi and migration paths that cross the Chukchi to Siberia warrant particular attention. The EIS and Biological Opinion should independently evaluate and estimate the risk of mortality from collisions with industrial aircraft, vessels and structures in the Chukchi Sea.

019-104

The Biological Evaluation arbitrarily assumes that impacts of seismic activities on ESA-listed eiders will be minimal, despite a paucity of dearth of evidence to support this assumption. DEIS App. C at 40-41. While we would prefer that MMS prohibit all seismic activity in the Chukchi Sea, if MMS is going to permit them, it should require that operators who conduct such seismic activities also undertake studies to discover the impacts of seismic air guns to ESA-listed eiders.

019-105

These arbitrary assertions, assumptions and analytical gaps singly and collectively undermine MMS's analysis of the potential impacts to spectacled eiders and Steller's eiders in violation of NEPA, the APA, and the ESA.

019-106

The Biological Evaluation impermissibly relies on deferred, ineffective, non-mandatory or insufficiently extensive mitigation measures to reduce identified impacts.

019-107

The Biological Evaluation suggests that lighting restrictions will reduce fatal collisions with vessels and structures, but the identified stipulations do not make such restrictions mandatory. *See* DEIS App. C at 45. Likewise, the Biological Evaluation identifies several mitigation measures that MMS elects not to impose at this juncture—including altitude restrictions on flights over Ledyard Bay during later phases of development, restrictions on vessel activity within Ledyard Bay during later phases of development, and the use of best management practices to minimize predation, among others. Yet, MMS fails to thoroughly and transparently assess the environmental consequences of post-leasing activities in the absence of such mitigation measures. As previously mentioned, the Biological Evaluation does not establish the efficacy of the limited over flight altitude restriction that it imposes on seismic activities. Even presuming its effectiveness, arbitrary restrictions on the geographic scope and duration of this altitude restriction will limit its ability to reduce impacts to ESA-listed eiders.

019-108

The Biological Evaluation inexplicably declines to impose restrictions on the location of an onshore facility, an underwater pipeline, or an onshore pipeline. MMS should do so in order to protect the habitat of ESA-listed eiders.

019-109

E. Birds

The proposed lease area is within the migratory path of large populations of birds that summer in the Arctic. These birds are threatened by many aspects of the offshore leasing. Oil development can disturb marine birds. Offshore facilities create hazards that will lead to collisions.

019-110

F. Marine Mammals

The lease sale appears to contravene the basic purpose of the MMPA, which is to prevent marine mammal populations from diminishing “below their optimal sustainable population.” 16 U.S.C. § 1361(2). Because the affected populations of walrus and polar bears are already declining, any additive impacts to the populations will interfere with subsistence harvest.

019-111

Polar Bears

The Status of Affected Polar Bear Populations:

The Lease Sale 193 Draft EIS describes the Chukchi/Bering Seas (“CBS”) polar bear population as being “in peril.” DEIS at III-81. The available evidence, including declining subsistence harvests, indicates that the CBS polar bear population is “already in decline” and that existing levels of legal harvest and poaching in Russia alone could halve the CBS population in less than twenty years. See DEIS at IV-240, III-81.

019-112

As the DEIS recognizes, anthropogenic global warming has already begun to fundamentally alter the Arctic environment. Along with over harvest of CBS polar bears, global warming will synergistically interact with the impacts of increasing oil and gas activities in the Arctic marine and coastal environments to adversely affect the CBS and Southern Beaufort Sea (“SBS”) polar bear populations into the foreseeable future. Accordingly, the DEIS concludes that “[a]ny bears lost to a large oil spill . . . likely would exceed sustainable levels, affecting both productivity and subsistence use, and potentially causing a decline in the bear population.” DEIS at IV-239. This conclusion applies equally to bears lost due to any activity related to oil and gas development. The DEIS should explicitly acknowledge this.

019-113

The DEIS presents incomplete and inaccurate information concerning affected polar bear populations. First, the DEIS overstates both the population estimate and the population growth rate for the SBS polar bear population. Compare DEIS at III-82 with Eric Regehr, et al., Polar bear population status in the southern Beaufort Sea: U.S. Geological Survey Open-File Report 2006-1337, 12 (2006). In addition, the DEIS assumes unrealistic survival rates for polar bear cubs of the year and yearlings, and consequently overstates the rate of recruitment. See DEIS at III-78, IV-240. Researchers recently estimated a survival rate for cubs of the year in the SBS population that is considerably lower than the 50-60% recruitment rate reported by the DEIS. See Eric Regehr, et al., Polar bear population status in the southern Beaufort Sea, 11. This recent report represents the best available scientific data on the population dynamics of polar bear populations in Alaska, and MMS should incorporate the findings of this report into the EIS. Because the CBS polar bear population faces the added threats of over harvest in Russia, the survival and recruitment rates estimated for the SBS should serve as upper limits for these parameters for the CBS population.

019-114

Despite the current precarious status of the CBS and SBS polar bear populations, the DEIS arbitrarily concludes that the impacts from activities undertaken in connection with Lease Sale 193 will be “slight.” DEIS at IV-234. Any additive mortality may reduce reproductive rates, diminish the availability of polar bears for subsistence uses and cause the affected population to decline. At present, polar bears in the Chukchi Sea exist relatively free from the harmful effects of industrial activities. Anticipated impacts from industrial activities associated with Lease Sale 193 will add to the variety of stressors that currently deteriorate polar bears’ physical health. This in turn may cause additional mortality to a population that is already declining. MMS’s conclusion that impacts from Lease Sale 193 will be slight is arbitrary in violation of NEPA.

019-115

Informational gaps and analytical oversights

The DEIS does discuss the potential impacts to the CBS polar bear population caused by changes to the Arctic environment attributable to global warming, but it fails to include the documented impacts to the SBS population caused by global warming, such as reduced recruitment rates and diminishing physical stature of polar bears. *See* Eric Regehr, et al., Polar bear population status in the southern Beaufort Sea. This information is pertinent to a thorough and complete evaluation of the impacts of Lease Sale 193, because individuals from the SBS population spend considerable time in portions of the Chukchi Sea that MMS intends to offer for leasing. *See, e.g.*, Steven Amstrup, Movements, distribution, and population dynamics of polar bears in the Beaufort Sea (PhD Dissertation, University of Alaska-Fairbanks, 1995). The EIS should discuss the documented impacts of global warming on SBS polar bears and should take steps to avoid exacerbating these impacts.

019-116

The DEIS identifies coastal areas along the coast of the Beaufort Sea that have the highest densities of maternal den sites, but does not include similar information for the Chukchi Sea. This information is highly pertinent to the possible impacts that aircraft overflights, an onshore facility, and an onshore pipeline may have on CBS polar bears, and it should be included in the EIS. If MMS is unable to obtain this information, the EIS should provide a detailed summary of the existing credible evidence concerning polar bear denning habitat along the Chukchi coast. *See* 40 C.F.R. § 1502.22(b).

019-117

MMS fails to assess impacts to the denning, feeding and migratory habitats the U.S. has committed to protect under its international Treaty Obligations for Polar Bears under the Agreement for the Conservation of Polar Bears.

019-118

Mitigation measures

NEPA demands that an agency take a hard look at mitigating measures when discussing the environmental consequences of a proposed project. *See* 40 C.F.R. § 1502.16. Pursuant to this standard, an EIS may not merely list, or only perfunctorily describe mitigation measures. Rather, the EIS should critically evaluate the effectiveness of proposed mitigation measures.

019-119

The DEIS fails to identify or evaluates insufficiently mitigation measures aimed at protecting polar bears. Rather than identify any particular mitigation measures with specificity, the DEIS adopts the approach of referring to mitigation measures in very general terms, grouping them under the following three broad categories: 1) conditions attached to incidental take authorization that Fish and Wildlife Service will issue pursuant to §101(a)(5) of the Marine Mammal Protection Act; 2) oil spill response plans (“OSPRs”) that MMS will approve; and 3) information to lessees (“ITL”) provisions that have been developed by MMS. DEIS at IV-241–45. This discussion of mitigation measures, identified only in abstract, overly general terms, deprives the public of a meaningful opportunity to comment on the desirability of these measures. Because many of these identified measures have not yet been developed and so cannot be identified with specificity or discussed in any detail (e.g., conditions to incidental take authorization and contents of OSRPs), the public cannot accurately assess MMS’s conclusory determination that such measures will prove effective. This approach undermines MMS conclusion that the mitigation measures will prevent a significant impact to polar bears and impermissibly defers analysis of identified mitigation measures in violation of NEPA.

019-120

Ultimately, the DEIS concludes that because of the cumulative impacts of overharvest, global climate change and industrial activities, “continued close attention and effective mitigation practices with respect to polar bears are warranted.” DEIS at V-52–53. The DEIS does not identify these mitigation practices with specificity. Nor does the DEIS establish that any previously identified mitigation measures are effective or will continue to be so in the context of a dramatically changing arctic environment. In short, the DEIS fails to evaluate or even identify these necessary mitigation measures, in violation of NEPA.

019-121

The DEIS identifies future increases in polar bear-human conflicts as a concern arising from industrial development along Alaska’s arctic coast. DEIS at IV-235, III-79. Such conflicts can prove lethal to polar bears. MMS fails, however, to suggest any mitigation measures to address this anticipated impact.

019-122

To the limited extent that the DEIS actually identifies specific mitigation measures, these prove deficient to adequately address and avoid anticipated impacts to the CBS polar bear population. MMS relies on OSRPs to minimize adverse impacts from oil spills. Any such response plan depends on timely detection of oil spills. MMS indicates that recently, chronic leaks in oil pipelines have gone undetected despite MMS regulations that require monitoring measures. MMS observes that its regulations “are only as effective as their enforcement.” DEIS at IV-244. Yet, the DEIS fails to prescribe measures to ensure improved enforcement of MMS monitoring regulations.

019-123

MMS’s apparent assumption that lesees will be able to effectively respond to oil spills is not supported by the facts. The DEIS indicates that “effective mitigation measures will be developed” to minimize potential impacts to polar bears “on a case-by-case basis.” DEIS at IV-245. MMS identifies two methods of response to an oil spill: mechanical methods and non-mechanical methods. MMS anticipates that mechanical

019-124

methods will be unavailable during broken ice periods (or during the majority of any calendar year), yet the DEIS identifies only in situ burning as a non-mechanical method for containing or eliminating spilled oil. In situ burning will not prove effective if spilled oil is trapped beneath sea ice for any appreciable period of time. Indeed, MMS fails to present any means of effectively responding to oil that is spilled beneath sea ice. If MMS lacks any such means, it should openly acknowledge this. If MMS is aware of an effective method for responding to oil spilled beneath sea ice, the EIS should clearly identify it and establish its effectiveness. Absent identification of an effective method of responding to an underwater oil spill that occurs during the winter, MMS cannot reasonably conclude that the potential impacts to polar bears from an oil spill are not significant.

019-124

The DEIS identifies several ITLs as mitigation measures. Critical provisions of these ITLs, however, contain precatory language rendering them effectively unenforceable. The ITLs cannot, as MMS seems to suggest, moderate the impacts of offshore oil and gas leasing and development in the Chukchi Sea unless lessees voluntarily act in accordance with the ITLs. MMS arbitrarily assumes that lessees will voluntarily abide by the precatory guidance included in the ITLs. MMS likewise assumes that lessees will obtain authorization to incidentally take marine mammals, and subject themselves to the consequent conditions imposed by Fish and Wildlife Service. MMS neglects, however, to establish that such an approach would prove economically rational for all lessees. The DEIS improperly relies on these mitigation measures in violation of NEPA.

019-125

The DEIS suggests that whale carcasses should be removed from the coast to mitigate the potential impacts of an oil spill. DEIS at IV-245. MMS' reliance on this measure to reduce impacts to polar bears is misplaced. Any such action is not within the purview of MMS to effectuate and should not be relied on by the agency as an effective mitigation technique. Furthermore, removal of whale carcasses will likely have the countervailing effect of increasing the mortality of polar bears in the SBS and CBS populations. If accomplished, it will deprive bears of access to a vital food source during the fall, when bears have minimal access to alternate food sources. Preventing bears from utilizing this important food source will diminish the physical condition of individual bears and may lead to increased mortality.

019-126

Oil Spill Analysis

The DEIS erroneously concludes that an oil spill will not result in significant adverse impacts to polar bears. See DEIS at IV-234. Moreover, its discussion of the risk posed by spilled oil is incomplete in several critical respects, in violation of NEPA.

019-127

Although the DEIS identifies chronic small leaks in an underwater pipeline as a potential threat, it fails to analyze the likelihood of detection of such leaks, the efficacy of response to any such persistent leak, nor the potential impact thereof. See id. Nor does the DEIS forecast the likelihood that spilled oil will contact and harm individual polar

019-128

bears apart from contact with large congregations of polar bears. The EIS should take a hard look at these potential impacts.

Leads and Polynyas provide critical habitat to polar bears during the winter and spring, and polar bears may congregate at these features in relatively high concentrations. The draft EIS inexplicably fails to evaluate the potential impacts to polar bears from oil reaching these recurrent features. The draft EIS also neglects to evaluate the potential impacts to polar bears from spilled oil reaching openings, which occur during spring break up and fall freeze up and that are preferentially occupied by polar bears.

019-129

The draft EIS insufficiently discusses impacts to polar bears in coastal areas. The draft EIS reports the probability of oil reaching Barrow in the summer, DEIS at IV-238, despite the fact that polar bears aggregate there during the fall. The DEIS should include the probability of spilled oil contacting Barrow and other high-use coastal areas during both the summer and the fall.

019-130

The discussion of the potential impacts from a large oil spill on polar bears concentrated at different coastal locations improperly segments the CBS polar bear population and fails to present the aggregate probable impact. The draft EIS suggests that there is a 13% probability of a concentration of polar bears on Wrangel Island coming into contact with spilled oil within 60 days of a spill and an 11% probability of a concentration of polar bears at Barrow coming into contact with spilled oil within 60 days of a spill. DEIS at IV-238. The draft EIS then concludes that the probability of an oil spill contacting “a polar bear aggregation within 60 days” is less than 13%. DEIS at IV-245. This is misleading and inaccurate. Rather than simply selecting the higher value as the overall probability, the draft EIS should report the combined likelihood of spilled oil reaching Barrow or Wrangell (somewhere between 13% and 24%).

019-131

Similarly, MMS’s segmentation of the potential risk that spilled oil will affect different species understates the potential threat and is misleading. The draft EIS discusses the risk that an oil spill poses to wildlife, species-by-species. Accordingly, it presents discrete probabilities that spilled oil will contact significant concentrations of individual species. See, e.g., DEIS at IV-238, IV-225–26. By segmenting the risk to wildlife populations from an oil spill, the DEIS is able to report relatively low probabilities that any single species will be significantly adversely affected. By doing so, however, the draft EIS fails to accurately report the overall risk that wildlife will be significantly harmed by an oil spill. The draft EIS should supplement its analysis of the risk of an oil spill by reporting a single combined probability that spilled oil will contact one or more sizeable congregations of wildlife.

019-132

Finally, the evaluation of the potential impacts to polar bear populations from spilled oil should clearly state that the anticipated sub-lethal long-term effects do not depend on the particular location of an oil spill. The EIS should explicitly address the likelihood of an oil spill causing sub-lethal, long-term effects to polar bears and Pacific walrus.

019-133

Cumulative Impacts Analysis

The DEIS fails to adequately assess the cumulative impacts of offshore oil spills on polar bears. Though purporting to evaluate the overall likelihood of an offshore oil spill affecting the CBS or SBS polar bear populations, the DEIS merely refers to the truncated discussion of the potential for an oil spill included in the environmental assessment prepared by MMS in connection with Lease Sale 202 in the Beaufort Sea. DEIS at V-49. That document, in turn, fails to rigorously evaluate the likelihood of an oil spill occurring as a result of past or future lease sales, indicating merely that “[d]evelopment of additional offshore production facilities and pipelines will increase the potential for large offshore spills.” MMS, Environmental Assessment for Proposed OCS Lease Sale 202, 55 (August 2006). Instead of segmenting the risk of an offshore oil spill by discretely referring to the risk of a spill in the Beaufort Sea, the EIS should combine the probability of a spill in the Chukchi with the probability of a spill in the Beaufort and present an additional figure representing the overall probability of a large offshore oil spill. Moreover, the DEIS should account for all past, present, and reasonably foreseeable future lease sales in the Chukchi and Beaufort Seas when deriving these combined probabilities, including all lease sales provided for by the proposed five year plan for OCS lease sales (2007-2012). See 40 C.F.R. § 1508.27(b)(7).

019-134

The draft EIS overlooks the potential impacts of past, present and reasonably foreseeable future onshore leasing, exploration and development of oil and gas deposits in coastal areas of the National Petroleum Reserve-Alaska in violation of NEPA. Such development has the potential to further exacerbate human-polar bear conflicts during the fall when bears congregate along the coast of the Chukchi Sea, as well as to adversely affect polar bears’ terrestrial denning habitat. The EIS should address these cumulative impacts.

019-135

Finally, the draft EIS arbitrarily concludes that the combined impacts to polar bears from global warming and oil-related industrial activities merit only “continued close attention and effective mitigation practices.” DEIS at V-53. Global warming induced changes are already evident in polar bear populations in Alaska and elsewhere. See, e.g., Eric Regehr, et al., Polar bear population status in the southern Beaufort Sea. The draft EIS forecasts additional impacts to “virtually every aspect” of polar bears’ existence as a result of the synergistic interplay between global warming and industrial activity in the Arctic.¹⁷ DEIS at V-52. The draft EIS overlooks the dramatic changes to the Arctic marine environment that have already adversely affected polar bear populations in Alaska. Consequently, the draft EIS improperly adopts a “wait and see” approach to restricting offshore oil and gas activities that will further harm polar bears. Moreover, the draft EIS relies on “effective mitigation practices” without specifically

019-136

¹⁷ These include: a decline in ringed seals, polar bears’ primary prey species and a subsequent decline in polar bears’ physical condition, reproductive rate, survival rate, and populations; increased polar bear-human conflicts, especially during the ever-lengthening fall open water season; increasing incidences of polar bears drowning and starving to death; increasing destruction of polar bears’ terrestrial denning habitat; and increasing impediments to pregnant females reaching terrestrial denning regions. DEIS at V-49-52.

identifying these measures or critically evaluating them to ensure that they are effective or will remain so in the future. DEIS at V-53. Pursuant to NEPA, the EIS may not rely on these unspecified, unimposed and unproven mitigation measures to reduce identified impacts.

Pacific walrus

The Pacific walrus population is presently in decline. Population declines have contributed to declining subsistence harvest of Pacific walrus. Oil and gas industry activities in the Chukchi Sea, including seismic activities, aircraft and vessel traffic, and the risk of oil spills may inhibit walrus recovery or may cause further decline of the Pacific walrus population. MMS should take steps to stem further declines in walrus populations and the subsistence harvest of walrus.

019-137

The EIS should identify those areas where the edge of sea ice frequently occurs over waters less than 60 m deep. The risk posed to Pacific walrus by spilled oil is especially acute in such areas, see DEIS at III-71, and such areas should be specifically discussed in MMS's evaluation of the potential risk from an oil spill. The EIS should prescribe measures to eliminate such risks.

019-138

The draft EIS arbitrarily concludes that seismic activities will only negligibly affect Pacific walrus.

019-139

Likewise, the draft EIS arbitrarily concludes that Pacific walrus in sea ice habitats will not react to aircraft at elevations above 1,000 feet. It does not indicate any elevation threshold above which Pacific walrus at terrestrial haulouts will not react to aircraft. Any additional displacement of Pacific walrus from forage areas will likely further contribute to declines in the walrus population. Unless MMS can establish that industrial activities will have no effect on Pacific walrus in forage areas, it should conclude that such activities will significantly impact Pacific walrus.

019-140

Walrus seek the shallower waters of the Chukchi and the Hannah Shoal area and northeast corner is a recognized use area for walrus. Similar to impacts to gray whales, walrus could be particularly affected by development in the northeast corner (Hannah Shoal area) in several ways: bioaccumulation of toxins from the mollusks they feed upon; loss of food source due to infrastructure, noise or pollution; traffic impacts; and oil spills.

019-141

The potential for population affects for walrus should be assumed to be high. The population is already in decline and being impacted from climate change. Climate change impacts are not yet well-documented, but are acknowledged in the scientific literature. Walrus impacts from development could be secondary and go undetected due to a lack of study and cooperation with Russia on population abundance studies. As noted in the draft EIS, as loss of ice occurs walrus are forced to use land haulouts creating a host of impacts (trampling of calves, loss of food due to local overconsumption and competition). DEIS at III-72. These impacts would be magnified in the event of an oil spill. With large concentrations of the population in few areas, the risks for a large number of animals to

019-142

be impacted are great. This is not analyzed in the DEIS. Additionally, without baseline abundance numbers there will be little ability to know if the walrus population is being effected by development. As such, mitigation and monitoring would be rendered useless.

019-142

Also problematic is the draft EIS's inaccurate estimation of the seafloor area likely to be impacted by pipeline construction. The MMS provides no substantiation for cutting the estimate for Chukchi seafloor acreage disturbance in half compared to Beaufort Sea development. The draft EIS states:

The subsea soil in the Chukchi Sea is mostly unconsolidated, as explained in Section III.B.1.b. Twelve-foot deep pipeline trenches in unconsolidated Beaufort Sea soil would have been up to 130 ft wide at the top, as estimated for a development pipeline to the Liberty Prospect (USDOJ, MMS, 2002:Sec. III.C.3.e(2)(b)2b)). If we assume that Chukchi pipeline trenches would be about half that width (70 ft), about 1,000-2,000 acres of Chukchi seafloor might be disturbed during the burial of production pipelines.

There is no reason for MMS to assume there would be less width to pipeline trenches in the Chukchi. This greatly reduced estimation of disturbance to the seafloor renders useless and fundamentally flawed the draft EIS's analysis of impacts for species that depend on the seafloor habitat, particularly walrus.

The DEIS identifies the northeast corner of the proposed lease area as being highly "inhabited by mollusks (clams) and other fauna." It also notes that recolonization is slow and will take up to 9 years, with clams the last to recover – requiring over a decade. The walrus could have serious feeding impacts due to such a disturbance given its reliance on clams and benthic fauna. The likelihood of population effects from just this impact is significant. However, this analysis is not provided in the DEIS nor are population level effects noted for walrus. Rather, the impacts to walrus are greatly minimized.

019-143

It is highly probable that with development the walrus would undergo undetected population level effects. Given that the Pacific walrus is the only healthy population of walrus in the world (with only one small population of Atlantic walrus remaining elsewhere), an entire species of marine mammal is at risk with the proposed leasing plan.

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The draft EIS fails to conduct *any* cumulative impact analysis of Pacific Walrus

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Beluga

There are different impacts to toothed cetaceans, as documented by EVOS, from oil spills. These impacts occur as a result of chronic inputs into the marine environment from either detected or undetected oil leaks or regular permitted discharges. Toothed whales, primarily beluga, in the proposed leasing area are at risk from chronic or oil spill contamination due to the potential bioaccumulation of toxins. The beluga is already experiencing serious health issues that are proving to impair the health of the Inuit in Canada. Toxicity levels are high enough to now require a limit on the number of beluga

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taken in Canada for subsistence. The Alaska beluga are already showing some of these effects.

There are no abundance estimates and little distribution information for beluga. Scientists know very little at all about calving and feeding locations. However, agency scientists recognize that beluga are not ubiquitous and tend to form groups the use particular places on a regular basis. This means that beluga tend to form regional local populations. The draft EIS fails to take this fact into consideration and instead relies on an outdated interpretation that considers only total numbers of animals. This approach could seriously impede subsistence use of the beluga in key areas and potentially eliminate the beluga in the case of a large spill from certain traditional hunting areas. In Pt. Lay this impact could prove devastating as the community relies mainly on beluga for subsistence.

019-147

G. Terrestrial Mammals

Development in the Chukchi would involve construction of a major new onshore pipeline that would transect the entire Northwest Planning Area of the NPR-A and continue on into the Northeast Planning Area. Two caribou herds would be affected by development in the Northwest Planning Area—the Western Arctic Herd (WAH) and Teshekpuk Lake Caribou Herd (TCH). This could interfere with caribou movement and limit access to important habitat and raises serious concerns about the overall long-term cumulative effects of industrial development on both herds. The draft EIS does not adequately evaluate the cumulative effects of industrial development on caribou associated with this new pipeline and development in both the Northwest and Northeast planning areas. It also does not address the potential of rolling back habitat protection for the TCH calving grounds within the Northeast Plan.

019-148

Although the concentrated calving area of the WAH is located largely outside the southwestern border of the Northwest NPR-A planning area, significant summer and transitional use occurs within the area that could be transected by a massive new pipeline. Oil and gas development may have substantial effects on caribou during the summer season—not just during calving. Summer is the season when caribou cows must concentrate on foraging to meet the demands of lactation and gain weight to achieve a threshold that enables conception in the fall (Cameron et al. 1993). Reproductive pauses are known to occur if the necessary weight gain is not achieved during summer (Cameron 1994, Cameron and VerHoef 1994, Gerhart et al. 1997, Cameron et al. 2000), which may lead to decreased productivity in the herd (Cameron et al. 2002). Summer is also the season when caribou are harassed by insects. Oilfield industrial infrastructure may further compound insect harassment during this critical period due to avoidance by caribou of surface development resulting in reduced access to preferred habitats (Curatolo and Murphy 1986, Murphy and Curatolo 1987, Nellemann and Cameron 1998, Cameron et al. 2002).

019-149

This CAH is the largest in Alaska and can be considered an ecological keystone population in northwestern Alaska. Many Native villages throughout northwestern Alaska depend on this population for their subsistence use. Because the Western Arctic

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Herd is so much larger and so many more people depend on it for their subsistence needs, it will be critical to thoroughly evaluate the long-term cumulative effects of oil development and transportation infrastructure on this population. The DEIS did not adequately address the long-term potential impacts of oil and gas development on the WAH.

019-150

Development of a pipeline in the NPR-A is also a concern for the Teshekpuk Lake Caribou Herd, which now numbers about 40,000 animals (ADF&G unpublished data) and is an important subsistence resource for the villages of Barrow, Nuiqsut, Atqasuk, Wainwright, Anaktuvuk Pass and Point Lay (Carroll 2002, Yokel 1992). The northeastern portion of the Northwest Planning Area, between Dease Inlet and Ikpikuk River, has been identified as caribou insect relief habitat (BLM 2003). This is also an area of high oil potential. Thus the potential for impacts to caribou during the summer insect season is high for the reasons cited above in reference to the WAH.

019-151

Carroll (personal communication 2002) has identified several characteristics of the TCH that must be considered in future management, research, and conservation activities. The TCH is significant for subsistence hunting for several of the North Slope villages, including Barrow, Atqasuk, and Wainwright. It is also important periodically for other villages such as Anaktuvuk Pass and Nuiqsut. Because as much as 8-9% of the herd is harvested annually, Carroll suggested that any negative effect on population recruitment could have a strong impact on local hunters. Carroll also reported that the TCH demonstrates strong fidelity to a small calving area around Teshekpuk Lake and that calves born in this area have a higher survival rate than those born during migration. Carroll suggested that because most caribou of the TCH have been exposed to minimal development activity, they may react more strongly to industrial disturbance than caribou that may have become more habituated to such activity.

019-152

H. Subsistence and Cultural Resources

For millennia, the communities of Alaska's North Slope have used the marine and terrestrial resources of the Chukchi region for both subsistence practices and cultural identity. Although MMS recognizes the importance of the region's fragile and bountiful ecology to these communities, the agency has neither adequately addressed the disproportionate impacts of Lease Sale 193 on these communities nor adequately consulted with the tribes as required by the Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations and accompanying Presidential memorandum (1994). Furthermore, MMS has failed to achieve substantive Environmental Justice. Indeed, opening the remote Chukchi Sea and shoreline represents yet another milestone in a national oil development strategy that almost seems designed to cause disproportionate impacts on Alaska's remote indigenous communities.

019-153

MMS attempts to downplay the magnitude of impacts to subsistence resources by once again using inappropriate significance thresholds. For example, in order for a

019-154

subsistence resource impact to be considered significant, one or more important subsistence resources must be unavailable for one to two years. Potentially affected communities have repeatedly indicated that this is much too high a hurdle and that MMS must adopt significance thresholds that reflect the true magnitude of lesser disruptions in subsistence resources, which they consider not only essential nourishment, but the basis of cultural identity.

019-154

MMS similarly sets an inappropriate significance threshold for sociocultural impacts. In order to attain significance, an impact must cause chronic disruption of sociocultural systems for two to five years. Again, communities have repeatedly indicated that attaining even a fraction of this level of impact would not only be significant—it could be a virtual death knell for cultures that have existed in the Chukchi region for millennia. To illustrate the capriciousness of these thresholds, consider a scenario whereby a remote Chukchi community loses its main subsistence resources for ten months and is forced into relocation and dependence upon a severely limited non-traditional diet for twenty months. This would not meet the MMS definition of significance.

019-155

Placing an elevated burden on communities for several years before impacts are considered significant is not only arbitrary, but ignores the main intent of the concept of environmental justice, which is to prevent low-income and minority communities from shouldering a disproportionate share of the negative environmental effects of an agency action. MMS clearly must re-define their significance criteria.

019-156

The draft EIS also fails to include serious consideration of potential human health concerns related to industrialization of the Chukchi. This is an area that should not be overlooked. Given the presence of contaminants in the fats of many of the species subsistence users rely upon, further pollution should not be dismissed so lightly. Moreover, there is a need for a multifaceted human health assessment to reveal all of the potential impacts of the proposal. Aaron Wernham, MD, MS conducted a brief health impacts analysis of the proposal to lease areas around Teshekpuk Lake that identifies the multiple issues arising from this type of proposal that need to be addressed. See Wernham, The Final Amended Integrated Activity Plan/Final Environmental Impact Statement for the Northeast NPR-A: A Brief Analysis of the Potential Human Health Impacts. In it, Werham identified the following potential impacts on community health:

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1. Increases in social and psychological pathology, including depression, suicide, domestic violence, and alcohol and substance abuse.
2. Permanent and severe cultural changes as a result of loss of the central, stabilizing role of subsistence practices.
3. Increased incidence of diabetes, obesity, and cardiovascular disease.
4. Increases in pulmonary diseases.
5. Potential increase in cancer related to contaminants.
6. Other contaminant-related effects, including endocrine disruption, reproductive problems, and developmental delay.
7. Changing patterns of infectious disease.

8. Changing patterns of sexually transmitted diseases.
9. Increases in accidental injuries and deaths.

Id. at 5.

MMS also fails to meet their burden to adequately address cumulative impacts on subsistence resources, sociocultural systems, and Environmental Justice. Despite the extensive list of potential impacts to subsistence resources such as bowhead whales and caribou from both this lease sale and ongoing development of the Beaufort Sea and NPR-A, MMS arbitrarily concludes that routine operations will not cause any significant cumulative impacts. MMS further concludes that a large oil spill “could” cause significant impacts to biological resources and sociocultural systems,¹⁸ but concludes that a large oil spill is “unlikely.”¹⁹ Yet MMS elsewhere admits that the likelihood of an oil spill, just for the life of this individual lease sale, is 40%. Considered cumulatively with other lease sales in the Beaufort, it is apparent that an oil spill is not only likely, it is a virtual certainty. It is unclear how MMS considers this insignificant.

019-158

These statements also contradict statements in the Draft EIS for the Proposed 5-Year Plan 2007-2012, where MMS states:

1. Significant cumulative effects on subsistence resource use are possible and likely.²⁰
2. During the 2007-2012 Leasing Program, the cumulative impact of one or more important subsistence resources becoming unavailable, undesirable for use, or greatly reduced in numbers for a period of 1 or 2 years for one or more Alaska coastal communities is very likely.²¹
3. If present rates of climate change continue . . . rapid and long-term impacts on subsistence resources (availability), subsistence-harvest practices (travel modes and conditions, traditional access routes, traditional seasons and harvest locations), and the traditional diet could be expected.²²

019-159

It is unclear how MMS reconciles these conclusions with contradictory statements proffered in the Chukchi Lease Sale 193 Draft EIS.

It is clear that Lease Sale 193 will cause significant impacts to both subsistence resources and sociocultural systems. Instead of addressing these issues and seriously confronting this failure to achieve Environmental Justice, MMS inflates significance thresholds, offers contradictory statements designed to justify moving forward with the

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¹⁸ DEIS at V-3.

¹⁹ DEIS at V-3.

²⁰ 5 Yr. Plan DEIS at IV-442.

²¹ 5 Yr. Plan DEIS at IV-442.

²² 5 Yr. Plan DEIS at IV-442.

Lease Sale, and attempts to obscure unacceptable impacts to Chukchi communities. MMS must cancel the sale, recognize the cumulative significant disproportionate impacts to communities of Alaska's North Slope, and offer a real vision on how to achieve Environmental Justice.

019-160

Inupiat and other local residents have repeatedly opposed oil and gas leasing in the Chukchi Sea and Arctic Ocean and their comments repeatedly ignored. MMS did not visit most of the affected communities during the scoping phase nor during scoping for its Five-Year Plan. MMS has rarely visited Chukchi Sea communities other than Barrow during past lease sale EIS review periods or when past seismic or drilling activities occurred. The public comments submitted on prior Chukchi Sea lease sales, as well as all prior Arctic Ocean lease sales, contain a wealth of traditional knowledge in these hearings testimonies. should be incorporated by reference into this EIS, including:

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Chukchi Public Hearings

(<http://www.mms.gov/alaska/ref/publichearingsChukchi/PublicHearings.htm>);

25 Years of Testimony Related to Proposed Activities on the Arctic Continental Shelf and Related Areas from 1975 to 2002

(<http://www.mms.gov/alaska/ref/PublicHearingsArctic/PublicHearings.htm>.)

"Native Voices" in P.A. Miller, D.A. Smith, and P.K. Miller. 1993. Oil in Arctic Waters: The untold story of offshore drilling in Alaska. Anchorage: Greenpeace. 122 pp.

Sincerely,

Dan Ritzman
Director
Alaska Coalition

Elise Wolf
Alaska Watch

Cindy Shogun
Executive Director
Alaska Wilderness League

Brendan Cummings
Staff Attorney
Center for Biological Diversity

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Pacific Environment

Eleanor Huffines
Alaska Regional Director
The Wilderness Society

Anne Wilkas
Interim Executive Director
Trustees for Alaska

MMS Responses to Alaska Coalition Comments

AC 019-001

Figure III.B-7 was intended to describe offshore areas important to murre breeding at the Cape Thompson and Cape Thompson colonies and does not reflect land ownership in the region. Land ownership for this area is depicted on Map A.1-3b in Appendix A.2, Volume III.

Section III.B.5.b(1) contains important information regarding murre in the project area. That section mentions declines and increases over time between 1976 and 1995 at the two colonies. We have revised the EIS text to reflect that significant positive trends were evident for murre at Cape Lisburne (+4.7% per annum) (USDOJ, FWS, 2002) and additional unpublished information (Roseneau, 2007).

AC 019-002

For the most part, the commenter is correct that there are no reliable estimates of the stocks of ringed seals, spotted seals, ribbon seals, polar bears, Pacific walrus, and minke whales or information on their current feeding, resting, and migration habitats. Therefore, it is not possible to develop accurate maps of gray whale, Pacific walrus, beluga, polar bear, and other marine mammal feeding and migration areas.

Pacific Right whale use of the Chukchi Sea also should be addressed. Current maps of gray whale, Pacific walrus, beluga whale, polar bear, and other marine mammal feeding and migration areas are needed. Recent information should be compared with past information on benthic feeding areas for gray whales and walrus, including important areas for these species in the Chukchi polynya and sea-ice edge (see maps in Phillips, 1986).

The EIS analysis follows CEQ NEPA guidance regarding assessments when information is limited. As stated in Section III.B.4.a of the draft EIS at page III-41:

Based on the best available information, and on the guidance provided by the NMFS in their letter of September 30, 2005, there are three species of cetaceans that are listed as endangered under the ESA that can occur within or near the Chukchi Sea Planning Area or that could potentially be affected secondarily by activities within the Chukchi Sea Planning Area. The common and scientific names of these species are:

Bowhead whales (*Balaena mysticetus*)
Fin whales (*Balaenoptera physalus*)
Humpback whales (*Megaptera novaeangliae*)

The MMS is unaware of any recent information that would contravene NMFS's finding as stated in their letter of September 30, 2005, particularly regarding the Pacific right whale.

When information gaps are identified, MMS works to address them. For example, it is in the process of planning a new study of polar bears. If the commenter knows of specific recent information on benthic feeding areas for gray whales and walrus, including important areas for these species in the Chukchi polynya and sea-ice edge, beyond what is included in the EIS, MMS would be very interested in obtaining that information for future analyses.

AC 019-003

The map of caribou calving areas (Fig. III.B-4) referred to in the text (draft EIS p. III-84) actually shows bowhead whales. Caribou insect relief habitat also is critical, and up to date and historical information should also be shown.

The reference to the map of caribou calving areas (Fig. III.B-4) was removed from the text in Section III.B.7.a(3).

Maps depicting insect relief areas for the Teshekpuk Lake Caribou Herd are provided in the Northwest NPR-A IAP/EIS (USDOI, BLM and MMS, 2003:Maps 49 and 50). References to these maps have been added to the text.

AC 019-004

Discussion of subsistence resources, harvest locations, and harvest practices and accompanying maps for Barrow, Atqasuk, Wainwright, and Point Lay are available in the following documents: the Beaufort Sea Multiple Sale (Barrow and Atqasuk; maps and text) at http://www.mms.gov/alaska/ref/EIS%20EA/2003_001/2003_001vol1.pdf; the Northwest NPR-A IAP/EIS (Barrow, Atqasuk, Wainwright, and Point Lay; maps and text) in hard copy only; Appendix C in the Arctic Seismic PEA (Barrow, Atqasuk, Wainwright, Point Lay, Point Hope, text; Point Hope, maps) at http://www.mms.gov/alaska/ref/EIS%20EA/Final_PEA/App%20C.pdf; the Beaufort Sea Sale 202 EA (Barrow and Atqasuk, text only) at http://www.mms.gov/alaska/ref/EIS%20EA/BeaufortEA_202/EA_202.htm; the Alpine Satellite Development FEIS (Barrow and Atqasuk, maps and text), and the Chukchi Sea Sale 193 DEIS (Barrow, Atqasuk, Wainwright, Point Lay, Point Hope, Kivalina, and Russian Chukotka coastal communities, text; Point Hope and Kivalina, maps) at http://www.mms.gov/alaska/ref/EIS%20EA/Chukchi_DEIS_193/DEIS_193.htm. The discussions in these documents were summarized and incorporated by reference in the Sale 193 draft EIS. Barrow, Wainwright, Point Lay, and Point Hope subsistence harvest area maps are also available at http://www.north-slope.org/nsb/acmp/resource_atlas.htm, and Point Lay, Point Hope, and Kivalina harvest area maps can be found in BLM's Kobuk-Seward Peninsula Draft Resource Management Plan at <http://www.blm.gov/ak/ksp/draft/mapindex.html>.

The commenter is correct in pointing out that BLM's Northwest NPR-A link is inoperative and, although no longer available over the Internet, the information is still considered to be in the public domain and is available (as are all the other documents mentioned above) from Alaska libraries through interlibrary loan. Barrow, Atqasuk, Wainwright, and Point Lay subsistence maps will be updated and included in future Chukchi Sea EIS's.

AC 019-005

Maps depicting subsistence-harvest areas and subsistence-harvest discussions for Chukchi Sea coastal communities are readily available either online or in hard copy in the documents specified in the response to comment **AC 019-004**. These documents were summarized and incorporated by reference in the EIS.

AC 019-006

This study is designed to provide current information concerning contemporary subsistence-harvest areas in the region and is an example of MMS' commitment to procuring up-to-date information in support of the Bureau's environmental assessments and decisionmaking. While this particular study is still underway, as the information does become available, it will be incorporated into the decisionmaking process and into subsequent NEPA analyses.

AC 019-007

For a discussion on cumulative effects, see response to comment **Barrow 003-012**. Huntington and Mymrin's *Traditional Ecological Knowledge of Beluga Whales: An Indigenous Knowledge Pilot Project in the Chukchi and Northern Bering Seas* was cited in the NW NPR-A IAP/EIS subsistence analysis for Wainwright and has been incorporated by reference. It is our understanding that the 1999 article appearing in *Arctic* is a synthesis of this same research. Both Mymrin and Huntington's *Traditional Knowledge of the*

Ecology of Beluga Whales in the Northern Bering Sea, Chukotka, Russia, and Berger's Northern Frontier, Northern Homeland: The Report of the Mackenzie Valley Pipeline Inquiry has been cited in the Sale 193 final EIS cumulative impacts section for subsistence-harvest patterns.

AC 019-008

The climate change discussion has been expanded in the subsistence-harvest patterns cumulative impacts analysis; see Section V.C.12. The climate change citations mentioned by the commenter, as well as many others, have been cited in the analysis.

AC 019-009

The MMS believes that we have adequately described the mitigation measures and their expected effectiveness. As explained in Section II.B.3 of the EIS, mitigation measures for OCS activities take many forms. Many mitigation measures developed during past NEPA evaluations have become regulations. The EIS does not specifically evaluate the effectiveness of the mitigation effect of such measures, because they are assumed to be reflected in the baseline for the Proposed Action and in subsequent activities; in other words, these regulations define some of the parameters for activities subsequent to the sale. Lease-sale mitigation measures are in the form of lease stipulations. The lease stipulations and a summary of the effectiveness of the mitigation provided by the stipulations is provided in Section II.B.3.c(1). Mitigation measures for exploration seismic surveying are discussed in Section II.B.4 and evaluated in Appendix D. Further, the effectiveness of mitigation measures is discussed in the analysis sections (for examples, Sections IV.C.1i(5) and IV.C.1.j(5)).

AC 019-010

The text referenced in the comment was incorrect and has been revised. See also the response to comment **AC 019-009**.

AC 019-011

The MMS does not agree with this statement. Both mechanical and nonmechanical response methods can be employed to respond to an accidental oil spill in the Chukchi Sea. There are a host of spill-response tactics that can be used in broken-ice conditions. Broken ice, while limiting mechanical recovery, also can foster more effective recovery by concentrating oil along ice edges, which increases the oil/skimmer encounter rate thereby increasing skimmer recovery efficiencies. Recent research focused on improving oil skimmers has resulted in a skimmer surface that has improved recovery rates by over 200%, and commercialization of this skimming system has already been undertaken (Broje and Keller, 2006, <http://www.mms.gov/tarprojects/528.htm>).

In situ burning also is a viable and highly effective tool for responding to spills in broken-ice environments. In situ burning can be an effective, rapid means for reducing the net environmental impact of an oil spill. Burning of the oil would reduce or eliminate the environmental impacts associated with an oil slick, such as oiling of birds, mammals and shorelines, while converting the oil to predominately carbon dioxide and water.

AC 019-012

The text has been modified to clarify that monitoring as a component of MMS mitigation and not a mitigating measure solely on its own. The MMS believes that there is sufficient information to support the analysis for the pending decisions, specifically the decisions by the Secretary of the Interior on proposed Sale 193. Because of the lack of current or detailed information on some resources, MMS would require monitoring to be performed during various aspects of any approved activities. Such monitoring is dual purpose. Monitoring would allow MMS to determine if required mitigation measures are being effective, or if the measures need to be modified (adaptive management). Monitoring also provides additional

information for future analyses, development of mitigation measures, and decisions related to OCS activities.

AC 019-013

Mitigation and monitoring are required by both the OCS Lands Act and NEPA as well as under various regulations and permits. Only passing reference is made to the lease stipulations from the last Chukchi Sea sale, because that sale occurred 16 years ago (August 1991) and there are no current leases to which those stipulations would still apply. The lease stipulations for proposed Sale 193 and a summary of the effectiveness of the mitigation provided by the stipulations is provided in Section II.B.3.c(1). Mitigation measures for exploration seismic surveying are discussed in Section II.B.4 and evaluated in Appendix D. Further, the effectiveness of mitigation measures is discussed in the analysis sections. The only development that has occurred on the Alaska OCS is Northstar. The MMS has had a continuous monitoring study, called ANIMIDA, associated with Northstar. Environmental studies and research monitoring involves a repeated sampling of the environment over time to establish baseline conditions; determine natural variability; and assess changes and trends due to human activities. The MMS either conducts or requires this type of monitoring through its Environmental Studies Program (<http://www.mms.gov/eppd/sciences/esp/index.htm>) to determine the extent to which activities caused by or permitted by MMS, such as development of offshore oil and gas, sand and gravel, and methane hydrate resources, affect the human, marine, and coastal environments.

AC 019-014

The EIS discusses scientific information related to the 120-dB monitoring zone in Section IV.C.1.f(1) and Appendix D. In Section II.B.5.c, the EIS specifically acknowledges that this issue is pending court decision.

AC 019-015

The amount and detail of information needed for a NEPA analysis depends on the decision it is intended to support. The analysis in this EIS must support decisions on the proposed lease sale and mitigation measures. The NEPA analyses for proposed exploration and development would be prepared at the time that these actions are ripe for decision. This tiered approach to NEPA compliance and decisionmaking is encouraged by NEPA regulations (see 40 CFR 1502.20 and 1508.28). We believe that the best available scientific information is appropriate and adequate to support this EIS for the pending lease-sale decisions.

The workshop referenced in the comment was not intended to develop studies to support this EIS and the leasing decisions it supports. The workshop was intended to support the design of a project to monitor for potential postlease effects.

AC 019-016

As the comment acknowledges, the NMFS open-water meeting was held October 23-25, 2006. This meeting occurred after publication of the draft EIS. The Notice of Availability of the Draft EIS was published in the *Federal Register* on October 16, 2006. Information from this meeting has been incorporated in the final EIS as appropriate.

The NMFS conducts open-water meetings under the Marine Mammal Protect Act. This meeting was not part of the NEPA process for proposed Sale 193.

AC 019-017

The OCS Lands Act is legislation by Congress authorizing the safe exploration and development of offshore energy resources to help meet the future needs of the Nation. This is explained in detail in the programmatic EIS to justify the 5-Year Leasing Program conducted by MMS. Petroleum development

from the Chukchi could represent an important incremental contribution to supplies to the U.S. and help reduce the amount of imported oil. The scenario that we used for purposes of environmental impact analysis assumes that the first new field in this frontier area will produce 1 billion barrels of oil. Should resources be discovered in such large amounts and should challenges to their production be overcome by this first development, then other offshore development may follow. This could lead to the production of higher fractions of the full economic potential. However, it would be misleading to analyze this full economic potential before it is demonstrated that such reserves are present and that these challenges can be overcome. One billion barrels is certainly more than “a drop in the bucket.” Because it would represent more oil than will be produced from many oil-producing states, it would be hard to argue that this volume is not significant. The risk of industrial accidents is always present, but the frequency and severity of accidents can be mitigated by proactive regulations and operating procedures.

AC 019-018

Alternative energy will have an increasingly significant role in providing the Nation’s energy needs. However, this does not diminish the present need for continued domestic oil production. Because the U.S. imports about 60% of its oil needs, OCS oil and gas resources still will fill a role in the Nation’s energy production in the foreseeable future. In recognition of the importance of alternative energy to the Nation’s future, MMS is embarking on a program to develop offshore renewable energy (such as wind and tidal), but oil and gas production will continue to be important.

AC 019-019

We believe the EIS fully meets NEPA requirements for cumulative analysis. We believe the scope of the cumulative analysis is appropriate for this lease-sale document and is in accordance with the provisions of NEPA regulations to keep EIS’s concise and no longer than necessary (40 CFR 1502.2(c)), to evaluate broad actions generically (40 CFR 1502.4(c)(2)), and to use tiering to focus on the actual issues ripe for decision (40 CFR 1502.20). If and when specific projects are proposed, the treatment of cumulative impacts and mitigation measures will be further defined and addressed in detail.

AC 019-020

We believe the EIS fully meets NEPA requirements for cumulative analysis. We believe the scope and level of detail in the cumulative analysis is appropriate for this lease-sale document. If and when specific projects are proposed, the treatment of cumulative impacts and mitigation measures will be further defined and addressed in detail.

The cumulative case scenario is presented in Section V.B. Our definition of “reasonably foreseeable” and the future Federal and State activities that are considered reasonably foreseeable for the cumulative analysis are presented in Section V.B. The oil-spill scenario for the cumulative case is presented in Section V.C. This section was inadvertently left out of the draft EIS and had been included in the final EIS. The cumulative analyses in the EIS are based on a thorough review of the best available information. In preparing the draft EIS, MMS reviewed, considered, and cited hundreds of sources. Many more sources of information have been reviewed and incorporated as appropriate, and cited in the final EIS. In addition to “scientific evidence,” MMS incorporates traditional ecological knowledge in preparing the analyses.

AC 019-021

The cumulative case scenario is presented in Section V.B. Our definition of “reasonably foreseeable” and the future activities that are considered reasonably foreseeable for the cumulative analysis are presented in Section V.B. The analyses of cumulative impacts consider the effects of past, current, and reasonably foreseeable activities.

Both mechanical and nonmechanical response methods can be employed to respond to an accidental oil spill in the Chukchi Sea. There are a host of spill-response tactics that can be used in broken-ice

conditions. Broken ice, while limiting mechanical recovery, can also foster more effective recovery by concentrating oil along ice edges, which increases the oil/skimmer encounter rate thereby increasing skimmer recovery efficiencies. Recent research focused on improving oil skimmers has resulted in a skimmer surface that has improved recovery rates by over 200% and commercialization of this skimming system has already been undertaken (Broje and Keller, 2006, <http://www.mms.gov/tarprojects/528.htm>).

Mitigation measures required by MMS for OCS activities do not “weaken after initial leasing.” Many mitigation measures for OCS activities are enforceable regulations and lease contract stipulations. The MMS develops additional proposal- and site-specific mitigation during technical, engineering, and environmental review of proposed activities.

AC 019-022

The cumulative case scenario is presented in Section V.B. Our definition of “reasonably foreseeable” and the future activities that are considered reasonably foreseeable for the cumulative analysis are presented in Section V.B. For the Chukchi Sea Sale 193 cumulative scenario, only exploration from future leasing in the Beaufort Sea is considered reasonably foreseeable.

The referenced text (draft EIS at IV-1) has been revised to clarify that, under certain conditions, development in the Chukchi Sea might facilitate OCS activities in the Beaufort Sea Planning Area.

AC 019-023

We believe the scope and level of detail in the cumulative analysis is appropriate for this lease-sale document. The oil-spill scenario for the cumulative case is presented in Section V.C. Our definition of reasonably foreseeable and the future activities that are considered reasonably foreseeable for the cumulative analysis are presented in Section V.B.

Any proposed onshore pipeline, whether in support of onshore development, offshore development, or both, would be permitted by other Federal Agencies that would be responsible for ANILCA Section 18 compliance. Compliance with ANILCA Section 18 does not create environmental impacts. Text has been added to the cumulative scenario at Section V.B.9 acknowledging that compliance with Section 18 of ANILCA would be required for any proposed onshore pipeline.

AC 019-024

Cumulative impacts to walrus as a result of climate change are addressed in Section V.C.8.b. There have been no oil and gas developments in the Chukchi Sea. The effects of past exploration activities on walrus are discussed in Section IV.C.1.h, as are the anticipated effects from future oil and gas activities.

AC 019-025

The final EIS for the Proposed OCS Leasing Program 2007-2012 discusses the cumulative effects of global climate change and other impacting agents on subsistence, the community, and the environment. The following is an excerpt from Section IV.J.3.k in that document:

Because of rapid and long-term impacts from climate change on long-standing traditional hunting and gathering practices that promote health and cultural identity, and considering the limited capacities and choices for adaptation and the ongoing cultural challenges of globalization to indigenous communities, subsistence-based communities could experience significant cultural stresses in addition to major impacts on population, employment, and local infrastructure. If subsistence livelihoods are disrupted, communities could face increased poverty, drug and alcohol abuse, and other social problems.

If the present rates of climate change continue, changes in diversity and abundance to local flora and fauna could be significant. Because marine and terrestrial animal populations would be particularly vulnerable to changes in snow cover and alterations in habitat and food sources brought on by climate change, rapid and long-term impacts on subsistence resources (availability), subsistence-harvest practices (travel modes and conditions, traditional access routes, traditional seasons and harvest locations), and the traditional diet could be expected.

AC 019-026

See response to comment **WWF 018-015**.

AC 019-027

We believe that the significance thresholds are appropriate for the scope of this EIS and the lease-sale decisions it is intended to support. The thresholds that MMS uses have been developed over many years based on analysis of scientific information and with multiple opportunities for input from Federal, State, and local resources agencies, other stakeholders, and the public.

AC 019-028

The draft EIS (Sec. II.B.5.b Issues Considered But Not Analyzed) recognized that potential aquatic invasive species could affect marine resources in the Chukchi Sea, but concluded that existing regulations implemented under the jurisdiction of the U.S. Coast Guard were sufficient to reduce the transfer of aquatic invasive species during routine leasing activities that could be authorized by Lease Sale 193. The fact that the receiving waters are particularly inhospitable to aquatic invasive species from other ecosystems was an additional factor considered to further reduce this risk.

AC 019-029

The scenario involves the discovery and development of a single field containing 1 billion barrels (Bbbl) of oil. There is no accurate way to predict where this field will be located, and it is misleading to speculate on a location. The petroleum-resource potential in the Chukchi Sea is discussed in a series of MMS publications, the most recent can be found at: <http://www.mms.gov/alaska/re/reports/2006Asmt/index.HTM>. The data in the assessment of undiscovered oil and gas resources is largely from proprietary industry sources, although the data from five exploration wells in the Chukchi has been publicly released. The 1 Bbbl scenario is not tied to a specific oil price but is based on the concept that a very large oil field would have to be discovered to allow initial commercial development in this challenging area. Given the size of mapped prospects in the area (proprietary information), oil prices would have to average above \$42 per barrel to support a stand-alone commercial project of this size. If the engineering and economic challenges are overcome by the first large field, additional fields might follow. However, it is premature to assume that large-scale development operations would occur when none has occurred yet in this frontier province.

AC019-030

A map showing the hypothetical location of infrastructure would be misleading, because we have only a general idea of where future facilities would be constructed. The location of seismic surveys is proprietary information, but the location of past leases and exploration wells is shown in several figures in the document.

AC 019-031

The disposal of drilling waste onsite during exploratory drilling is not required under existing NPDES permits for the Chukchi Sea. Normally this option is not available due to the limited knowledge available regarding underground zones that might be suitable for underground injections as well as the lack of

technical ability to inject cuttings during exploratory drill operations. Disposal options for use during development drilling will be evaluated during the review of development plans for the area. This shows the advantages of the Bureau's tiered approach because, as additional knowledge becomes available, disposal options may change.

AC 019-032

Production platforms and other offshore components of development will be designed according to site-specific conditions and best available technology. Although there are no production operations in conditions equivalent to the Chukchi, several areas in the world (Barents Sea) are moving toward development. Technologies can be adapted from other areas to develop the Chukchi sea in the future. Only a decade ago, much of the deepwater areas in the Gulf of Mexico did not have exploration and development operations. Now, operations are routine in these deep-water areas. Commercial discoveries and development in the Chukchi are likely to occur more than 10 years in the future, so new technologies and experience from other areas will be adapted for the Chukchi.

AC 019-033

We do not show the location of future facilities on a map, because it is possible only to predict general locations. We state that the location of a shore base and pipeline landfall likely would be near Point Belcher, north of the village of Wainwright. The offshore fields in the Beaufort Sea are less than 10 miles from existing infrastructure. Likely locations for facilities on the Chukchi coast are more than 300 miles from existing infrastructure. Because of the remote location, it is likely that larger barges and other equipment will be used to construct facilities on the Chukchi coast. Larger barges and aircraft could entail fewer trips to move the same amount of materials.

AC 019-034

Our Proposed Action scenario is presented in Section IV.A.2, and the scenario related specifically to development and production is presented in Sections IV.A.2.c and IV.A.2.d. As state in the introductory text for the scenario, MMS considers oil production from the Chukchi shelf as reasonably foreseeable *because* there is an existing pipeline transportation infrastructure from the North Slope to distant markets. The MMS believes that tankering of oil produced from the Chukchi OCS is not reasonably foreseeable.

AC 019-035

One explanation of the assumptions for the cumulative scenario was inadvertently left out of the draft EIS and has been added to the final EIS in Section V.C.

Water depths in the Chukchi Sea Planning Area are too great for the formation of bottom-fast ice necessary to support on-ice seismic surveying. Thus, on-ice seismic surveying is not considered reasonably foreseeable in the Chukchi Sea.

Potential impacts of noise in the cumulative case are addressed in appropriate resource analyses (see for example Sec. V.C.6.a(8)).

AC 019-036

See Table V-7c in the Lease Sale 193 draft EIS. Any production that may occur should a commercially viable field (1 Bbbl) be discovered, is accounted for in Table V-7c as speculative production.

AC 019-037

A hypothetical scenario map would be misleading, because the location of commercial-size discoveries and the optimum location for support facilities are unknown at present. The more detail that is supplied on a

conceptual map, the less accurate the map will turn out to be. When a development plan is formulated, the optimum location and mitigation measures will be used to minimize environmental impacts. At the present time, there are no facilities, outside of a few villages and abandoned DEW-line sites, on the Chukchi coast.

AC 019-038

The NEPA does not require that a cost-benefit analysis be done as part of an EIS.

Effects of the Proposed Action on government operations and other institutions are examined in Section IV.C.1.m, particularly Section IV.C.1.m(4), Effects from Development and Production, and the associated Table IV.C-2 in the Institutional Organization portion of the table. We have added information on socioeconomic monitoring and mitigation programs that have addressed effects in other areas adjacent to OCS development.

These costs are not intended to be considered as part of NEPA analysis with the exception of infrastructure. The MMS has oversight responsibility on OCS activity by law and is obligated to conduct baseline and postlease monitoring and development and enforcement of mitigation measures as needed. Those individuals and organizations who volunteer public and community time for public meetings and who comment on and review public agency actions do so out of their own choosing. This is part of the democratic process. Federal and State agencies have human resources in place for necessary permitting actions.

We do not find profit or gross revenue projections to private business in the draft EIS. We do analyze revenues to governments in Section IV.C.1.k, Economy. Potential expense costs (or impact) to the environment forms the body in Section IV of the EIS as required by NEPA. For the most part, this is not measured in dollars and cents but in other measures appropriate to the resource. The draft EIS analyzes subsistence-harvest patterns and sociocultural and economic aspects that we construe as “community” aspects. The draft EIS analyzes the potential impacts of the physical and biological aspects of the environment that we construe as “ecological costs.” We think that the commenter means oil-spill cleanup cost when they write “pollution cleanup costs.” This is analyzed in terms of employment in Section IV.C.1.k(1)(b), Employment Related to Spills. Employment is a dimension that accrues to the public. Costs of cleaning up a spill in U.S. waters are borne by the party that caused the spill; this is not a consideration under NEPA.

AC 019-039

The purpose of this EIS is to evaluate the leasing and exploratory phase of operations on the OCS. The MMS rules clearly state that all exploratory wells are to be plugged and abandoned upon completion. This includes the cementing of the well to isolate any productive intervals as well as the removal of the well head and casing to a depth of 15 ft. below the mud line and removal of any associated equipment that may have been placed on the seabed. No pipelines or permanent structures are expected to be used during the initial stages of exploration. Any development activities, such as pipelines or permanent structures, will require additional review prior to their approval.

AC 019-040

A Very Large Oil-Spill Event was analyzed in Section J of the Chukchi Sea Oil and Gas Lease Sale 126 Final EIS (USDOJ, MMS, 1990a). Stipulation No. 3 Transportation of Hydrocarbons in Section II describes the requirement to transport hydrocarbons by pipeline.

The typical sizes assumed for analysis (1,500 or 4,600 bbl) would not be estimated to persist beyond 30 days. The chance of one or more large spills occurring from the proposed lease sale and contacting any environmental resource area ranges from <0.5-14% within 360 days over the life of the project. The text has been changed in Section IV.A.4.a(2) to reflect the commenter’s concern.

AC 019-041

A very large spill was analyzed in Section J of the Chukchi Sea Oil and Gas Lease Sale 126 final EIS. An exploration blowout would be anticipated to have similar impacts to the 166,000-bbl pipeline spill analyzed.

Barge spills of oil may be common when barges are used as tanker vessels. In this case barges would be used to haul supplies and would be towed by a tug vessel and would not be carrying fuel on the barge. Since the enactment of the Oil Pollution Act of 1990, vessel spill rates have been decreasing. In general, vessel spills tend to be small. Approximately 65% of the spills are <0.24 bbl (10 gallons), 90% are <2.4 bbl (100 gallons) (Etkin, 2006). Small refined spills were analyzed in the EIS.

Stipulation No. 3 Transportation of Hydrocarbons in Section II.B.3.c(1) Stipulations describes that pipelines will be required. We do not analyze tankering as part of the reasonable and foreseeable scenario.

The highest priority certainly is pollution prevention. If an accidental oil spill were to occur, there are a host of mechanical and nonmechanical means to respond to an oil spill in this environment. Skimmers and containment boom provide response options in open-water and broken-ice conditions, and in situ burning may be employed in higher broken-ice concentrations when mechanical response is more limited. These could be viable and effective means to address an oil release in the environment.

AC 019-042

Appendix A, Tables A.1-12 through A.1-15a list the ID, Name, Map, General Resource, Specific resource, and the reference citations for the environmental resource areas used in the analysis of oil-spill effects on particular resources of concern. We have included a reference to these tables on the maps. Focusing on a few trajectories would not be representative of the 2,700 trajectories run from each of the 1,002 hypothetical launch points, and it might actually mislead the reader into thinking MMS has run only a few trajectories instead of the 2,705,400 trajectories that were run.

AC 019-043

The MMS acknowledges that Kasegaluk Lagoon meets the criteria for having wilderness values, as noted in USDO, BLM, 2003. The MMS does address Kasegaluk Lagoon as a sensitive area to be considered in the Oil-Spill-Response Plans (See Sec. II.B.3.c(2)). Should an accidental oil spill occur from OCS leasing activities, appropriate measures would be taken to minimize associated impacts.

The MMS also provides for an extensive regulatory review of planned operations to ensure that the safest and most appropriate technology is used to prevent a spill from occurring in the first place. The MMS reviews an operator's proposal prior to giving any approvals to drill for oil or gas. The MMS also has a Technical Assessment and Research Branch that evaluates new technologies for safety aspects as well as appropriateness for use in the environments they are proposed for. This attention to the details of any proposed operation provides for a safe and pollution-free operation.

AC 019-044

Many of the Alaska North Slope oil spills are from causes we would not anticipate on the OCS, such as truck rollovers. In addition spills of seawater to seawater do not have the same consequences as spills of seawater to the tundra. Appendix A.1 Section E discusses small spills and includes estimates for refined oil. Refined oil includes aviation fuel, diesel fuel, engine lube, fuel oil, gasoline, grease, hydraulic oil, transformer oil, and transmission oil.

AC 019-045

We regret that the tables and text for cumulative case oil spills were inadvertently left out. The tables show we estimate large oil spills from onshore and TAPS. We have included the relevant tables and text in Section V of the final EIS. We apologize for any inconvenience this may have caused.

AC 019-046

The EIS analyzed a pipeline spill of 4,600 bbl. This volume could occur from either a pipeline leak or a rupture. The EIS estimates one-third of a pipeline spill and approximately one-fifth of a platform spill over the production life of Alternative I. For purposes of analysis, we assume one spill occurs, either a 1,500-bbl platform spill or a 4,600-bbl pipeline spill, and analyze the impacts to environmental, social, and economic resources.

Please also note that the fault-tree model for large pipeline spills illustrated in Figure A.1-6 includes ice gouging.

AC 019-047

We believe the commenter is confusing water depth with ice-gouge-incision depth. We have rewritten the text in Section III.A.4.e(2), Ice Gouging, and IV.D.1.c(4)(a)1), Disturbances (Construction), to make it clear that little quantitative data are available about ice-gouge-incision depths in the Chukchi Sea. Linear features have been observed on the seabed indicating ice gouging in water depths up to 50 meters, but no data are available on the gouge-incision depths. Before a pipeline would be permitted, this information would be required to be collected and analyzed.

Installing pipelines in unconsolidated moving sediments is not the problem the commenter suggests. There are many examples of pipelines that have been successfully installed across very dynamic rivers and waterways. The Okha-Sofiysk oil pipeline across Tatar Strait between the Asian mainland and Sakhalin Island that was installed during World War II, the many pipelines in Cook Inlet, Alaska, the numerous pipelines that cross the Mississippi and Missouri Rivers are some examples.

AC 019-048

Issues related to water quality that are addressed and analyzed within the EIS include OCS operational discharges of drilling muds and cuttings, produced waters, domestic wastes, sediment disturbance, oil spills and blowouts, and discharges from vessels. Any discharge that would occur from OCS oil and gas operations within the Chukchi Sea area would have to operate under either the USEPA Authorization to Discharge under the National Pollution Discharge Elimination System (NPDES) for Oil and Gas Exploration Facilities on the Outer Continental Shelf and contiguous State Waters (AKG280000) or an EPA-issued individual NPDES permit. These USEPA permits are based on Ocean Discharge Criteria (40 CFR part 125, Subpart M), which sets forth specific criteria for preventing unreasonable degradation of ocean waters. Unreasonable degradation is defined within 40 CFR 125.121(e); and the determination is based on 10 criteria defined within 40 CFR 125.122. The EIS has presented the existing water quality of the planning Area as well as identified and assessed common discharges and impacts that could be associated with Chukchi Sea OCS Oil and Gas activities. Further action-specific environmental assessments will be performed on any postlease proposed Exploration and/or Development and Production Plan(s) by the MMS, and associated regulatory permit agencies during the permit application and review stage.

The MMS believes that water quality information in the EIS is appropriate, valid, and sufficient.

The effects of the Proposed Action on water quality as a result of Chukchi Sea OCS oil and gas exploration, and development and production is expected to be moderate locally and low regionally.

AC 019-049

The comment summarizes correctly the draft EIS descriptive information on benthos but concludes that benthic effects might be more severe than assessed, because the information on benthos is not precise. Figure III.B-2 illustrates that the quantity of benthic information is quite good. If proposed operations might affect special benthic habitats, MMS can require surveys to determine the extent and composition of the special habitats, per Stipulation No. 1.

AC 019-050

Sec. IV.C.1.d(3)(c), Effects from Platform and Pipeline Construction, states that a pipeline likely would be elevated on a short gravel causeway to protect it against shoreline erosion/iceberg scour. Protecting the pipeline against erosion and scour reduces the potential for the pipeline being damaged and leaking oil. Section IV.C.1.d(3)(c) also describes how the location of a potential pipeline is unknown, but a subsequent NEPA analysis would be needed to ensure any adverse habitat loss or degradation are minimized. The MMS believes it inappropriate to speculate on the possible impacts of a potential pipeline landfall when details regarding the location and design of a causeway are not available. In the event a causeway is proposed, MMS did commit to ensuring it would have the fewest impacts practicable. Significant impacts to fish during construction of a short causeway to protect a pipeline landfall are not expected.

AC 019-051

Section IV.C.1.d(2)(a) states that fish use sound in behaviors including aggression, defense, territorial advertisement, courtship and mating, and in detecting predators and prey. The potential impacts to these behaviors are described in Section IV.C.1.d(2)(b), Potential Impacts from Airgun Acoustic Emissions.

AC 019-052

We reviewed the McCauley, Fewtrell, and Popper (2003) paper in preparation of the draft EIS and agree with the commenter that the effects described can occur to fish. We also note that the paper describes experiments conducted with fish caged in water averaging 9m deep with an airgun towed over the fish at 5 m deep. This situation does not resemble how seismic surveys would be conducted in the Chukchi Sea. Furthermore, video monitoring indicated that the caged fish would have fled the sound source if they had been able to, avoiding physiological harm.

For the purposes of analysis and minimization of potential impacts, MMS assumed that it would be improbable that fish would remain within 5 m of a moving airgun array (the area where physiological harm is most likely to occur) and that ramping up provides an opportunity for fish in close proximity to the moving vessel to move away before physiological harm occurs. We are unaware of scientific evidence that suggests there are fish species in the Chukchi Sea that would willingly approach and remain in close proximity to a moving active seismic array in such a way or in such numbers that physiological harm or behavioral disruption on the order of significant population-level impact would occur.

AC 019-053

The draft EIS does not state that no adverse impacts to fish from seismic surveys are expected. Section IV.C.1.d(1)(a), Summary, Seismic Surveys, states that there are no empirical data that would lead us to expect that potential impacts from seismic surveys may reach a population-level effect nor does information exist to demonstrate seismic surveys would result in significant impacts to marine fish or related issues. These conclusions are based on the small likelihood that physiological harm or behavioral disruption to fish would occur to certain species of fish or in such numbers that significant impacts would occur.

AC 019-054

The draft EIS does not note that the noise from seismic survey airguns would result in significant behavioral changes in fish and fish stocks. Section IV.C.1.d(2)(b)2), Impacts to Behavior, states that the “most likely impacts to marine fish...would be behavioral disruptions...,” and these potential impacts are detailed in subsequent subsections.

Concurrent surveys operating in such a manner that their zone-of-influences (for affecting fish behavior) overlap conceivably could combine to influence fish-use patterns over a larger area. However, this is an unverified concept, and there are two reasons why even this situation is unlikely to arise. First, seismic surveyors prefer to operate at considerable distances from each other so that they do not interfere with each other’s data acquisition. Second, a mitigation measure to require at least 15 mi (25 km) between seismic-source vessels from separate simultaneous operation is required. Consequently there is a low potential for concurrent surveys to “herd” fish in open-water areas.

The situation where seismic-survey operations could result in the stranding of fish also is a concept that has never been documented to occur. Moreover, because seismic vessels would be working in areas of the proposed lease-sale area that are typically greater than 18 mi from shore, the likelihood that any fish would get stranded if it were to move away from seismic noise into shallower and shallower waters would be low. The MMS described strandings as a possible impact but concluded it was an improbable event. Despite a history of seismic-survey activities, fish strandings in the Alaskan Arctic have been associated only with large storm events.

Another basic concept used in our analysis is that fish most likely would be affected in a 160- to 200-dB zone-of-influence around the source vessel. McCauley, Fewtrell, and Popper (2003) concluded that airgun signals of the level ≥ 180 dB *re* 1 μ Pa could be expected at ranges < 500 m from a large seismic array. This zone could infrequently encounter fish as a source vessel moved through the project area. Consistent with McCauley, Fewtrell, and Popper (2003) and Engås et al. (1996), MMS believes that fish hearing the approach of a seismic-source vessel generally would choose to move away from it. Fish that did not move away would be affected temporarily in a localized area for a short amount of time while the vessel passed. Fish that moved away from the sound source could return to the area after the vessel had passed.

Engås et al. (1996) concluded that pelagic fish-catch rates and local abundance partially were reduced (not eliminated) within an 18-nautical mile (nmi) area following seismic surveys. The largest reductions occurred in areas closest to the path of the source vessel. Larger fish appeared to move greater distances away from seismic activity. The authors did not measure reductions beyond 18 nmi. The MMS did not speculate beyond the conclusions of the experiment. The authors, however, speculated that larger fish moved further from the seismic vessel activity because of their greater swimming ability, and that some fish may have habituated to repeated sound exposure.

AC 019-055

See response to comment **AC 019-054**.

AC 019-056

See response to comment **AC 019-054**.

AC 019-057

See response to comment **AC 019-054**.

AC 019-058

McCauley, Fewtrell, and Popper (2003) stated that “a precise air-gun exposure required to produce the damage observed was not obtained.” We believe the different interpretations of precisely where physiological damage to fish occurs (i.e., average of 168 dB *re* 1μPa [per the commenter] compared to 180 dB *re* 1μPa [as previously cited]) are largely immaterial, because prevailing scientific evidence indicates that, if given an opportunity, fish will move away from the sound source before encountering a sound level that damages their hearing.

AC 019-059

As Engås et al. (1996) reported that the distributions of cod and haddock were reasonably uniform prior to seismic-survey exposure, there was no evidence provided to conclude that the movements of fish away from the seismic area necessarily forced them to migrate to lower value habitats. If a uniform fish distribution implies a uniform habitat distribution, fish migrating from one habitat simply move to a similar habitat nearby and could have little conceivable motivation to return. It is unknown if Chukchi Sea fish distributions or habitats are uniformly distributed during the open-water period.

We concur that there are certain operational/weather-related assumptions that would allow one to conceive of seismic surveys covering at least 1,000 square miles during an open-water season; however, MMS did not believe it valid or appropriate to assume that the potential limited effects on fish would render a surveyed area useless to fish for the remainder of the open-water period. Consequently, such collective short-term effects spread over a large area would not reasonably be expected to occur at such magnitude, duration, or frequency as to result in population-level effects.

AC 019-060

We assessed the effects of the seismic surveys for the entire lease-sale area. The statement in Section V.C.4, Fish Resources, mistakenly implied otherwise. The conclusion that the effect of seismic exploration on fish resources probably would be minor remains accurate.

AC 019-061

The MMS believes this issue is adequately evaluated. Research indicates that copepods may passively bioaccumulate aqueous polyaromatic compounds (PAC's) and could thereby serve as a conduit for the transfer of said PAC's to higher trophic levels, including bowhead whales. Refer to Section V.C.6a(7) for discussion relating to accumulation of pollution and contaminants in bowhead whales. Tissue studies by Geraci and St. Aubin (1990) revealed low levels of naphthalene in the blubber and livers of baleen whales. The result suggests that prey have low concentrations in their tissues or that baleen whales may be able to metabolize and excrete certain petroleum hydrocarbons. Cytochrome p-450 in cetacean livers is an enzyme that suggests they can metabolize ingested oil (Hansen, 1992). Potential effects to bowheads exposed to PAC's through their food is unknown. The MMS acknowledges that bowhead whales, because of their extreme longevity, are vulnerable to incremental long-term accumulation of pollutants. With increasing development within their range and long-distance transport of other pollutants, individual bowhead whales may experience multiple large and small polluting events in their lifetime. There is little information to suggest population-level effects of oil spills regarding bioaccumulation/biomagnification of oil-related compounds. The MMS also acknowledges the vulnerability of large groups of bowheads exposed to fresh oil in lead systems to serious injury and death, especially through inhalation of highly toxic aromatic fractions and the resultant potential damage to respiratory system (Hansen, 1985; Neff, 1990), neurological disorders, and liver damage (Geraci and St. Aubin, 1982). The link here is circumstantial regarding the mortality of whales post-EVOS. After the EVOS event, Dahlheim and Loughlin (1990) found no effects on the humpback whale. von Ziegesar, Miller, and Dahlheim (1994) found no indication of a change in abundance, calving rates, seasonal residency time of cow/calf pairs, or mortality in humpback whales as result of that spill; however, this study could not have detected long-term physiological effects to whales or the humpback's prey.

AC 019-062

Please refer to Section IV.C.1.f(1)(g)3 of the EIS for a discussion of large-spill-related impacts. The MMS does acknowledge limitations in the information and direct study of bowhead whales and the uncertainties about the range of potential effects of large spills; however, we also acknowledge the value of what existing information that is available that do indicate a known range of effects, as well as recognize high sensitivity situations where exposure could have substantial effects. The MMS feels no modification of this section is needed.

AC 019-063

The MMS and NMFS analyses indicate most whales exposed to spilled oil are expected to experience temporary, nonlethal effects from skin contact with oil, inhalation of hydrocarbon vapors, ingestion of oil-contaminated prey, baleen fouling, reduction in food sources, or temporary displacement from some feeding areas. A few individuals may be killed as a result of exposure to freshly spilled oil. The combined probability of a spill occurring and also contacting bowhead habitat during periods when whales are present is considered to be low, and the percentage of the BCB Stock so affected is expected to be very small. Conservation and monitoring recommendations have been incorporated to improve the understanding of impacts of oil and gas activities on bowhead whales as well as mitigate adverse effects. Incremental reassessment of oil and gas development and production is intended to apply adaptive management and incorporate new understanding and mitigation of effects. The MMS feels the conclusion in the text best represents the analysis and research.

AC 019-064

This comment includes quoted fragments of statements made in the document that appear out of context with qualifying content not included. In Sections IV.C.1.h(3)(b) and IV.C.1.f(1)(g)3, MMS has adequately presented the known studies and respective conclusions relative to large to very large oil-spill events. These results vary and are not directly comparable to evaluate probability of effects either collectively or individually. The information evaluates different species, different data sets, and results of suspected effects. Various study conclusions do not suggest consistency. The MMS recognizes cetacean exposure to large amounts of fresh oil may result in serious injury or death. The evidence linking death, probable death (disappearance of individuals from pods of killer whales, for example) is circumstantial and not definitive. Data on large cetaceans are not adequate to evaluate probability of sublethal effects or population-level effects thereof.

AC 019-065

The MMS repeated recognizes the vulnerability of whales migrating in spring through the polynya/spring lead system (e.g., see Sec. IV.C.1.f(1)(g)4). The likelihood of whales to move or not move away from spilled oil would depend on event-specific circumstances. Bowhead whales can and do travel under ice cover and may have alternate routes or reversal of movement opportunities available and choose to use them. Oiling effects to bowhead skin related to exposure and effects is inconclusive and hypothetical at this time. It would appear to be speculative to indicate lethal impacts from exposure to oil due to the epidermal makeup of the bowhead. Exposure to oil takes several forms, all of which are discussed at length in the draft EIS. Bowhead epidermal thickness is as much as 7-8 times thicker than that found in most whales (Haldiman et al. (1985). Oil is unlikely to adhere to smooth skin, although it may stick to rough (eroded) areas, tactile hairs, and depressions around hairs. Geraci and St. Aubin (1990) noted transient damage to epithelial cells in whales and only subtle changes at the cell level, and damage healed within a week. Refer to Section IV.C.1.h(3)(b)1 for a discussion relative to skin exposed to oil and oil products. Research to date has not conclusively shown effects of oiled skin in bowhead or other whales to be of substantial impact as to induce mortality or population-level responses. What research exists indicates oiling of eroded or injured skin does induce normal inflammation and immediate site cell

degeneration creating a barrier between oil and living tissue. Healing processes apparently were not impeded or delayed.

AC 019-066

The MMS acknowledges the potential for eye and conjunctive tissue irritation from oil exposure. Histological and ultrastructural studies suggest whale skin, including freshly exposed living tissue that may be encountered on eroded skin areas, suffers only transient damage to epithelial cells. According to Geraci and St Aubin (1990), cetacean skin is an effective barrier to noxious substances in petroleum, forms degenerated cell barriers between oil and living tissue, and heals readily after initial short-term (within 24 hours) inflammation. The MMS agrees that prolonged skin contact with oil could be harmful. The severity of harm is hypothetical; evidence is lacking that would indicate more than irritation, and Bratton et al. (1993) concluded that no published data proved oil fouling of the skin of any free-living whales and that bowhead whales contacting fresh or weathered petroleum are unlikely to suffer harm.

AC 019-067

Please refer to Section V.B, Activities We Considered in this Cumulative Effects Analysis. The activities considered in this section that are deemed reasonably foreseeable future development do not indicate “extensive off shore development ” but instead represent a smaller, localized portions of the lease area. Additionally, numerous conservation and mitigation actions are proposed to avoid, minimize, and mitigate effects to bowhead whales. Portions of the Chukchi, Bering, and Beaufort seas are foreign waters in which the BCB bowhead stock range in their annual life cycle. The notation “at least half of its range has extensive offshore development” is excessive in view of the temporal, spatial, and progression of the reasonable foreseeable future development in the region. The term “extensive offshore development” is a relative term depending on what criteria it is measured by. The MMS believes the cumulative effects scenario is a reasonable scenario.

AC 019-068

The MMS believes this issue is adequately evaluated. Research indicates that copepods may passively bioaccumulate aqueous polyaromatic compounds (PAC's) and, thereby, could serve as a conduit for the transfer of said PAC's to higher trophic levels, including bowhead whales. Refer to Section V.C.6a(7) for discussions relating to accumulation of pollution and contaminants in bowhead whales. Tissue studies by Geraci and St. Aubin (1990) revealed low levels of naphthalene in the blubber and livers of baleen whales. The result suggests that prey have low concentrations in their tissues or that baleen whales may be able to metabolize and excrete certain petroleum hydrocarbons. Cytochrome p-450 in cetacean livers is an enzyme that suggests they can metabolize ingested oil (Hansen, 1992). Potential effects to bowheads' exposure to (PAC's) through their food is unknown. The MMS acknowledges that bowhead whales, because of their extreme longevity, are vulnerable to incremental long-term accumulation of pollutants. With increasing development within their range and long distance transport of other pollutants, individual bowhead whales may experience multiple large and small polluting events in their lifetime. There is little information to suggest population-level effects of oil spills regarding bioaccumulation/biomagnification of oil-related compounds from the proposed lease activities relative to global circumstances represent a measurable effect.

AC 019-069

Conservation practices, required mitigation, and monitoring recommendations have been incorporated to improve the understanding of impacts of oil and gas activities on bowhead whales as well as mitigate adverse effects. Incremental reassessment of oil and gas development and production is intended to apply adaptive management and incorporate new understanding and mitigation of effects. The MMS uses the best information available and sincerely desires to add to that understanding to better manage oil and gas development in the area.

AC 019-070

Incidental take authorization is subject to mitigation measures to ensure that the actual take of an animal is the last resort and that all other conservation actions have been exhausted before a take is allowed. Incidental take authorizations and associated mitigation actions, individually and cumulatively, are specifically established within limits to prevent attaining population-level effect thresholds. The NMFS and FWS are agencies with the authority by which incidental take authorizations are issued and enforcement protocols applied.

AC 019-071

The MMS appreciates the concern for gray whales as well as the implications of climate change on distribution and abundance of other species of whales in the Chukchi Sea. The MMS has actively monitored not only bowhead whales but all species of marine mammals encountered when conducting the annual bowhead whale counts. These regular surveys provide an index to changes in distribution and number of other species of marine mammals both listed under the ESA and MMPA and allow appropriate actions at the time and place that protective actions are warranted. The MMS is required to consult with NMFS regarding listed species, and NMFS has the responsibility and authority for administering the MMPA. The NMFS can assure you that gray whales and the protection of their use of the Chukchi Sea is being considered, and concerns would be related to MMS for this document.

AC 019-072

The NMFS has determined the only ESA-listed species under its jurisdiction that may occur in the Proposed Action area and is likely to be affected by these proposed lease activities is the Western Stock of the bowhead whale. Data from long-term MMS bowhead whale surveys and historic distribution of fin whales indicate they range within approximately 100 mi of the south and western extremity of the Chukchi Sea Planning Area and do not use nearshore or offshore habitats in the planning area. Fin whales occupy the southwestern Chukchi Sea along the northern coast of Chukotka. Historic distribution and current information indicate humpback whales range into the Bering Strait and some documented use in Chukchi Sea; however, available information does not indicate that humpback whales typically occur or have been documented to occur within or immediately adjacent to the Chukchi Sea Planning Area. It is unlikely impacts could occur to these whale species as result of lease activity in the Chukchi Sea Planning Area, and it is unlikely that current humpback or fin whale use of the Hannah Shoal area is occurring. Ongoing annual surveys focusing on bowhead whales also record all other marine mammals observed, and this effort does provide an index to the trends and distribution of humpback, fin, and gray whales in the survey areas.

AC 019-073

The MMS acknowledges that shipping and vessel traffic may increase in the Arctic as a result of oil and gas leasing activity. Climate warming also could increase vessel traffic and contribute to a longer period in which vessel traffic could occur and overlap with the time periods whales are exiting or entering the Chukchi Sea via the Bering Strait; however the timing of whales exiting and entering the Chukchi Sea may be delayed similarly. Expecting these effects is reasonable, but they remain to be verified. Vessel traffic in the Bering Strait is associated primarily with barging associated with onshore and offshore oil and gas activities. The potential for whale-vessel "congestion" in the Bering Strait in autumn could occur; however most vessel traffic in the Chukchi and Beaufort Seas now is limited primarily to late spring, summer, and early autumn and avoids the peak whale-movement periods in both late fall and early spring. Levels of noise from vessels and physical presence of numerous vessels could reach some hypothetical point of a density that inhibits whales from also moving through the Bering Strait simultaneously. However, the timing of vessel traffic and whale migration does not overlap, and the existence of such vessel noise and density thresholds is speculative. Ice conditions when whales exit the Chukchi are in excess of conditions in which barges can safely operate. The current patterns for oil- and gas-activity-related vessel traffic other than barges currently remain in the Arctic and do not exit the Beaufort and Chukchi seas via the Bering Strait, but rather operate in support of industry until conditions force them to

dock for the winter along the northern coast. Monitoring has indicated relatively low vessel-collision injury to whales to date; possibly because most whales begin to swim rapidly away when vessels approach rapidly and directly (see Richardson and Malme, 1993).

ACI 019-074

The MMS agrees that comprehensive periodic inventories and monitoring of whales using the Chukchi Sea would be of value. The MMS has funded monitoring surveys focused on bowhead whales that do record all marine mammals observed and provide an interim index to whale species, numbers, and distribution in the areas covered by those surveys. At this time, NMFS has determined the only ESA-listed species under its jurisdiction that may occur in the action area and is likely to be affected by these proposed lease activities is the Western Stock of the bowhead whale.

ACI 019-075

The draft EIS discloses the wide variation of research finding to date as well as indicates the lack of direct and indirect cause-effect relationships of oil-spill events on a wide variety of marine mammals, including whales, and indicates considerable speculation relative to circumstantial information. The MMS has adequately disclosed the disparity and inconsistency in known information and has made a reasonable assessment of potential and real risks and effects based on the information available.

AC 019-076

The MMS agrees that gray whale habitat overlaps with potential oil and gas activity, and trends in gray whale population-expansion habitat are factors to be considered. There are substantial hypothetical projections of the importance of and reason why gray whales may be increasing use of areas as the Hannah Shoals. Depletion of prey sources in historical range may be forcing expansion into new or previously little used areas due to declining population/prey-base relationships in the Bering Sea, for example. The MMS recognizes the potential risk. Existing information is insufficient to understand the dynamics of gray whales and offshore Chukchi Sea habitat relationships, quality and quantity dynamics and distribution of prey resources, or the capability of habitat to support (carrying capacity) long- and short-term whale use. Further, understanding of the dynamics of the prey and its habitat productivity capability and maintenance is not well understood in the Chukchi Sea. Proposed mitigation and monitoring for the lease-sale area for bowhead whales and other marine species would become the initial baseline protection of gray whales and habitat during exploration stages. Incremental evaluation of the more intensive development and production stages, if and when they should occur, would incorporate ongoing studies and monitoring data, and analysis would allow for improved understanding of these resources to facilitate adaptive management to protect, enhance, or restore habitat.

AC 019-077

Refer to Sections I.C.7, The Clean Water Act, and I.E.9, Discharge and Pollution Regulations. The USEPA has the authority to issue NDPES permits to regulate discharges into waters of the United States so as not to have environmental consequences. The NPDES discharge is not part of this action, and USEPA must consult with NMFS and FWS on effects of that program on marine mammals. Exploration wells may result in drilling mud and cuttings being discharged into Chukchi Sea waters under the NDPES General Permit and being deposited on the ocean floor in localized sites, becoming assimilated into the ocean floor sediments and ecosystem dynamics within 1-2 years (Hurley and Ellis, 2004). It is unlikely that such microscale and short-term localized events would be of consequence to benthic zooplankton productivity and bioaccumulation of a magnitude to impact gray whale foraging requirements. Background levels of materials that could bioaccumulate are not well documented in the Chukchi Sea, and the degree to which oil and gas related materials from the Chukchi Sea would contribute to bioaccumulation of heavy metals throughout the gray whale annual habitat range and long lifetime is hypothetical. Habitat availability for whale foraging is dynamic. Benthic zooplankton production and distribution depends on localized factors, and the role of ocean floor-disturbance dynamics (natural ice gouging as well as pipeline construction, for

example) on amphipod productivity and maintenance remains unclear. Disturbance of the ocean floor in areas where phytoplankton accumulate does help prevent excessive accumulation and suffocation of benthic clams and amphipod beds. Localized actions affecting an exploratory well waste-discharge zone or a single pipeline appear to be inconsequential in relation to expanses of rich benthic foraging areas available to gray whales in the Chukchi. Oil and gas development and production activities require individual NPDES permits that specifically identify discharge allowances and required operational practices for each facility. Refer to Section IV.A.2.g. Estimates of Drilling Wastes and Their Disposal.

AC 019-078

The MMS also describes the phenomenon in Section III-5 in detail. Ice gouging is a recognized process in the Chukchi Sea and distribution, frequency, and severity have been studied. Permanent or multiyear pipeline and other seafloor facilities consider these factors in design and construction of such facilities to avoid potential disruption or damage to such facilities. Prior to any exploration, development, or production activity, an Exploration or Development and Production Plan and supporting information must be submitted for review and approval. Engineering practices to avoid ice-gouging conflicts would be resolved prior to approval by MMS.

Chronic, undetected oil leaks, should they occur, could result in the array of effects on whales, including gray whales, resulting from potential inhalation, ingestion, baleen fouling, skin and eye membrane oiling, reduced food source and displacement from feeding area. These effects are discussed at length in Section IV.C.1. The MMS acknowledges that chronic, undetected oil leaks may occur. Because of this, MMS requires high-sensitivity leak-detection equipment and maintenance to minimize the potential occurrence of undetected leaks by facilitating rapid detection and correction. The MMS conducts inspections to ensure that these requirements are met.

AC 019-079

The MMS is aware that right whales on occasion could be observed in the southwestern portions of the Chukchi Sea and encourages the immediate reporting of and verification of any right whale sightings to NMFS or MMS. Documented and verified observations and/or reports of North Pacific right whales in or immediately adjacent to the Chukchi Sea Planning Area are lacking at this time. It is important to note that Inupiat hunters have terminology for bowhead whale age-class and body conformation characteristics. This is interpreted as “right whale,” when referring to these characteristics and age-classes of bowhead whale. This terminology used in a public hearing could be mistaken for meaning North Pacific right whales when actually describing a specific age and body conformation of bowhead whale. At this time, NMFS has determined the only ESA-listed species under its jurisdiction that may occur in the action area and is likely to be affected by these proposed lease activities is the Western Stock of the bowhead whale. The MMS recognizes the potential for right whales and, due to the similarity of general ecology, anticipates that mitigation and protection measures proposed for bowhead whales would, for the most part, apply the right whales.

AC 019-080

Candidate species have no legal protection under the ESA, but MMS chose to treat the Kittlitz’s murrelet as if it was listed. The Biological Evaluation concluded that the murrelet exists in the project area in low numbers, because it is at the extreme limit of the murrelet’s distribution, but that a high proportion of the regional murrelet population could be harmed or killed during a large spill event.

AC 019-081

We have provided additional information to FWS regarding voluntary measures MMS would require of lessees to minimize incidental take of listed eiders. These measures would be combined with Reasonable and Prudent Measures and associated Terms and Conditions from the Biological Opinion (dated March 28, 2007) to minimize incidental take to listed eiders during this step of the incremental consultation process.

For proposed Sale 193, MMS specifically requested an incremental Section 7 consultation with FWS. The MMS consulted with FWS on the potential effects of leasing and seismic/exploration activities. As few details are known regarding the specific location/design of a future development, that stage of the process will require further consultation with the FWS. To allow this stepwise approach, FWS found that the leasing and seismic/exploration stage of the project would not result in a jeopardy determination to either the Steller's eider or spectacled eider nor would adverse modification of spectacled eider critical habitat occur.

The FWS also concluded that there "is a reasonable likelihood that the entire action will not violate section 7(a)(2) of the [Endangered Species] Act." Section 7(a)(2) of the ESA requires that Federal Agencies ensure their actions are not likely to jeopardize the continued existence of any endangered or threatened species or adversely modify designated critical habitat. Lessees were advised that future development projects arising from Lease Sale 193 are subject to Section 7 consultation with FWS, and a future project would not be authorized by MMS if it resulted in jeopardy or adverse modification of designated critical habitat, as determined by FWS. This information was incorporated into ITL No. 7.

AC 019-082

The ESA allows Federal Agencies to use NEPA documents as consultation documents as long as they contain all pertinent information and a declarative Determination of Effects statement. Due to the complexity of the proposed lease sale, MMS decided to specifically include all of the necessary information in a Biological Evaluation, so that FWS could focus on the issues relevant to the listed species and designated critical habitat. The ESA requires Federal Agencies to meet certain consultation regulations that are independent of and provide more protection than NEPA. For example, significance criteria, as defined by NEPA can, and often do, differ from the Determination of Effects standards identified in the ESA. As FWS is recognized as having jurisdiction over endangered and threatened species, we defer to their expertise and concurrence/Opinions regarding the anticipated effects of the proposed project on listed birds in the project area.

The decision to place the Biological Evaluation in an Appendix was based on its length as well as the anticipated need to couple it with the companion Biological Opinion and other consultation documents. The BE is a stand-alone document that duplicates basic information from the draft EIS, but provides much more comprehensive information on the listed bird species than is typically included in a NEPA document. Ramifications from the BE/BO (i.e., mitigation benefits to other bird species) are incorporated back into the main NEPA document.

We regret that the three figures from the BE were inadvertently missing from the draft EIS document. They are now in the BE. Both the BE and BO are available at http://www.mms.gov/alaska/ref/Biological_opinionsevaluations.htm or from MMS.

AC 019-083

The inclusion of lease blocks in the Ledyard Bay Critical Habitat Area is not a violation of the ESA. Federal Agencies have an affirmative responsibility to ensure their actions do not jeopardize the continued existence of listed species or adversely modify designated critical habitat.

AC 019-084

The MMS is obligated to consult with FWS regarding effects of the proposed project on listed birds. The FWS reviews our BE and renders a Biological Opinion (BO) on the project, determining whether the project would jeopardize the continued existence of a listed species or result in adverse modification of designated critical habitat. If a project would not result in jeopardy or adverse modification of critical habitat, FWS issues an incidental take statement (ITS). The ITS determines that anticipated level of unintentional harm that could arise if the project is completed as described. Another section of the BO includes Reasonable and Prudent Measures (RPM's) is intended to reduce the amount of incidental take to

the maximum extent practicable. Nondiscretionary Terms and Conditions (NTAC's) also are included to implement the RPM's. The FWS makes the determination whether the anticipated cumulative effects on listed bird species, in view of the species baseline status and all the other known or anticipated sources of take/mortality, would jeopardize the continued existence of the species. Concerns regarding the BO should be directed to the FWS.

Certainly there is a point where, if all the incidental takes occur, a listed population could be placed in jeopardy. We defer to the FWS to assess and monitor Federal projects against this threshold, as this is their responsibility and jurisdiction under the ESA. MMS has voluntarily adopted a series of conservation measures to avoid and minimize adverse effects on listed birds and will enforce RPM's/NTAC's as required by the BO.

AC 019-085

We agree there is a growing consensus that the landscape of the Arctic is changing; however, it is extremely difficult for MMS to predict with any certainty which (of many potential effects) could benefit or harm listed bird species.

AC 019-086

We believe the draft EIS, specifically the BE, accurately portrays the risk that an oil spill could affect listed bird species. We acknowledged that a large spill contacting large flocks of molting spectacled eiders could have population-level effects. Similarly, we consistently reiterated the importance of minimizing impacts to birds using the spring lead system. Specific conservation measures (Sec. II) are designed to minimize the risk that a spill would affect listed birds. Furthermore, any future development (the greatest potential source of a large spill) would be required to be designed and constructed, or have other relevant features, so as not to jeopardize the continued existence of listed species or adversely modify designated critical habitat (ITL No. 7, Sec. II), consistent with step-wise consultations under NEPA and the ESA.

AC 019-087

See response to comment AC 019-086.

AC 019-088

The spring lead system is an ecological feature that exists during a specific time period (portions of April-June). The lead system is a dynamic area that is constantly undergoing change from ice distributions and wind/ocean current patterns. Portions of the spring lead system overlap with the Ledyard Bay Critical Habitat Area, which was designated to protect a molting area for spectacled eiders. The utility of the critical habitat area for molting eiders is not realized when the spring lead system is present.

The question from the commenter is what is the percent chance of the 2,700 trajectories from a particular launch area contacting ERAs "A," "B," and "C." It is inappropriate to add the conditional probabilities of contact to environmental resource areas, because in the OSRA model, environmental resources are transparent (trajectories pass through them); thus, one trajectory may pass through more than one environmental resource. The model tabulates the percent chance of a large oil spill contacting one particular ERA based on the paths of 2,700 trajectories. The OSRA model does not store data on which specific trajectories, of more than 2,000,000 trajectories, contacts specific groups of ERA's.

AC 019-089

The Biological Evaluation did not anticipate 750-1,000 small volume spills during the production life of the project. Page 57 of the BE defines the project production life to be 25 years, not 30-40 years, as used in the calculations provided in the comment. There is clearly uncertainty surrounding the potential for small spills to contact eiders, because the launch areas (potential spill-origination sites) are unknown, so the

distances to known eider concentrations during specific times of the year also are unknown, and the prevailing wind patterns and ocean currents between the potential launch points and concentration areas are unknown. The MMS used the best available information to model the percent chance that large spills ($\geq 1,000$ bbl) would contact certain resource polygons. It is inappropriate to assume that smaller spills would behave in the same manner.

A spill of 48 bbl of diesel fuel originating in the Beaufort Sea recently was calculated to not persist for more than 2 days. Similar calculations would be performed for the Sale 193 project, if a specific platform site/pipeline is proposed. The OSRA model would then recalculate the percent chance that spills would occur and the percent chance they would reach ERA's.

The NMFS has determined the only ESA-listed species under its jurisdiction that may occur in the action area and is likely to be affected by these proposed lease activities is the Western Stock of the bowhead whale. Data from long term MMS bowhead whale surveys and historic distribution of fin whale indicate they range within approximately 100 miles of the southern and western extremity of the Chukchi Sea Planning Area and do not use nearshore or offshore habitats in the planning area. Fin whales occupy the southwestern Chukchi Sea along the northern coast of Chukotka. Historic distribution and current information indicate humpback whales range into the Bering Strait and some documented use in Chukchi Sea; however, available information does not indicate that humpback whales typically occur or have been documented to occur within or immediately adjacent to the Chukchi Sea Planning Area. It is unlikely that impacts could occur to these whale species as result of lease activity in the Chukchi Sea Planning Area, and it is unlikely that current humpback or fin whale use of the Hannah Shoal area is occurring. Ongoing annual surveys focusing on bowhead whales also record all other marine mammals observed, and this effort does provide and index the trends and distribution of humpback, fin, and gray whales in the survey areas.

AC 019-090

The effects of response activities associated with a spill are described on page 56 of the Biological Evaluation.

AC 019-091

The MMS will restrict activities in and near areas important to listed bird species. Please see mitigation measures contained in Sec. II.

AC 019-092

We agree that the BE does not include alternatives from the Proposed Action. A BE identifies the effects of a single action, not a range of actions. To consult on a different alternative could be viewed making a predecisional determination, in obvious contrast with NEPA policy. From our perspective, the Proposed Action involved the greatest amount of potential impacts to listed bird species—the worst-case scenario. Selection of one of the other alternatives (better-case scenarios) would result in fewer effects on listed bird species, and the Section 7 consultation would remain valid.

AC 019-093

This comment does not identify the supposedly arbitrary assertions, assumptions and analytical gaps.

AC 019-094

Section IV.A.2.c, Development Activities, identifies the likely location of the shore base as being between Icy Cape and Point Belcher. The final location of a shore base would be determined by coastal topography, proximity to developable fields, high-value coastal habitats, etc., as well as similar constraints on the associated offshore pipeline. Because the potential production site remains unknown, there is little value in evaluating the potential effect every conceivable pipeline-shore base combination would have on listed bird

species. These effects would be evaluated if a shore base pipeline is proposed. Effects on listed species and critical habitat would be important factors in locating these facilities.

AC 019-095

Page 48 of the BE describes the rationale and basis for calculating the estimated incidental take of eiders during the production phase. This approach was not arbitrary, as it was virtually identical to that used recently by BLM and FWS for a similar ESA Section 7 consultation.

AC 019-096

Page 49 of the BE addresses access issues. It is unclear what, if any, additional use of potential access roads would occur, because access to them may be restricted. Also, lead shot is no longer allowed for waterfowl hunting on the North Slope. The MMS considers it inappropriate to assume or imply that local hunters would use lead shot in violation of current law.

AC 019-097

The FWS does not know the reasons for the decline of the Steller's eider; thus, predation cannot be assumed to be a principal cause of their decline. The BE included predation as a possible contributing factor in the species decline on the Yukon-Kuskokwim Delta. The EIS/BE clearly identifies increased predator populations as a threat to the listed eiders. Specific measures to reduce the potential for future development to increase this risk will be addressed at the appropriate time in the planning/consultation process.

AC 019-098

The EIS and BE clearly identify increased predator populations as a threat to the listed eiders. Specific measures to reduce the potential for future development to increase this risk will be addressed at the appropriate time in the planning/consultation process.

AC 019-099

Page 42 of the BE states: "It is unclear, however, if exploration or development could proceed in the Critical Habitat Area if seismic surveys are not permitted in that area." Exploration was meant to mean exploration or delineation drilling. Seismic surveys are not allowed in this area after July 1 of each year, but companies could survey the area prior to July 1, when spectacled eiders typically are not present. Sea conditions also would need to be suitable, which has not been the case in recent years. It also is unknown if industry already has adequate seismic information from previous work, possibly completed before the critical habitat area was designated, to support exploration drilling.

The mitigation measures have been revised to minimize effects from exploration drilling should those lease blocks overlapping the critical habitat area become part of a proposed exploration plan (see Sec. II).

AC 019-100

The conservation measures for this project are intended to protect spectacled eiders using the Ledyard Bay Critical Habitat Area regardless of their sex or breeding status.

AC 019-101

The correct distances from the cited paper are 31-42 km (19-25 mi). This correction has been made to the draft EIS.

AC 019-102

This is a commonly accepted altitude restriction to minimize collisions with birds. Komenda-Zehnder, Cevallos, and Bruderer (2003) recommended this altitude to minimize impacts to wintering waterbirds birds. The citation has been added to the bibliography.

AC 019-103

The MMS adopted the methodology used in similar Section 7 consultations, because there is conflicting evidence to do otherwise. Calculations were based on empirical data collected for the Beaufort Sea, based on collisions of surrogate eider species on an island-based production platform, because there is no similar dataset involving the deaths of listed eider species. One could make a reasoned argument to increase or decrease the parameters used in collecting the incidental take that could arise from exploration or production for the life of the project. Spectacled eiders use the Ledyard Bay Critical Habitat Area during a molt and, as such, have a lower potential to strike structures when they are flightless. Eiders migrating to the area could be less prone to fly so fast or so low. They also would be less prone to migrate or molt through much of the outer regions of the propose lease-sale area. They do, however, use areas of the Chukchi Sea that are farther offshore than areas used in the Beaufort Sea during broodrearing or molt migration. Spectacled eiders have to fly to/from these areas and could be at some risk to a drilling structure farther offshore. Lacking specific data to make a specific change in the evaluation methodology used in a nearby region of the Arctic, we implemented the existing standard for our calculations of incidental take.

AC 019-104

See response to comment **AC 019-103**.

AC 019-105

We do not understand the phrase “despite a paucity of dearth of evidence” in this comment. We interpret the comment to imply that despite mitigation measures, that there still would be more than minimal impacts to listed eiders. The source of these impacts is not explained in the comment. The BE identified each of several potential impact categories and assessed the anticipated level of effect with mitigation measures in place. We believe impacts from aircraft, seismic-survey vessels, support vessels, etc., have been mitigated to the maximum extent practicable. We believe this should be apparent if the commenter were to review the revision of Sec. II in the final EIS.

The MMS has not directed industry to conduct research on the potential effects of seismic airguns on eiders because, in our view, it is much more prudent and effective to avoid impacts by prohibiting seismic activity from an area when it is actively used by eiders (i.e., the critical habitat area that was designated to protect an important molting site).

AC 019-106

We believe part of the conclusions in this comment arise from two important aspects of the project: Incremental Step Analysis under NEPA and the ESA Section 7 consultation.

The OCS Lands Act of August 7, 1953, Chapter 345, as amended, provides statutory authority to the MMS for implementing a leasing program for the U.S. OCS. This leasing program authorizes exploration for, and development and production of, oil/gas/minerals as described in the Act.

The NEPA directs Federal Agencies, when issuing permits or planning projects, to conduct environmental reviews to consider the potential impacts of their proposed actions on the environment. The MMS, Alaska OCS Region continues to use a tiered EIS process, which streamlines documentation for large, complex projects required under NEPA. Our tiered process involves breaking up a complex, long-term project into

a series of incremental steps to address broad issues first and consider more detailed, location-specific issues in subsequent stages as more specific information becomes available.

The tiered concept assumes that subsequent environmental documents will be required to focus the analysis on site-specific, project-level issues, impacts, and mitigation measures. It also lessens duplication and saves limited government resources.

The incremental step approach may explain why some of the project features and related mitigation measures lack a certain detail—project-specific information does not exist at this time. Without project or site-specific information, it is difficult to design mitigation measures. While it may appear that MMS has deferred mitigation for some parts of a future project, MMS has identified the issues that will need to be addressed and mitigated in the future if and when a project is proposed and the NEPA/ESA processes move onto the next incremental stage.

AC 019-107

See response **AC 019-106**.

AC 019-108

Lighting restrictions are now required when not essential for human health or safety. We recommend the commenter review the revised mitigation measures in Sec. II of the final EIS. Many of these other points in this comment were addressed in previous responses.

AC 019-109

These points have been addressed in previous responses, particularly the responses to **AC 019-107**, **AC 019-094**, and **AC 019-091**. We recommend the commenter review the revised mitigation measures in Sec. II of the final EIS.

AC 019-110

We believe that mitigation measures to protect listed bird species will provide similar benefits and protection to other marine and coastal birds in the project area. We recommend the commenter review the revised mitigation measures in Sec. II of the final EIS.

AC 019-111

The commenter fails to note that since 1968, there has been only one documented case of a lethal take of a polar bear associated with oil and gas activities in Alaska, which occurred in 1990. As far as is known, there have been no lethal takes of walrus associated with oil and gas activities in Alaska. Furthermore, although there are no current population estimates for either species in the Chukchi Sea, neither the Pacific walrus nor either stock of Alaskan polar bears are listed as “depleted” under the MMPA. To date, MMS is not aware of any research that identifies any instance of interference with the subsistence harvest of polar bears or walrus that has resulted from industrial activities, although MMS acknowledges that the potential for such impacts exists.

AC 019-112

The MMS acknowledges the validity of these comments but would like to correct one misstatement. There are no “existing levels of legal harvest” in Russia. Hunting polar bears in Russia has been banned since 1956. Therefore, any harvest in Russia is, by definition, illegal.

AC 019-113

The opening paragraph of Section IV.C.1.h(4)(a), Conclusion, has been modified.

AC 019-114

The MMS is aware of the report noted. However, it was not available at the time the draft EIS was written. As a result of the new information, new information has been added to and text modified in Section III.B.6.c.

AC 019-115

Again, the commenter fails to note that since 1968, there has been only one documented case of a lethal take of a polar bear associated with oil and gas activities in Alaska, which occurred in 1990. The existing evidence indicates that industrial development in the Alaskan Arctic has proceeded over the last 40 years without apparent impact to polar bear populations.

The commenter is correct to note that any additive mortality may reduce reproductive rates, diminish the availability of polar bears for subsistence uses, and cause the affected population to decline. Furthermore, industrial development of the Chukchi Sea may indeed add to the variety of stressors that currently affect polar bears' physical health that, in turn, may cause additional mortality to polar bears. However, MMS is aware of no studies that establish a direct link between industrial activities and polar bear population dynamics, with the exception of potential impacts to maternal polar bear den sites. However, any proposed activities that potentially might affect maternal den sites will be carefully reviewed and mitigated by both MMS and FWS to greatly reduce any such potential impacts.

If the commenter is aware of any specific data or research that draw a direct correlation between industrial activities and polar bear population dynamics, MMS would be very interested in them and would include this information in its decisionmaking process.

AC 019-116

The MMS is aware of the report noted. While it was not available at the time the draft EIS it has been included in the final EIS. The commenter has slightly misrepresented the findings of Regehr et al., however. Although climate change is implied as the causative agent of the observed changes in the SBS population dynamics, the authors stopped short of stating that climate change was the *definitive* cause of observed changes. Rather, the authors drew parallels between changes that have been observed in the SBS polar bear population and what has occurred in the Western Hudson Bay polar bear population, stating that:

in Western Hudson Bay, Canada, a significant decline in population size was preceded by observed declines in cub survival and physical stature. The evidence of declining recruitment and body size reported here, therefore, suggests vigilance regarding the future of polar bears in the SBS region.

The authors go on to state that:

In other parts of the polar bear range, reductions in the spatiotemporal availability of sea ice have been shown to negatively impact polar bear stature, productivity, and survival of juvenile, subadult, and senescent animals (Stirling and other, 1999; Stirling, 2002).

As a result of the new information, however, the text has been added/modified in the final paragraph of Section V.C.8.c(3), Climate Change.

AC 019-117

The text in Section III.B.6.c., Marine Fissipeds – Polar Bear, has been modified, and the same information was added to Section IV.C.1.h(4)(e), Oil-Spill Effects.

AC 019-118

The text in Section III.B.6.c., Marine Fissipeds – Polar Bear, has been modified. The text in Section IV.C.1.h(4)(e), Oil-Spill Effects, also has been modified.

Potential impacts to important feeding areas are analyzed in Section IV.C.1.h(4)(e), Oil-Spill Effects.

As far as MMS knows, no “migratory habitats” for polar bears have been identified. If the commenter is aware of specific information germane to this issue, MMS would be happy to consider it in analysis of effects.

AC 019-119

The MMS uses a tiering approach to analyses for the OCS program. The MMS feels that mitigation measures have been identified and analyzed at an appropriate level of detail for the lease sale analysis.

Ac 019-120

As stated in Section II.B, ITL No. 14, Information on Planning for Protection of Polar Bears, it is not possible or appropriate at this time to craft specific measures to mitigate potential effects of future activities, because:

Polar bears are part of a dynamic rather than a static system. Changes in their distributions and populations in recent years indicate that adaptive management is required to adequately mitigate potential impacts to their populations (i.e., specific mitigation measures developed today may not be applicable 5, 10, or 20 years from now). The U.S. Fish and Wildlife Service (FWS) is the management agency responsible for polar bear management; as such, they have the most current information about the status of polar bear populations, the issues facing them, and the most recent research findings applicable to them. Therefore, MMS will be implementing increased coordination with FWS for the protection of polar bears.

The MMS believes it is entirely appropriate to rely on close coordination with FWS to track continued changes in the polar bear’s distributions and populations to craft project-specific mitigation measures when specific activities are proposed.

Furthermore, MMS believes that FWS’s proven track record of effectively mitigating industry activities, via restrictions imposed through their Incidental Take Authorization authority under the MMPA, validates this approach. Again, the commenter is reminded that, since 1968, there has been only one documented case of a lethal take of a polar bear associated with oil and gas activities in Alaska, which occurred in 1990. In essence, what that implies is that, to date, industrial development in the Alaskan Arctic has proceeded over the last 40 years without apparent impact to polar bear populations. Therefore, MMS feels justified in trusting in FWS’s ability to manage their trust resources responsibly.

As far as the ability to assess specific potential future mitigation measures and their effectiveness, the public will be allowed to view and comment on any Incidental Take Authorizations that FWS proposes to issue under the MMPA when they are published in the *Federal Register*, prior to the commencement of any actual industry activities.

Finally, the commenter is encouraged to recommend specific mitigation measures to MMS that they feel will mitigate potential future effects to polar bears. The MMS will be happy to consider them when developing appropriate mitigation measures for future activities.

AC 019-121

Specific mitigation measures for polar bears are discussed in Section IV.C.1.h(5), Benefits of the Standard Mitigation.

See response to comment **AC 019-120**.

AC 019-122

The commenter is correct that bear-human conflicts can prove lethal to bears. However, that outcome is extremely unlikely for bears entering industrial areas in Alaska's Arctic, because workers do not carry firearms. Again, the commenter is reminded that since 1968, there has been only one documented case of a lethal take of a polar bear associated with oil and gas activities in Alaska, which occurred in 1990. Furthermore, the MMPA prohibits the arbitrary killing and unauthorized harassment of polar bears. Educating North Slope workers on the issues associated with working in polar bear habitat are adequately covered under Stipulation No. 2 Orientation Program, ITL No. 2 Information on Bird and Marine Mammal Protection, and ITL No. 14 Information on Planning for Protection of Polar Bears.

AC 019-123

The commenter is incorrect in suggesting that the pipeline that leaked on the North Slope was operating under MMS regulations. The MMS regulatory authority for pipelines is limited to the OCS.

However, on September 6, 2006, the Pipeline and Hazardous Materials Safety Administration proposed to extend Federal pipeline safety regulations to rural onshore hazardous-liquid-gathering lines and low-stress lines within a defined buffer of previously defined "unusually sensitive areas." These are nonpopulated areas requiring extra protection because of the presence of sole-source drinking-water resources, endangered species, or other ecological resources. This rule will bring the so called "transit lines" on the North Slope under the Federal pipeline safety regulations. The ADEC also modified their regulations in December 2006 to increase regulations on the North Slope pipelines.

AC 019-124

There are multiple methods to respond to oil spills under ice. In solid-ice conditions, trenches can be cut into the ice surface that will allow oil to rise to the surface, where it can then be collected using oil-recovery skimmers or burned in situ. Oil will become encapsulated in the ice sheet as the ocean surface freezes and when a solid sheet of ice is present. In these instances, if the oil is in a large enough pool, holes can be drilled into the pool and the oil pumped out. Another response method for encapsulated oil is to track the oil throughout the winter using buoys and, once the ice sheet begins to melt, the oil will surface through the brine channels at which time it may be collected using skimmers or may be burned in situ.

AC 019-125

The ITL's are part of the proposed and final Notice of Sale. They provide information to the lessee about MMS's and other agencies' requirements, rules, and regulations that are in place, and they are effective in reducing potential adverse effects from the Proposed Action. All leases issued by the Federal Government require the lessee to comply with all Federal laws and regulations. Compliance with these laws and regulations is enforced by the Federal Agency with jurisdiction for the resource. For example NMFS and FWS are the responsible agencies for enforcing the rules and requirements of the ESA and the MMPA. The ITL's contain measures that, if followed, help ensure compliance with the laws and regulation. If the impact occurs in violation of the law or regulation, the government may bring a range of enforcement

actions against the operators. For example, ITL 2 Bird and Marine Mammal Protection does not create new requirements but does provide awareness to the lessee of practices for avoiding harm to resources that the law and regulations are designed to protect.

The ITL's also contain "benchmarks" or "best practices" that operators may follow to comply with provisions of existing laws such as the MMPA, the Endangered and Threatened Species Act, and the OCS Lands Act, and the implementing regulations of these laws. The ITL information also explicitly state the standards and objectives to which the actual activities proposed in an operator's exploration plan or development and production plan will be evaluated during the NEPA review of those plans. These benchmarks in the ITL clearly illuminate when practices proposed by the operator meet or do not meet the standard, indicating the need for additional mitigation measures, and MMS intent to require those measures. As such, the ITL, along with lease stipulations, are an appropriate mechanism at the lease-sale stage where a general scenario is used to explore potential effects from typical activities.

AC 019-126

The MMS agrees with the commenter's appraisal of this issue; all the points the commenter raises are valid. However, two points need to be clarified. The MMS is not "relying" on this measure as a mitigation measure, but merely suggesting it as one way to reduce polar bear aggregations on the coast during the fall open-water period. Furthermore, MMS is not advocating removing all whale carcasses from the coast, only those that are associated with subsistence harvest around Native villages along the coast, particularly outside of Barrow. The MMS acknowledges in the draft EIS that this action is outside of MMS' purview, and states that "the whale remains are on Native-owned lands; thus, that decision will have to be negotiated with the Native communities themselves." The commenter is correct in pointing out that this is a complex issue and that many factors will have to be considered. However, MMS will rely on the scientific expertise of the FWS, USGS, and the North Slope communities when considering this issue.

It is worth pointing out, however, that whale carcasses outside of Native villages represents a huge attractant to bears during the fall open-water period. Any bears attracted to villages along the coast have an increased chance of coming into conflict with humans in and around the villages, and of being shot as "nuisance" bears. That issue also must be weighed in any future decisions which are made.

AC 019-127

The MMS acknowledges receipt of this comment. There are no specific items in this comment to respond to.

AC 019-128

A small chronic leak can be difficult to detect quickly. The Northstar LEOS system leak-detection capability is about 1 barrel in 24 hours, although its applicability to a much longer pipeline in the Chukchi Sea is unknown. There are several new technologies and techniques that are under development, such as continuous strain measurement, self-healing pipelines, new types of smart pigs, etc. that likely will be available in the future. Before any pipeline is permitted, there will be an environmental review where these and many other issues will be analyzed.

Detection of a small leak during open-water conditions should be fairly rapid because visible sheen will appear on the surface of the water, which could be spotted during transit flights between drilling vessels and shore. Tactics have been developed to contain the spill and allow for recovery by conventional skimmers. In the event of a leak during solid-ice conditions, the oil would be encapsulated into the covering ice sheet. When the ice sheet began to melt, the oil would surface through brine channels and could be detected visually during transit overflights. The oil could be collected using skimmers or burned in situ.

The likelihood that spilled oil will contact and harm individual polar bears is fully covered in Section IV.C.1.h(4)(e), Oil Spill Effects.

AC 019-129

The likelihood that spilled oil will contact and harm polar bears at leads and polynas is fully covered in Section IV.C.1.h(4)(e), Oil Spill Effects.

AC 019-130

The potential impacts to polar bears in coastal areas is fully covered in Section IV.C.1.h(4)(e), Oil Spill Effects.

“Summer” is defined under Appendix A, Section C.1.b. as July through September, and “represents open water or arctic summer.” October through June “represents ice cover or arctic winter”. Therefore, it is appropriate to include both seasons in the analysis of oil spill effects on polar bears during the fall open-water period. Therefore, the analysis did consider the probability of spilled oil contacting Barrow and other high-use coastal areas during both the summer and the fall.

AC 019-131

The EIS discusses the chance of a large spill contacting coastal land segments where polar bears may occur. Individual land segments are approximately 20 km in length. While it makes sense to aggregate chances of contact for land segments that are proximate to one another, it does not make sense for land segments that are approximately 475 mi apart. Thus, while the commenter is mathematically correct if you added the chance of a spill contacting the Russian coast (LS 95) from individual launch areas after 60 days and the chance of a spill contacting Barrow (LS 85), the chances of contact may increase depending on the launch area. This is not a reasonable approach to OSRA-model results. However, different launch areas have variable chances of contacting the Russian coast and Barrow. Launch areas to the south and northwest have higher chances of contact to the Russian coast and launch areas to the south east and northeast have higher chances of contacting Barrow. For example the chance of contacting the Russian Chukchi Coast (LS 95) and Barrow (LS 85) from P1 is approximately 13% during summer after 60 days. The chance of contacting the Russian Chukchi Coast (LS 95) and Barrow (LS 85) from LA 13 is approximately 11%.

AC 019-132

The EIS is not segmenting the risk to wildlife. Species have different spatial and temporal patterns throughout the study area. There is a breadth of impact factors such as seasons, variety of species present, and species calendars (spawning, migration, nesting, mating). All these factors need to be considered. The various types of freshwater and marine habitats that exist in nature have different sensitivities to the harmful effects of oil contamination, as well as different abilities to recuperate. Each “resource category” includes one or more key species especially vulnerable and/or especially valuable in their analysis of impacts.

AC 019-133

The anticipated sublethal, long-term affects to polar bears are clearly stated in Section IV.C.1.h(4)(e) of the draft EIS.

Text has been added to Section IV.C.1.h(3)(b), Effects from Oil Spills.

AC 019-134

See response to comments **WWF 018-023** and **WWF 018-024**.

AC 019-135

The cumulative case scenario is presented in Section V.B. The scenario for the cumulative analysis includes past, present, and reasonably foreseeable activities. Our definition of “reasonably foreseeable” and the future Federal and State oil and gas activities that are considered reasonably foreseeable for the cumulative analysis are presented in Section V.B. Table V-1 lists development at Alpine and the Barrow gas fields as existing production in the NPR-A, fields in the Colville River Unit adjacent to NPR-A as presently being developed, several pools in NPR-A as reasonably foreseeable. For the Chukchi Sea Sale 193 cumulative scenario, development from as yet undiscovered resources that may be discovered as a result of future leasing in NPR-A is not considered reasonably foreseeable. The existing, present, and reasonably foreseeable developments listed in these tables are used for the cumulative oil spill scenario and as indicators of levels of support activities for the cumulative analyses. Which cumulative impacting factors may affect which environmental resources and are addressed in the cumulative analyses is based on the professional judgment of the subject-matter experts preparing the analyses on a resource-by-resource basis.

AC 019-136

See response to comment **AC 019-116**.

MMS did not overlook the changes to the Arctic marine environment that have already adversely affected polar bear populations in Alaska. That topic was extensively covered in Section V.C.8.c(3), Climate Change.

With respect to “relying on “effective mitigation practices” without specifically identifying these measures or critically evaluating them to ensure that they are effective or will remain so in the future”, that is a misrepresentation. For example, as stated in Section II.B, ITL No. 14, Information on Planning for Protection of Polar Bears, it is not possible or appropriate at this time to craft specific measures to mitigate potential effects of future activities. See response to comment **AC 019-120**.

AC 019-137

The commenter misstates the evidence by stating that “the Pacific walrus population is presently in decline.” The MMS is not aware of any research that presents firm evidence that the Pacific walrus population is in decline. If the commenter is aware of specific research to the contrary, MMS would be very interested in that information. However, the draft EIS does cite a number of anecdotal reports that suggests that this may be the case. Suspected declines in the Pacific walrus population are discussed in Section III.B.6.a(5).

Furthermore, MMS is not aware of any information that suggests that population declines have contributed to declining subsistence harvest of Pacific walrus. Again, if the commenter has information to the contrary, MMS would be very interested in receiving it for future consideration.

As far as MMS is aware, there have been no lethal takes of walrus associated with oil and gas activities in Alaska. If the commenter is aware of any information which documents lethal takes of walrus as a result of oil and gas activities, MMS would be very interested in including that information in future analysis.

Mitigation measures associated with Lease Sale 193 are specifically designed to avoid impacts to the Pacific walrus population and subsistence harvest of walrus, and are described in Section II.B.3 of the EIS.

AC 019-138

Water depth is identified in the bathymetry map of the lease-sale area, see Figure III.A-1. Sea-ice coverage varies from season to season and from year to year; however, Figure III.A-11 captures a generalized view of the maximum retreat of sea ice in recent years. Habitat used by Pacific walrus varies seasonally and from year to year and is dependent upon the movements and extent of the sea ice, as well as other factors such as prey availability. Pacific walrus occur seasonally throughout much of the central lease-sale area (Jay and Garlich-Miller, pers. commun.). See Section III.B.6.a(5) for further discussion of Pacific walrus movements.

Oil-spill prevention and response are discussed in Section IV.A.5. Specific oil-spill response mitigation measures will be developed at the time that specific exploratory drilling and development activities are proposed. Areas acutely sensitive to disturbance, such as seasonal coastal haulouts, will be addressed at that time. The MMS is the regulatory agency charged with ensuring compliance with provisions of the Oil Pollution Act of 1990 are complied with by the responsible party for OCS operations; MMS requirements can be found in 30 CFR 254. Concerns regarding Pacific walrus would be addressed by MMS in close consultation with FWS at that time.

The operator would be required to identify sensitive environments of concern such as the ice edge or haulouts that may be impacted by a spill from their operations and identify methods to protect those areas. Protection could involve deflection of the oil, placement of exclusion booms, and/or hazing procedures to keep animals from entering a contaminated area. They would be responsible for ensuring their plans are consistent with the Alaska Federal and State Preparedness Plan for Response to Oil and Hazardous Substance Discharges and Releases and the appropriate Alaska Subarea Contingency Plan. The MMS also may impose additional requirements to further protect sensitive environments if the proposed mitigation is insufficient.

AC 019-139

The MMS conclusion is based on the best available science. See Section IV.C.1.h(2). If the commenter has additional specific information regarding the effects of seismic activities on the Pacific walrus, MMS would be very interested to have that information.

AC 019-140

The altitude restrictions contained in the draft EIS were based on close consultations with FWS. The commenter is correct in pointing out that displacing walrus from forage areas ultimately could have population-level effects. However, MMS is unaware of any delineation of walrus habitat precise enough to allow an evaluation of important walrus-feeding areas. Therefore, it is not possible to conclude that there will be significant impacts to Pacific walrus-foraging areas without more specific information on the location of those areas and the effects of disturbance at a population level. If the commenter knows of any research that precisely delineates important walrus-foraging areas in the Chukchi Sea and/or analyzes the effects of disturbance on Pacific walrus, MMS would be very happy to consider that information in future analyses.

Determining a specific height at which Pacific walrus will not react to over flights is difficult. Pacific walrus react differently on icefloes than on terrestrial haulouts, and reactions also depend on the type of aircraft, speed, and direction of the aircraft; the number and age of walrus present; surrounding ambient noise from wind or wave action; and other factors. However, MMS in consultation with FWS has reevaluated this issue and determined that 1,500 ft AGL or ASL and 0.5 mi lateral distance is an adequate buffer in most cases, when walrus are hauled out on ice. This mitigation measure will also ensure that the height restrictions for aircraft flying over hauled out walrus are consistent with those for cetaceans and marine birds, which will make it easier for pilots to comply with all flight-restriction mitigation measures. Section II.B.3 will be updated accordingly.

The danger of trampling events is highest when walrus are hauled out on terrestrial sites. The FWS may impose additional restrictions, through their Incidental Take authority under the MMPA, to protect any seasonal haulouts which may form along the coast.

AC 019-141

Hannah Shoal is recognized as likely being important habitat for both walrus and gray whales. All of these potential impacts are addressed in Section IV.C.1.h.

AC 019-142

The draft EIS does not state that the Pacific walrus population is “already in decline”; rather it says that “available evidence indicates that the population is *likely* in decline.”

The commenter is correct in pointing out that without current population estimates, it will be very difficult to evaluate the impacts of development on the Pacific walrus population. However, this does not render mitigation and monitoring “useless.”

The commenter is incorrect in pointing out that there has been a lack of cooperative research with Russia. As detailed in Section III.B.6.a(5), the FWS, in collaboration with USGS and Russian scientists, conducted a rangewide survey of the Pacific walrus population in March and April 2006. The primary goal of the survey was to estimate the size of the Pacific walrus population across its spring range, which is the ice-covered continental shelf of the Bering Sea. The U.S. and Russian scientific crews coordinated aerial-survey efforts on their respective sides of the international border. Walrus were counted using a combination of aerial thermal imagery and photography. The final population estimate will be developed cooperatively by U.S. and Russian scientists, and results are expected in late 2007.

The risk to walrus concentrations at terrestrial haulouts from an oil spill is covered in Section IV.C.1.h(3)(b).

AC 019-143

The Chukchi Sea is a dynamic, rather than a static, system. As a result, the biological assemblages on the seafloor are constantly changing as a result of ice gouging, sediment deposition, bioturbation by large mammals such as gray whales and walrus, and other physical and biological disturbances. The MMS acknowledges that there will be disturbance to the seafloor as a result of any developments that take place. However, the Chukchi Sea covers a vast area that can largely all be considered walrus habitat. Development would affect only a small portion of that habitat directly through disturbance of the seafloor. Furthermore, walrus have evolved in this dynamic ecosystem and are well suited to adjusting their foraging areas as a result of changing conditions. Therefore, MMS cannot justify concluding that small scale disturbances would constitute a “significant impact” to the Pacific walrus population.

AC 019-144

The commenter may be overstating the risk to Pacific walrus posed by the proposed lease sale. It is correct to point out that without recent population information, it would be very difficult to assess any population-level effects to the Pacific walrus. However, MMS is unaware of any research or data that demonstrates population-level effects to walrus as a result of oil and gas activities. If the commenter is aware of any such data, MMS would be very interested in them.

AC 019-145

Cumulative effects to walrus are discussed in Section V.C.8.

AC 019-146

The commenter provides valid comments but does not present a specific issue for MMS to address in relation to the draft EIS. The commenter also does not present specific citations for MMS to refer to in relation to the comments provided.

Human health effects from subsistence harvest are addressed in Section IV.C.1.p(2)(d). Extensive analysis of oil spill effects on cetaceans are provided in Section IV.C.1.h(3)(b).

AC 019-147

The commenter is incorrect in suggesting that MMS relies on an outdated interpretation that considers only total numbers of animals. According to the draft EIS Section III.B.6.b(1), Beluga Whale:

In Alaska there are five recognized stocks: (1) Eastern Chukchi Sea; (2) Beaufort Sea; (3) Cook Inlet; (4) Bristol Bay; and (5) Eastern Bering Sea (O’Corry-Crowe et al., 1997). Within the Proposed Action area, only the Beaufort Sea stock and eastern Chukchi Sea stocks are present. During June, July, and part of August it is likely that the ranges of the two stocks do not overlap much (Suydam et al., 2005). Based on recent telemetry studies on eastern Chukchi belugas, it is likely that members from both stocks occur in similar places and at similar times during the fall migration although the significance of this is unknown (Suydam et al., 2005).

According to NOAA’s 2006 Alaska marine mammal stock assessments (p. 60):

The following information was considered in classifying beluga whale stock structure based on the Dizon et al. (1992) phylogeographic approach: 1) Distributional data: geographic distribution discontinuous in summer (Frost and Lowry 1990), distribution unknown outside of summer; 2) Population response data: possible extirpation of local populations; distinct population trends between regions occupied in summer; 3) Phenotypic data: unknown; and 4) Genotypic data: mitochondrial DNA analyses indicate distinct differences among summering areas (O’Corry-Crowe et al. 1997). Based on this information, 5 stocks of beluga whales are recognized within U. S. waters: 1) Cook Inlet, 2) Bristol Bay, 3) eastern Bering Sea, 4) eastern Chukchi Sea, and 5) Beaufort Sea (Fig. 15).

However, MMS does not see how the scientific interpretation of data on beluga whale populations would negatively impact subsistence use of beluga whales.

The effects of large oil spills on the use of beluga whales for subsistence is addressed in Section IV.C.1.1(2)(c).

AC 019-148

Section IV.C.1.(4)(b), Effects of Pipelines, and Section V.C.9 have been revised to reflect the comment.

The potential of rolling back habitat protection for the TCH calving grounds within the Northeast NPR-A Planning Area is speculative. If the commenter has information regarding plans to the contrary, MMS would be interested in obtaining that information.

AC 019-149

Section IV.C.1.(4)(b), Effects of Pipelines, has been revised.

AC 019-150

Section V.C.9, Terrestrial Mammals, has been revised.

AC 019-151

The text of Section IV.C.1.i(4) has been modified.

AC 019-152

See response to comment **AC 019-151**.

AC 019-153

For a discussion of Environmental Justice and potential disproportionate impacts on Chukchi Sea coastal communities, see response to comment **WWF 018-007**.

AC 019-154

For a discussion on MMS significance thresholds for subsistence-harvest patterns and sociocultural systems, see response to comment **Barrow 003-013**.

AC 019-155

For a discussion on MMS significance thresholds for subsistence-harvest patterns and sociocultural systems, see response to comment **Barrow 003-013**. See also response to comment **WWF 018-008**.

The MMS believes the threshold is quite appropriate. We reject the assertion in the comment that effects must be catastrophic before they reach significance. Table IV.C-1 lists the numerous parameters used describe the three elements that make up sociocultural systems—social organization, cultural values, and institutional organization. Using these indicators, the EIS analyzes potential effects from development activities envisioned in the hypothetical scenario, and concludes that significant effects could occur without ever coming close to the condition described in the comment. The threshold is not capricious, it is quite reasonable. In fact, it is difficult to envision how the conditions described in the comment would not persist well past the 20 months, as they approximate conditions described in Section IV.C.1.m(4)(b), Effects from a Large Oil Spill, which we found would exceed the significance threshold.

AC 019-156

See responses to comments **AC 019-154**, **AC 019-155**, **Barrow 003-013**, and **WWF 018-007**.

We reject the assertion that the threshold is arbitrary and that conditions must persist “for several years before impacts are considered significant.” Table IV.C-1 lists the numerous parameters used describe the three elements that make up sociocultural systems—social organization, cultural values, and institutional organization. The three elements have some overlap but have enough difference to allow the analyst to accurately describe the myriad potential effects into a single element. Using these indicators, the EIS analyzes potential effects from development activities envisioned in the hypothetical scenario and concludes that significant effects could occur.

The threshold was developed over time and reflects many years of comments and refinements to establish a reasonable threshold definition. We define the thresholds to be flexible, so they can be applied to diverse resources of the different Alaska OCS Region planning areas. We carefully and rigorously apply these criteria to circumstances within each planning area. That is one of the reasons that our published analyses are so detailed.

The thresholds have been used as the standard threshold in our analyses across the Alaska OCS Region for more than a decade and have stood the test of many exhaustive reviews. We have reviewed our analyses

and the sociocultural literature prepared by other agencies in recent years on proposed activities on the North Slope, in other OCS Regions, and Canada. We find the current definitions to be consistent with the sociological and anthropological literature and other relevant analysis.

AC 019-157

For a discussion on the Sale 193 final EIS updated analysis of Human Health Impacts, see response to comment **Barrow 003-018**.

AC 019-158

The comment confuses the assessment of potential effects of a causal agent (which is used to determine significance of the effects) with the probability of the causal agent occurring (which is not used in the evaluation of significance of effect). That is, a significant effect would not be insignificant because the probability of it occurring is low.

The EIS includes a ‘what if’ analysis of such spills and whether a spill could cause serious environmental effects. The MMS considers the change of a large spill occurring over the life of the field and entering offshore waters to be low. The MMS uses the term “low” to characterize the relative chance of a large spill occurring based on our familiarity with oil-spill rates and sizes. See Section VI.A.4 and Appendix A of the EIS for oil spill information and assumptions.

For a discussion of cumulative effects and oil spill impacts on subsistence resources, sociocultural systems, and environmental justice, see responses to comments **Barrow 003-012**, **Barrow 003-013**, **Barrow 003-018**, **Barrow 003-030**, and **NSB 006-009**.

AC 019-159

The same statement for climate change is made in the Sale 193 final EIS cumulative effects discussion for subsistence resources.

AC 019-160

See responses to comments **AC 019-154**, **AC 019-155**, **Barrow 003-013**, and **WWF 018-007**.

AC 019-161

The MMS did, in fact, visit most of the potentially affected communities in the region; public meetings with Chukchi Sea coastal communities and government-to-government consultation with local tribes in the region are specified and discussed in Section III.B.6. We concur with the suggestion that the two MMS websites containing many years of Chukchi Sea and Beaufort Sea public testimony be cited in the final EIS; in addition, we will cite the “Native Voices” section of Miller, Smith, and Miller’s *Oil in Arctic Waters: The Untold Story of Offshore Drilling in Alaska*. It should be noted that the extensive traditional knowledge and public comment used in the Subsistence-Harvest Patterns impacts analysis at IV.C.1.1 has used both of the websites mentioned by the commenter.

**Letters
Without
Specific
Comments
Identified
For
Response**

Elise Wolf
AlaskaWatch
PO Box 15303
Fritz Creek, AK 99603

December 26, 2006

Mr. John Goll
Regional Director
Alaska OCS Region, Minerals Management Service
2801 Centerpoint Drive, #500
Anchorage, AK 99503-5823

RE: Comments on Chukchi Sea Planning Area Oil and Gas Lease Sale 193 and Seismic Surveying Activities Draft Environmental Impact Statement

Dear Mr. Goll:

Please accept these comments on behalf of Elise Wolf and the informal group calling itself "AlaskaWatch." AlaskaWatch is a small group of about 200 people from across the country who have approved of representation by AlaskaWatch for the purpose of commenting on environmental matters regarding certain Alaska issues. AlaskaWatch is not a formal non-profit group, but rather represents friends and family who share common values.

The Chukchi Sea represents one of the world's last pristine Arctic ocean ecosystems. The region hosts a large number of endangered and threatened species, unique Arctic marine mammals, birds and fish, as well as at risk cultural communities. AlaskaWatch requests that the Chukchi Sea be preserved and that Alternative # 2, No Leasing, is chosen for Lease Sale 193.

Chukchi Sea is America's most pristine and productive Arctic ocean, hosting numerous endangered and threatened species and cultural communities already at risk. The decision to open the Chukchi should be made prudently and with a full understanding of impacts, which is not possible due to lack of baseline data. The entire nation should be allowed the opportunity to make an educated decision about opening this wilderness ocean area.

There are several reasons for the request to remove the Chukchi Sea, in addition to substantial and significant problems with the Draft Environmental Impact Statement. AlaskaWatch signed on to the group letter submitted by the Alaska Coalition, AlaskaWatch, Center for Biological Diversity, Greenpeace, EarthJustice, Natural

Resources Defense Council, Northern Alaska Environmental Center, Pacific Environment, the Wilderness Society, and Trustees for Alaska. Please refer to the Alaska Coalition, et. al. group comments for a more thorough listing of the problems with the Chukchi Lease Sale 193 EIS.

AlaskaWatch considers it highly problematic that public comment meetings for what is a federally owned ocean region were only held in Alaska. The MMS fails to respect the nature of the decision to open a completely pristine and wild - and nationally owned - region and to fully involve the public in that decision. At minimum, regional public comment meetings should be held and the public effectively notified. Providing comment hearings only in Alaska ignores the national public and negates the significance of the decision to lease in the Chukchi Sea. MMS must accommodate the nation in their educational and public comment opportunities.

The following comments are a brief listing of additional issues of concern with Lease Sale 193:

1. General problems with the DEIS.

A. The repeated use of the term, “unlikely,” to refer to large spills when the occurrence estimate is to be 40% for a large spill. The term “unlikely” does not represent a 40% chance, but rather a much smaller number. The repeated use of the term “unlikely” appears to be a rhetorical tactic to reduce the true impact of a large spill in the mind of the reader. Such language use is a form of intentional misrepresentation.

B. Executive summary includes false statements and inaccurate conclusions given the analysis provided in the DEIS. These improper conclusions appear to be more misrepresentations.

C. Summary inaccurately indicates that only minimal or no impacts will occur with development. This conclusion does not accurately represent the DEIS’s findings. See IV-211.

D. Extremely problematic logic used in analysis. Repeated conclusions that there will be no or minor impacts, but it is also acknowledged that studies are lacking to make such a conclusion. Lack of studies does not logically result in no impact, but rather a lack of knowledge about what those impacts would be or are.

E. Repeated reliance on assumptions, represented by the use of the term, “assumed.” Assumptions are guesses, conjectures, or postulations that cannot be considered solid premises for the construction of conclusions. Assumptions rely on expectations that cannot be either enforced, do not currently exist, or may never be implemented or produced - rendering many DEIS conclusions faulty.

F. Impacts are potentially large enough to require abandonment of plan.

G. Impacts are considered only individually rather than as an aggregate.

Individual consideration intentionally misrepresents true impacts and is a rhetorical tactic to reduce such impacts.

H. It is highly problematic that public comment meetings for what is a federally owned ocean region were only held in Alaska. The MMS fails to respect the nature of the decision to open a completely pristine and wild - and nationally owned - region and to fully involve the public in that decision. At minimum, regional public comment meetings should be held and the public effectively notified. Providing comment hearings only in Alaska ignores the national public and negates the significance of the decision to lease in the Chukchi Sea. MMS must accommodate the nation in their educational and public comment opportunities.

2) Substantial lack of baseline data significant enough to render monitoring and mitigation proposals useless.

3) Economic analysis does not integrate significant development costs. In fact, the MMS ignores the substantial amount of outright investment, taxpayer subsidies and industry tax benefits that will be necessary to drill in these regions. Just the cost of baseline research that MMS acknowledges is necessary to create monitoring plans is so large as to make these regions questionable in terms of costs and benefits to the American public. A full benefits analysis by MMS would integrate these costs, such as:

- agency costs in gathering necessary baseline data
- public costs for abandonment plans
- royalty relief
- government research and development grants to industry
- multiple federal and state agency oversight
- pollution and oil spill clean-up
- village costs

4) Economic analysis for need of Chukchi oil seriously faulty

There is insufficient proof of U.S. need for Chukchi oil. First, the oil will remain on the west coast unless the U.S begins to take oil through the Panama Canal. Oil estimates are based on MMS arguments that OCS oil is needed right now are questionable. The argument that the U.S. would be forced to import foreign if Chukchi Sea oil was not development has no substantiation. Alternative energies (both fossil fuel and non-fossil fuels) could very reasonably make up for the minor amount of oil found in the Chukchi. Methods for estimating oil reserves are 30 years old and do not reflect new technologies or methods of calculation (D. Yergin). Thus, the U.S. Energy Information Office's estimates on U.S. oil reserves, as well as reserves elsewhere world-wide, are not accurate. New methodologies are needed for uncontroversial estimates to be made; methods dating back to 1978 are fundamentally questionable (See Daniel Yergin, Wall Street Journal, April 2006).

A. Conservation and alternatives are not being adequately considered as replacements for Alaska OCS oil.

Whether alternatives (non-traditional oil or clean energy) can provide a reasonable and more economical replacement for Alaska OCS for the common taxpayer is not addressed by the DEIS, yet this is a viable question given the extreme costs and environmental risks of oil development in the Chukchi. The MMS underestimates the positive role of conservation and alternatives to U.S. energy production and ignores recent science and technological advances in these newer, cleaner energies. MMS refers readers to go to the 2001 summary, "Energy Alternatives and the Environment." Tidal power, which is a real option for Alaska, is not mentioned at all yet is a new technology with much possibility. Tidal power could possibly take less time (less than the projected 10 years for Chukchi oil) and less money to develop in Alaska than oil development. Change in oil prices has inspired new proposals and investments in alternatives and is completely ignored in the PP analysis. Daniel Yergin argues, "There's ... been a tendency to downplay the importance of energy conservation and efficiency. In the last 30 years, the U.S. gross domestic product has grown by about 125 percent but U.S. energy consumption has grown only by 25 percent. Some of that reflects a shift from a high-energy manufacturing economy to a lower-energy high-technology economy. But a significant part of that also is because we have made strides in energy efficiency and could still do much more" (Newsday, April 2006). Conservation and alternatives could readily replace much of the potential Alaska OCS oil contributions estimated by the PP, particularly Chukchi Sea oil.

B. U.S. demand for oil is ignored and subsequently impairs MMS evaluation of importance of Alaska OCS oil contribution.

Yergin states, "World oil demand can also alter the long-term dynamics of the market -- and it's another unknown factor. After the 1979 spike in oil prices, energy use fell much more than conventional wisdom thought possible" (Washington Post, Oct. 2006). The positive contribution to our energy needs by demand is completely ignored by the DEIS analysis and instead demand is estimated to continue to increase. Yet, over the last 30 years demand has made a huge impact on energy consumption in the U.S. Again, Yergin states, "In the last 30 years, the U.S. gross domestic product has grown by about 125 percent but U.S. energy consumption has grown only by 25 percent. Some of that reflects a shift from a high-energy manufacturing economy to a lower-energy high-technology economy." Thus, the MMS overestimates the contribution Alaska OCS oil will have for U.S. and fails to integrate a viable discussion or analysis of demand. Instead, the DEIS makes unsubstantiated and inflated estimates for the contribution of Chukchi oil.

C. MMS argument that oil from the Chukchi would be used for transportation is erroneous and cannot be substantiated.

The type of oil that would come out of the Chukchi Sea has not been established.

5. Oil spill analysis is flawed and fails to provide an accurate accounting of full impact of a large spill. The Executive summary ignores the findings the DEIS does make for large spills.

The impacts from Katrina are absent in the DEIS, although it is the most recent example of offshore pipeline impact consequences. Ice keels are not given adequate treatment.

A. Pipeline impact estimates for the Hannah Shoal area are reduced compared to Beaufort Sea for no reason. Area impact should be 2,000-4,000 acres.

B. No discussion of ocean currents and how a large or small oil spill would follow those currents and which populations of animals would most likely be affected.

6. Mitigation plans are faulty, cannot be enforced, and are not adequate.

Mitigation plans frequently rely on knowledge (part baseline data) that does not exist: example, requiring industry to avoid areas that are not currently identified. Repeated references to mitigating severe impacts on whales, seals, and walrus from flights (airplane and helicopter) by requiring flights be above 1000 feet, but not acknowledging that given predominate fog in summer and clouds and storms in winter, this may not be possible most of the time.

The failure of the state and federal governments to adequately monitor and mitigate impacts is made clear in the recent pipeline corrosion events, which are cited in the DEIS:

Between 1977 and 1999, an average of 70 oil and 234 waste-product spills occurred annually on the North Slope oil fields; and between 1985 and 1998, five large terrestrial spills occurred on the North Slope (71 *FR* 14,456). In March 2006, more than 200,000 gal of oil (4,790 bbl) leaked onto the tundra as a result of an undetected leak in a corroded pipeline and, in August 2006, more than half of the Prudhoe Bay oilfield was shut down due to corroded and leaking pipelines.

The above events should have been significant enough for MMS to not only reconsider development in a pristine, ocean resource but at minimum to vastly rewrite their mitigation and monitoring plans. However, MMS relies on the same approaches that lead to the above impact, the extent of which the public will likely never know.

Most problematic is that except for this minor reference, MMS fails to fully integrate this enforcement inability anywhere else in the DEIS as they discuss mitigation plans. Instead, the MMS assumes an almost omnipotent ability in its optimistic forecast of mitigation measures. Yet, the history of oil development in Alaska has shown the opposite, as stated in the DEIS, "...Fish and wildlife habitat losses resulting from construction and operation of the Pipeline System and Prudhoe Bay oilfields were greatly

underestimated in the [USDOJ's 1972 Final] EIS [on the Trans-Alaska Pipeline]. DEIS at V-69.

MMS should fully disclose the inability of MMS or other agencies to adequately mitigate or monitor industry impacts. Mitigation measures could then be produced that would balance that inability. Such balance would likely require far more restrictions in the beginning and the preventing of rubber-stamping takings permits and discharge permits. Given that MMS will likely not undertake such a responsibility, the Chukchi Sea should be removed from the 5-Year Plan and Alternative II should be selected by the Secretary of the Interior for Lease Sale 193.

7. Development of Chukchi would essentially constitute the privatization of federal waters off of NW Alaska. Provided the same development scenario is in place as that in Prudhoe Bay, a significant portion of the Chukchi would be rendered private in terms of use. Several villages rely on the area for subsistence and are a new eco-tourism location with increasing use of the region for expedition and other types of tourism.

8. Beluga and walrus, and other critical subsistence species, are inadequately dealt with in DEIS, particularly in terms of cumulative impacts.

9. Onshore oil pipeline impacts not adequately discussed though mentioned as part of the plan.

10. Impacts from chronic oil leaks are neglected.

11. DEIS fails to assess full impact on Alaska Native communities.

MMS states, "given resiliency of social systems...chronic disruption can be successfully accommodated." No discussion of the wealth of psychological and social science studies on loss of cultural systems on indigenous identity. In fact, EIS fails to discuss psychological health at all. Overwhelming research shows that loss of culture or severe disruption can prove dire for native communities. Complete neglect of vast research in many fields including anthropology, psychology, sociology, and other fields. Notable negation of the wealth of studies within the state of Alaska, for example, D.C. Mitchell and T.R. Berger. The MMS undermines its own integrity and shows a lack of respect for full disclosure to the public or the Secretary with its minimization of impacts to Alaska Natives.

No discussion of EVOS (Exxon Valdez Oil Spill) impacts on native villages and communities. Post EVOS, Chenega village was virtually abandoned.

12. Invasive species not adequately dealt with.

The MMS has not fully considered invasive species; particularly species that current research shows can withstand the minor temperature changes when moving from

different northern regions. NEPA requires that potential impacts be analyzed, and the loopholes in the USCG regulations above that facilitate the introduction of non-native species to Alaska's marine ecosystems deserve a careful and critical analysis and reporting in the Chukchi DEIS. There is no provisions for these rules discussed in the DEIS. Gollasch (2002) shows qualitative probabilities of colonization of non-native species according to matching climate (temperature) in donor and recipient regions. It indicates that areas in Alaska have a high to medium probability of colonization of non-native species from certain donor regions.

The need to bring seismic vessels, drilling rigs, platforms, etc. to support offshore oil and gas leasing activities in Alaska from the Outside poses problems, namely that if such vessels anchor or visit other Alaskan ports, they may introduce non-native species if the vessels are contaminated with non-native species. Offshore support vessels, drilling rigs, platforms, etc can come from a variety of places from around the world. An offshore support vessel or drilling rig coming to Alaska from the Outside may temporarily make port somewhere in Cook Inlet, Kodiak, or the Aleutians and introduce non-native species there. These species can be further transported into the Chukchi when they are finally brought into the region.

Another concern is that vessels visiting south Alaska first may pickup south Alaska species or non-native species introduced to the area from another vessel and transport them to the Bering, Chukchi, and/or Beaufort seas. The longer a vessel persists in port or at anchor, the greater the potential for biologics to foul the hull. Many species occurring in Cook Inlet do not occur in the Chukchi or Beaufort seas, but that does not preclude them from thriving if introduced into these ecosystems. As an analogy, this would be like moving a native Gulf of Mexico species to Virginia where it is a non-native.

USCG Regulations (33CFR151) may be effective for reducing the introduction of invasive species in the contiguous U.S. via the ballast water vector, however, some serious 'loopholes' in the regulations facilitate the introduction of Aquatic Invasive Species (AIS) to Alaska for the following reasons:

1. Section 151.2035 (a)(5) requires the rinsing of anchors and anchor chains when retrieving the anchor to remove organisms and sediment at their place of origin. There is no requirement to rinse or clean other equipment, such as Ocean Bottom Cables placed on the seafloor. This is also applicable to drilling rigs brought in from outside of Alaska.
2. Section 151.2035 (a)(6) requires removal of fouling organisms from hull, piping, and tanks on a regular basis and dispose of any removed substances in accordance with local, State, and Federal regulations. 'Regular' is undefined and may be interpreted to mean every few months, every year, every 5 years, and so on. This is a critical deficiency in the regulations with respect to the potential introduction of hull fouling organisms. Also, there is no reporting requirement (to the USCG) for when hulls, etc. were cleaned. Therefore, there is no way of knowing what the vessel 'regular basis' of hull cleaning involves. (see Gollasch 2002; Godwin 2004; for more on the hull fouling vector)

3. Section 151.2035 (b) and Section 151.2036 together appear to form a problematic loophole; specifically coastwise (non-tanker) vessels operating and taking on ballast water within 200 nm of the U.S. Coast (e.g., departing Los Angeles (LA); a very contaminated port) may transit to Alaska with ballast water picked up from LA without a ballast water exchange being required so long as it stays within 200 nm of any shore, and that it does not exchange ballast water in the Canadian EEZ. The vessel may then perform a ballast water exchange in coastal or marine waters of Alaska, i.e., releasing the ballast water transported from LA to Alaska, and thereby subsequently introducing one or more AIS.

The USCG regulations are not well devised to prevent introductions to Alaska, except in the case of foreign oil tanker traffic associated with the Valdez TAPS terminal (Section 151.2040). In fact, they may facilitate introductions of non-native species that subsequently become invasive. Nonetheless, the MMS is relying on the USCG regulations to prevent introductions of non-native species to Alaska that may become invasive species after their introduction. See also L.S. Godwin 2004.

13. The summary of environmental impacts to marine mammals, particularly endangered and threatened species, is seriously minimized in the conclusions and executive summary.

See Comment Responses to Letter 019
Alaska Coalition, Alaska Watch, Alaska Wilderness League,
Center for Biological Diversity, Greenpeace, EarthJustice,
Natural Resources Defense Council, Northern Alaska
Environmental Center, Pacific Environment, The Wilderness
Society, Trustees for Alaska



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December 21, 2006

Minerals Management Service
3801 Centerpoint Drive
Suite 500
Anchorage, Alaska 99503

Re Chukchi Sea Planning Area Oil and Gas Lease Sale 193 and Seismic Activities in the Chukchi Sea

Via email at AKEIS@mms.gov and via fax at 907/334-5202

Dear Minerals Management Service:

The Alaska Wilderness League (AWL) thanks you for the opportunity to comment on the Chukchi Sea Planning Area Oil and Gas Lease Sale 193 and Seismic Activities in the Chukchi Sea. AWL is a nation-wide coalition of concerned citizens, environmental leaders, businesspeople, Native Americans, and others who believe that Alaska's incomparable natural resources should be protected and sustained for today's, and tomorrow's, generations.

Along with the specific comments that follow below, AWL would like to incorporate by reference the comments prepared on behalf of a number of other citizen organizations to which AWL is also a signatory (*see* Comments on behalf of Earthjustice, et al.) These detailed group comments clearly demonstrate that Outer Continental Shelf (OCS) exploration and development activities in the Chukchi Sea pose risks that are insupportable. Spills and routine operating emissions, along with noise, habitat disturbance, pollution and other impacts would spell disaster for this area of the Arctic, which is pristine and biologically vibrant. The proposed Lease Sale and Seismic Activities are seriously flawed and should be cancelled.

In our specific comments, AWL does not seek to duplicate the information ably conveyed in the group comments, but to focus instead on a few specific considerations. We believe that OCS exploration and development activities in the Chukchi Sea are unnecessary and unwarranted, and threaten incomparable ecological resources. Moreover, we believe that initiating energy exploration and development in the Chukchi Sea will not contribute to America's energy independence. On the contrary, we believe that OCS development in the Chukchi Sea will contribute to *energy instability* by perpetuating a cycle of drill-and-burn that does nothing to move this country toward a future of true energy stability. OCS development in the Chukchi Sea would also

contribute to global warming, which in turn threatens the Arctic environment – and indeed, the global environment – in disastrous ways.

Our comments focus on the following ways in which MMS's proposed Lease Sale 193 and Seismic Activities are inconsistent with prudent policy-making, energy independence, and responsibility to future generations. OCS development in the Chukchi Sea would:

1. be inconsistent with calls by business executives and senior military officers to greatly reduce American dependency on oil;
2. be out-of-step with public policy on the state and national levels;
3. lead to increased energy *instability* for the United States; and,
4. contribute to global warming and its destructive impacts on the Arctic and global environment and economies.

1. OCS development in the Chukchi Sea flies in the face of recent calls by business executives and military leaders to reduce oil-dependency.

Initiating new OCS oil and gas development in ecologically sensitive Alaskan waters would fly directly in the face of new calls by top corporate and military leaders to move away from oil dependency. On December 13, 2006, a group of leading U.S. business executives and senior military officers presented a report to the White House and Congress that urged Administration and Congressional leaders to reduce America's dependence on oil (*The Financial Times*, "Bush urged to break US oil dependence," December 16, 2006.) The bipartisan group, called the Energy Security Leadership Council, includes the chief executives of FedEx, UPS, Dow Chemicals and some of America's "best known" retired generals. The Council's report "urged President Bush and the new Democrat-controlled Congress to set up a plan to halve the American economy's oil-intensity by 2030."

The group argues that oil-dependency should be reduced over all, not just dependence on foreign oil. In particular, the business and military leaders noted that:

"Events affecting supply or demand anywhere will affect consumers everywhere. Exposure to price shocks is a function of how much oil a nation consumes and is not significantly affected by the ratio of 'domestic oil' to so-called 'foreign oil.'"

Consequently, the report urges that President Bush and Congress create a plan for halving oil use by 2030 – *not increasing* domestic production in pristine waters, as MMS's plan would do.

When industrial chieftains and senior military officers come together to call for a reduction in oil use, the Administration should listen and act upon the request. The Lease Sale 193 should be cancelled.

2. OCS development in the Chukchi Sea is out-of-step with developing and established public policy on the state and national levels.

a. MMS is out of step with state leadership

Republican Governor Arnold Schwarzenegger of California signed a new law into effect in September 2006 that requires all California industries to reduce their greenhouse gas emissions by about 25 percent by the year 2020. Reducing the combustion of fossil fuels is integral to reducing greenhouse gases. California is working to support the development of alternative technologies that would not depend on oil and gas combustion. (Platts *Inside Energy*, "With California law as her model, Boxer asserts intent to pass warming bill," December 11, 2006)

This sort of prudent leadership should be supported by the federal government. Instead, MMS is proposing new offshore oil and gas development that does nothing to support and partner with state efforts to break the cycle of oil dependency.

b. MMS is out of step with Congress

The new Democratic majority in the Senate has released the "Senate Democrats' Energy Independence 2020 Plan," which calls for concrete steps in reducing oil and gas use in the United States. The Plan calls for increased research, development and production of alternative energy sources. It also calls for more fuel-efficient vehicle choices, and proposes updating efficiency standards for appliances and small engines. (*Washington Post*, "Donkeys Who Like Horsepower," December 17, 2006.) Initiating OCS development in the Chukchi Sea has no place in plans to increase, foster and support true energy independence.

Key leaders in the House of Representatives are also calling on the Administration to halt its destructive offshore oil and gas proposals. The new chairman of the House Resources Committee, Rep. Rahall (D-WV), announced on December 8, 2006, that he will concentrate on making sure that current laws governing energy development on federal lands "are enforced rather than attempt to expand opportunities for production." (Platts *Inside Energy*, "Rahall opposed to opening more lands for drilling," December 11, 2006.) Chairman Rahall said that he has no intention of continuing the attempts made by the former committee chairman – former-Representative Pombo (R-CA) – to open more onshore and offshore areas to oil and gas development. Chairman Rahall said that, "it's not on our agenda to consider any expansion" of drilling on the Outer Continental Shelf, adding that he would focus instead on overseeing, "our current programs and their implementation."

Chairman Rahall further noted that he might support making permanent the current federal bans on drilling on most of the Outer Continental Shelf.

Congress is moving in step with key corporate and military leaders in urging that America's dependence on oil be greatly reduced. MMS's proposal to initiate new drilling in one of the most biologically productive, and hazardous, stretches of American waters is completely out of step with what bipartisan leaders of industry, the military and Congress are calling for.

b. MMS is out of step with President Bush's own blue-ribbon panel on the oceans.

In 2004, the U.S. Commission on Ocean Policy – whose members were primarily appointees of the Bush Administration and Republican leadership in the House and Senate – concluded that:

“The importance of our oceans, coasts and Great Lakes cannot be overstated; they are critical to the very existence and well-being of the nation and its people. Yet, as the 21st century dawns, it is clear that these invaluable and life-sustaining assets are vulnerable to the activities of humans.” (U.S. Commission on Ocean Policy. *An Ocean Blueprint for the 21st Century*. September 2004.)

Led by Admiral Watkins, U.S. Navy (retired), the Commission recommended to President Bush, Congress and the American people that we “alter our course and set sail for a new vision for America, one in which the oceans . . . are healthy and productive . . .”

MMS’s Proposed Lease Sale and Seismic Activities disregard the warnings contained in the President’s Commission, and its call for a new way of approaching the oceans. Instead, MMS proposes to develop pristine Alaska waters that support a breathtaking variety of wildlife and commercially important species. MMS is out of step with the President’s own advisors on the oceans. Lease Sale 193 and Seismic Activities run counter to the recommendations made by the Bush-appointed U.S. Commission on Ocean Policy.

c. MMS is out of step with the independent Pew Oceans Commission recommendations to the nation.

In its *Report to the Nation* in May 2003, the independent Pew Oceans Commission concluded that “America’s oceans are in crisis and the stakes could not be higher.” (Pew Oceans Commission. *America’s Living Oceans: Charting A Course For Sea Change*. May 2003.) The Commission pointed out that “the oceans are part of our common heritage and our common responsibility.” To protect this common trust, the Commission recommended actions that would protect and restore fisheries and clean water quality, and the human and animal communities that depend on them. MMS’s proposed lease sale runs directly counter to protecting the common good. Instead of being stewards of resources for this generation and generations to come, the MMS proposal would squander pristine resources, and threaten species that are already struggling or are at the brink of survival. The MMS vision is not the one that most Americans hold when it comes to being stewards of the land and water.

3. Opening up new areas to oil and gas development increases America’s vulnerability to foreign fuel producers.

Opening-up new offshore areas to oil and gas development would not increase our nation’s energy independence. This is becoming increasingly clear to military leaders, captains of industry and key Congressional leaders who have authority over resource use.

On December 13, 2006, General P.X. Kelley, a retired Marine Corps general, warned President Bush that America’s oil dependence “makes it acutely vulnerable to terrorist attacks.” The General joined chief executives of FedEx, UPS, Dow Chemicals and others in calling on

President Bush and Congress to act to halve America's use of oil within 25 years. The General noted that, "America's transport system is 97 percent dependent on oil." This dependency should be cut in half not by increasing domestic production, but by decreasing use across-the-board, according to the Energy Security Leadership Council, on which the General serves. (*The Financial Times*, "Bush urged to break US oil dependence," December 13, 2006.)

The incoming chairman of the House Resources Committee – Rep. Rahall (D-WV) – sounded a similar note in his "Agenda of American Values," which was recently released. The agenda also notes America's over-dependence on oil. It calls for the elimination of excessive federal support for the oil and gas industry. The agenda states:

"Today, the nation's federal lands are providing nearly one-third of total U.S. energy production, up from just over 10% in 1970. This growth in energy production on public lands has been driven largely by America's over-dependence on oil. Unfortunately, this increased production has done little to decrease our foreign oil consumption. In truth, this single-minded approach to meet our energy needs by opening up more federal lands to extraction of nonrenewable energy ultimately places future generations at greater risk to the whims of foreign fuel producers." (emphasis added) (Platts *Inside Energy*, "Rahall opposed to opening more lands for drilling," December 11, 2006.)

4. Opening up new areas of the ocean for oil and gas development is the wrong approach to an issue of growing international importance: global warming.

In its proposed lease sale in the Chukchi Sea, MMS suggests that exposing one of America's most pristine waterbodies to polluting oil and gas development is somehow a rational response to America's energy needs. This places MMS out of step with mainstream American values. MMS is refusing to respond to an overwhelming body of evidence that shows that global warming – fed by an insatiable and haphazard use of oil and gas – is threatening not only environmental resources, but huge sectors of the national and global economy. Plundering biologically rich ocean areas to produce more oil and gas only exacerbates the problem of global warming. In an ironic twist, the environment that is experiencing some of the worst impacts from global warming is the Arctic itself. If the proposed lease sale goes through, valuable Arctic habitat would be destroyed and wildlife threatened from the removal of oil and gas whose combustion, in turn, would further destroy, threaten and irreparably harm this same wildlife and habitat.

a. The President's own back yard is changing.

Startling new reports show that global warming is already changing the face of the President's own backyard. A front page story in the December 20, 2006, *Washington Post* reported that vegetation in the Washington, D.C. area has now been reclassified in the same zone as North Carolina, Tennessee, Virginia and parts of Arkansas and Oklahoma. The climate in the nation's capitol has become that of a southern state's, according to the National Arbor Day Foundation (*Washington Post*, "Washington Warming to Southern Plants," December 20, 2006.)

Elsewhere in America the news is just as unsettling. The Foundation found that parts of Michigan have warmed enough to accommodate southern magnolia trees. Arizona cypress trees can now thrive in parts of New Jersey.

b. Europe experiences its warmest years.

Meanwhile, in another front-page story in the December 20, 2006 *Washington Post*, the British national weather service reports that 2006 has been the warmest year in Britain since record-keeping concerning weather conditions began in central England in 1659 (*Washington Post*, "In Balmy Europe, Feverish Choruses of 'Let It Snow'," December 20, 2006.) Nearly 450 years of record-keeping shows that global warming is not a hypothetical, future problem but is happening here and now.

The article cites another recent report, this by the Paris-based Organization for Economic Cooperation and Development, that warns that "climate change poses serious risks to the snow reliability of Alpine ski areas, and consequently to the regional economies that depend upon winter tourism." Those economies are nothing to sneeze at: up to 80 million people visit Alpine resorts each year, making them a key contributor to the local economies. The report notes that "The Alps are particularly sensitive to climate change and recent warming there has been roughly three times the global average."

The article notes that in Moscow, the streets are bare of snow. One of Russia's highest ranking meteorologists reports that, "We have been monitoring weather for 150 years in Moscow, and we haven't seen anything like this." He suggests that the temperature norms be changed "because the climate is changing and the last decade was very warm, much warmer than all previous decades."

c. Global warming could lead to global economic upheaval like the Great Depression.

Just a few months ago, on October 30, 2006, Great Britain's chief government economist reported that ignoring climate change could lead to economic upheaval on the scale of the 1930s Depression, underlining the need for urgent action to combat global warming. The report suggests that global warming could shrink the global economy by 20 percent. Taking action now would cost just 1 percent of global gross domestic product, concluded the report's author, Sir Nicholas Stern. Sir Stern is a former chief economist of the World Bank. (*Reuters*, "No climate action may spark economic crisis: report," October 28, 2006, and *BBC News*, "Climate change fight 'can't wait,'" October 30, 2006.)

In response to the report, Prime Minister Tony Blair said the consequences for the planet of inaction were "literally disastrous." A leader of the European Commission said that it "clearly makes a case for action." European business leaders agreed that, "Provided we act with sufficient speed, we will not have to make a choice between averting climate change and promoting growth and investment."

Yet at the same time that eminent economists and political leaders are calling for a reduction in greenhouse gases, MMS is approaching the issue in a way that is analogous to the

"flat earth" philosophers who argued with the scientific experts and leaders of their day that global sea-based exploration was impossible because one would fall off the face of the earth if one sailed too far.

d. Global warming goes to court.

Joining World Bank chief economists and international business leaders in the campaign to curb the globe's consumption of oil and gas are attorneys from across the United States, who are suing oil, electric power, auto and other companies whose emissions are linked to global warming (*BusinessWeek* online, "Global Warming: Here Come The Lawyers," October 30, 2006.) At least 16 separate cases are pending in federal or state court, including litigation brought by a coalition of Texas cities to require cleaner plants than 17 that are now proposed by utilities. The chief attorney representing the Texas cities is one of the nation's top trial lawyers, indicating that the lawsuit is being pursued in deadly earnest.

The litigation is stemming, in large part, from frustration with Congress and the federal agencies charged with managing natural resources, such as MMS. Opening up enormous tracts of pristine ocean and coastal waters to drill for more oil in the absence of any rational national energy plan, and in the presence of an overwhelming awareness by citizens and leaders alike that global warming is a real danger, is short-sighted policy-making with potentially disastrous consequences. Rather than spending huge sums of money to drill off Alaska, investing in renewable energy would provide both short-term and long-term gains for the environment and citizens alike.

In fact, Senator Barbara Boxer (D-CA), who will chair the Senate's Environment and Public Works Committee beginning in January 2007, points to the economic gains to be made from cracking down on harmful emissions caused by burning oil and gas. She notes that "capping emissions would spur the development of 'exportable green technologies' and create jobs. (Platt's *Inside Energy*, "With California law as her model, Boxer asserts intent to pass warming bill," December 11, 2006.)

Conclusion

Opening up the Chukchi Sea – an area renowned for its astonishing variety and abundance of wildlife – to oil and gas exploration and drilling would be completely out-of-step with what a wide variety of eminent leaders in America and abroad are calling for. Top military brass, captains of industry, leading scientists, economists, and policy-makers on the state, national and international level are urging the U.S. to act now to reduce its use of oil and gas – for the sake of the planet *and* for the sake of long-term political stability, economic health and the safety of America's own citizens.

While experts at home and abroad clamor for a reduction in oil and gas use, MMS releases proposal after proposal for drilling in untouched, pristine Alaskan waters. During the recent comment period on MMS's proposed 5-Year OCS Plan, the World Bank's former chief economist predicted global economic depression if global warming were not addressed by

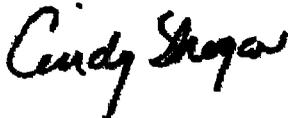
reducing the amount of oil and gas that is burned. Yet what does MMS propose? Opening up huge tracts of Alaska's oceans to wholesale oil and gas development.

During this comment period on Lease Sale 193 in the Chukchi Sea, international meteorologists announce that the 2006 winter occurring under Queen Elizabeth II is the warmest since 1659, when Queen Elizabeth I was only 50 years in the grave. Yet what does MMS propose? Opening up huge tracts of Alaska's oceans to wholesale oil and gas development.

Taking steps now to put America on the path of true energy independence could protect and grow our economy while cherishing the diversity of life that makes this country so unique. For example, every year 140 billion gallons of gasoline are burned in the United States. If we used 5 percent less through increased automobile fuel efficiency, we'd save 7 billion gallons of gasoline alone. 5% increased fuel efficiency = 7 billion gallons of gasoline: a formula less polluting and destructive than the drilling formula that MMS is proposing.

The federal government should be joining the state leaders, Members of Congress, international economists, titans of industry, military experts, seasoned scientists and an increasing number of everyday Americans who are calling for a significant reduction in the use of oil and gas, not a new era of wholesale hydrocarbon exploitation. These leaders are calling for change not for the sake of ideology or politics, but for the sake of the planet, our economy and our future security. Heading to the Chukchi Sea to drill in an Arctic wonderland is simply out of step with what scores of prudent, thoughtful and experienced leaders are recommending. MMS should cancel Lease Sale 193 and the Seismic Activities. To do otherwise is to face backwards when national and international leaders are calling on us to move forward.

Sincerely,



Cindy Shogan
Executive Director
Alaska Wilderness League

See Comment Responses to Letter 019
Alaska Coalition, Alaska Watch, Alaska Wilderness League,
Center for Biological Diversity, Greenpeace, EarthJustice,
Natural Resources Defense Council, Northern Alaska
Environmental Center, Pacific Environment, The Wilderness
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National Defense Security Foundation

Heather McTavish Doucet
International Foodservice Distributors Association

Mary Davis Holt
Time-Life, Inc.

Tommy Foltz
Patriot BioFuels, Inc.

Dr. Michelle Michot Foss
Bureau of Economic Geology
Center for Energy Economics
University of Texas

Christine A. Hansen
Interstate Oil & Gas Compact Commission

Don Juckett
Geoscience and Energy Office
American Association of Petroleum Geologists

Glenn Kramer
Hess Corporation

Jim Martin
60 Plus Association

Jan-Oddvar Sørnes, Ph.D.
Bodø Graduate School of Business, Norway

Todd Thorner
Foresight Wind Energy, LLC

The Honorable Frank W. Wagner
Virginia State Senate

Thomas E. Williams
Noble Corporation

December 21, 2006

Minerals Management Service
3801 Centerpoint Drive
Suite 500
Anchorage, AK 99503

Dear MMS:

Please find enclosed 43 comment letters generated by the Consumer Energy Alliance and other interested stakeholders.

Each of these letters highlights support for the 2007 Chukchi Lease Sale.

Please let me know if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Melissa Taldykin', is written over a faint, larger version of the signature.

Melissa Taldykin
Director of External Affairs

        
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Date: 25 Nov 2006 18:48:01 -0500 [11/25/06 18:48:01 EST]**From:** comments@consumerenergyalliance.org**To:** comments@consumerenergyalliance.org**Subject:** AK - eFORM MMS Comments consumerenergyalliance.org**Headers:** Show All Headers

Name - Tim Cowan
Address - 1045 Bogie Ct
City - Soldotna
State - AK
Email - birdycircle@acsalaska.net
Comments - November 2006

Ms. Renee Orr

5-Year Program Manager

Mr. James F. Bennett

5-Year DEIS

Minerals Management Service (MS-4010), Room 3120

381 Elden Street

Herndon, Virginia 20170

RE: In Support of Expanded Offshore Access in Alaska

Dear Ms. Orr and Mr. Bennett:

I am writing to express my strong support for expanded offshore leasing during the 5-year period 2007 - 2012. As someone who lives and works in Alaska, I am particularly interested in allowing expanded access offshore Alaska, including continued leasing in the Chukchi Sea, Beaufort Sea and Cook Inlet, as well as new leasing in Bristol Bay. The Minerals Management Service (MMS) should also include additional acreage for lease in the offshore waters of the lower 48 states to insure adequate supplies of oil and natural gas are available to US consumers.

According to MMS, Alaskas offshore waters contain US reserves estimated at 27 billion barrels of oil and 132 trillion cubic feet of natural gas (31 percent of all US offshore waters). The MMS estimates that the Chukchi Sea is the most promising and materially undeveloped US offshore petroleum basin. Lease sales are already occurring in the Beaufort Sea, and MMS estimates that there are approximately 23 trillion cubic feet of natural gas reserves in Bristol Bay.

Domestic oil and gas development in Alaska will have a positive impact on the regional economy and spur strong economic growth because it will create jobs, provide a significant tax source for local communities and support Alaskas business community. In fact, according to the Anchorage Economic Development Corporation, 34,000 jobs are created each year in Alaska by the oil and gas industry. With todays technology, this development can be conducted in an environmentally friendly manner.

Additionally, I strongly urge the Administration and Congress to move quickly to approve policies that provide for Alaska and other coastal states to share in the revenues gained from offshore oil and gas production. Such production revenue could provide multiple benefits to state and local communities by improving infrastructure and addressing other important local needs.

I support the conclusions contained in the Draft Environmental Impact Statement (DEIS), and request that the MMS properly consider all of the environmental impacts involved in Alaskas offshore development.

Finally, I support the DEIS Statement MMS has issued for a 2007 Chukchi Lease Sale and for associated seismic surveying activities. It is important that the federal government hold a lease sale next year in this promising basin.

Sincerely,

Tim Cowan
2006-11-25 18:48:00

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Date: 7 Nov 2006 20:33:48 -0500 [11/07/06 20:33:48 EST]

From: comments@consumerenergyalliance.org

To: comments@consumerenergyalliance.org

Subject: Alaska eFORM MMS Comments consumerenergyalliance.org

Headers: Show All Headers

Name - Tess Hopkin

Address - 19750 Driftwood Bay Drive

City - Eagle River

State - AK

Email - porcaro@gci.net

Comments -

November 2006

Ms. Renee Orr

5-Year Program Manager

Mr. James F. Bennett

5-Year DEIS

Minerals Management Service (MS-4010), Room 3120

381 Elden Street

Herndon, Virginia 20170

RE: In Support of Expanded Offshore Access in Alaska

Dear Ms. Orr and Mr. Bennett:

I am writing to express my strong support for expanded offshore leasing during the 5-year period 2007 - 2012, especially in Alaska's Chukchi and Beaufort Seas, and Bristol Bay. As a young Alaskan, I believe that it's very important for Alaska and for America, both for our economy and our security.

Sincerely,

Tess Hopkin

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Salyer, Michael

From: Cynthia Domaruk [groovycyn@hotmail.com]
Sent: Thursday, December 07, 2006 1:51 PM
To: AKEIS
Subject: No Drilling in the Chuckchi Sea

Cynthia Domaruk
PO Box 347
Denali Park, AK 99755-0347

December 7, 2006

MMS Alaska Regional Office

Dear MMS Alaska Regional Office:

I strongly oppose any offshore drilling in the Chukchi Sea. I believe any drilling will have serious short term and long term effects on the environment. Drilling will not only negatively impact the immediate area, the repercussions will be global. This is not only an environmental issue however, it is just as importantly a human rights issue. It is time we put our time, money, and resources into alternative sustainable energy sources. The environmental impact statement clearly states the following negative effects of offshore drilling: decreased water and air quality, increased low level aircraft and seismic noise, redistribution of both land and sea animals, and of course the ever present possibility of an oil spill that we all know will wreak havoc on every aspect of the affected area. The Inupiat people who live on the coast will take the brunt of this. Amazingly, after a detailed account of all of these possibilities, the preferred alternative in the EIS states that drilling should commence with caution. I find it appalling and extremely frustrating that the Department of the Interior, via the MMS, has become a pawn in the name of profit for the oil companies. I am well aware of the power the oil companies have over the US government through campaign financing and a very well funded lobby. I believe the majority of Americans are against this offshore drilling. In conclusion, I ask that you reject any legislation that moves toward drilling in the Chukchi Sea. Whether one believes we are the most influential beings on earth due to evolution or intelligent design, we have a responsibility to take care of each other and our home. How do you want to be remembered in the history books?

Sincerely,

Cynthia Domaruk

13 Pinyon Pine Road
Littleton, CO 80127

RECEIVED

DEC 14 2006

REGIONAL DIRECTOR, ALASKA
Minerals Management Service
ANCHORAGE, ALASKA

To: MMS
3801 Centerpoint Drive, Suite 500
Anchorage, Alaska 99503

Subject: The Chukchi Sea - Do Not plunder.

Dear MMS,

The Chukchi Sea, located off Wainwright on the northern coast of Alaska, provides food and habitat to an amazing array of wildlife. Its waters wash up against wildlife refuges and national preserves, and Native communities depend on its rich waters for survival. Unfortunately, while the Chukchi is currently free from large-scale oil and gas activities, its pristine ecosystem could be seriously compromised if the federal government has its way.

The Interior Department wants to start selling leases for oil and gas development in the Chukchi Sea next year. Impacts from oil and gas development, including noise disturbance, pollution, and other industrial activities, could threaten the Alaska Maritime National Wildlife Refuge – which provides habitat for migrating seabirds – and the Cape Krusenstern National Preserve, which provides important subsistence resources.

Please do not plunder the Alaskan waters of more oil and gas. This will do nothing to help move our nation toward reducing greenhouse gases.

Greenhouse gases are contributing the 'Global Heating' cycle that scientists have acknowledged. The 'Global Heating' cycle will be more encouraged rather than less. Please do not sell leases for oil and gas development of this pristine ecosystem for more hydrocarbons in the atmosphere that encourage this 'Global Heating'.

Sincerely,



John Fredrickson

RECEIVED

DEC 14 2006

Dr. Judith Schmidt
777 Old County Road
Washington ME 04574

judithschmidt@principia.edu

6 December 2006

REGIONAL DIRECTOR,
Minerals Management Service
ANCHORAGE, ALASKA

*Please do not
mail - paper waste,
reply*

Dear MMS Staff,

As I wildlife biologist and active defender of our natural environment, and understand about the urgent need to protect the incredible diversity of wildlife in the Chukchi Sea that would be seriously threatened by oil and gas development there.

I am not going to take my time, or yours, with a long letter, but through my work for many decades, and visits to Alaska, I do understand the situation there.

I also live unconnected to any state production of energy, by using only solar and wind for my electricity, domestic hot water, and house heat. We have no choice today. WE HAVE TO PUT OUR TIME, MONEY AND INGENUITY INTO SUSTAINABLE ENERGY SOLUTIONS AND STOP THE COSTS TO THE NATURAL ENVIRONMENTAL CAUSED BY COAL AND OIL AND GAS. THESE PRODUCTS HAVE DONE, AND ARE CAUSING ENORMOUS LOSS OF LIFE IN OTHER NATIONS THROUGH WARS AND OTHER STRIFE.

I urge you not to permit any further exploration for oil or gas in the coastal waters of Alaska.

Sincerely,

Judith Schmidt PhD



P.O. Box 919
Republic, WA 99166
December 13, 2006

MMS
3801 Centerpoint Drive, Ste. 500
Anchorage, AK 99503

RE: Chukchi Sea

Oil and gas development will threaten many wildlife species inhabiting the Chukchi Sea. Bowhead and beluga whales, gray whales and numerous migratory birds depend on a healthy, clean environment for survival.

Commercial and subsistence fishers also need clean, healthy water and seafood.

The Interior Department's EIS states that there is a 33-51% chance of a large oil spill occurring in the Chukchi Sea if drilling is permitted. This is not acceptable.

We should be developing alternatives to oil and gas that will help to reduce global warming. Alternative energies, conservation and increased fuel efficiency in automobiles are the only sensible solutions to our increasing energy demands.

Sincerely,



Nancy McCambridge

Huffaker, Christine

From: Rosemary Ahtuanguaruak [rahtuanguaruak@astacalaska.net]
Sent: Friday, December 08, 2006 12:36 PM
To: AKEIS
Subject: Chukchi Sea Lease Opposition

Rosemary Ahtuanguaruak
P.O. Box 89130
Nuiqsut, AK 99789-0130

December 8, 2006

MMS Alaska Regional Office

Dear MMS Alaska Regional Office:

I live in Nuiqsut and our subsistence animals migrate through these areas. We are very concerned for the health of these foods that we eat. We depend on the foods from the land and seas around us to feed our families.

We are concerned about changes that have already happened with existing leases and proposed developments. We are very concerned to the lack of the ability to clean up a spill in the waters of the Arctic. We know that the demonstrated capacity of the clean up potential in the Arctic is 0%. We know how hard it is to run the spill response drills and many are cancelled due to weather. What will happen is that the spill will spread and damage the foods we need to feed our families.

Our lifestyle is rich in traditions that were carried for thousands of years. The changes that are already occurring is changing our community. We change as healthy people when we don't have our traditional foods increasing with health problems such as hypertension and heart disease and diabetes. What will we do to help our people if we can not eat our foods because of changes.

We are causing changes to the health of our foods with the fish having increases to parasites and disease as well as the caribou. People in Nuiqsut have gotten asthma with the emissions already occurring. We had three elders put on ventilators this year. How will we help our people with serious health problems coming. We want to continue the traditional and cultural uses inspite of what they bring to us. We want to continue our traditional foods that are what we need to survive in our environment.

Please prevent the problems that we have seen happen in our village from continuing to cause harm to us and other northern communities. We need to make sure it is not done as they try to do it around us because we have hard times to hunt and feed our families and other communities should not face the difficulties we have faced.

Industry needs to incorporate alternative renewable energy uses in their projects to decrease our consumption of the resource that is rapidly depleting. We need them to do it more safely with out putting our people at risk with health problems because they are cutting costs. We deserve clean air that was once around our village but is not now.

Prevent damages to this area by making them do it with modern technology that reduces the emissions that hurt our village. Use the modern science from the gulf vets health assessments and the Prince William Sound science

that is not incorporated in the documents used to plan these leases. We now know there are long term effects from developing and worse effects if there is a spill.

The Chukchi Sea is home to an amazing diversity of wildlife that would be threatened by oil and gas development.

Bowhead and beluga whales migrate through in the fall and spring, and gray whales depend upon it for a feeding area.

Migratory birds nest and feed in the area, which is also critical habitat for spectacled eider.

The people whose lives depend upon a healthy, clean environment would be severely impacted by oil and gas development and exploration. Commercial and sport fishers, and Alaska Natives, depend upon clean waters and healthy seafood.

Impacts from oil and gas development, including noise disturbance, pollution, and other industrial activities, could threaten the Alaska Maritime National Wildlife Refuge - which provides habitat for migrating seabirds - and the Cape Krusenstern National Preserve, which provides important subsistence resources.

The Interior Department admits in its draft Environmental Impact Statement that there's a 33-51% chance of a large spill occurring in the Chukchi Sea if drilling goes forward. But industry can't clean up a spill in waters as rugged as the Chukchi, which is covered in ice for much of the year.

Plundering pristine Alaskan waters for more oil and gas would do nothing to help move our nation toward reducing greenhouse gases that are warming the planet and threatening devastating consequences.

Sincerely,

Rosemary Ahtuanguak

Salyer, Michael

From: Ryan Fitzgerald [ryanlion78@aol.com]
Sent: Thursday, December 07, 2006 2:45 PM
To: AKEIS
Subject: Chukchi Sea

Ryan Fitzgerald
4 house lane
ulster park, NY 12487-5417

December 7, 2006

MMS Alaska Regional Office

Dear MMS Alaska Regional Office:

The Chukchi Sea is home to an amazing diversity of wildlife that would be threatened by oil and gas development.

Bowhead and beluga whales migrate through in the fall and spring, and gray whales depend upon it for a feeding area.

Migratory birds nest and feed in the area, which is also critical habitat for spectacled eider.

The people whose lives depend upon a healthy, clean environment would be severely impacted by oil and gas development and exploration. Commercial and sport fishers, and Alaska Natives, depend upon clean waters and healthy seafood.

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Plundering pristine Alaskan waters for more oil and gas would do nothing to help move our nation toward reducing greenhouse gases that are warming the planet and threatening devastating consequences.

Now is the time for our country to stop In our destrutive ways towards the enviornment.I urge you to plesase set an example for the rest of our country and the world buy helping to protect the Chukchi Sea

Sincerely,

Ryan Fitzgerald

Stephan Donovan
4851 North Bernard Street
Chicago, IL 60625-5107

December 6, 2006

MMS Alaska Regional Office

RECEIVED

DEC 14 2006

REGIONAL DIRECTOR, ALASKA
Minerals Management Service
ANCHORAGE, ALASKA

Re: Please save the Chukchi Sea

Dear MMS Alaska Regional Office:

The Chukchi Sea is home to an amazing diversity of wildlife that would be threatened by oil and gas development.

Bowhead and beluga whales migrate through in the fall and spring, and gray whales depend upon it for a feeding area and migratory birds nest and feed in the area, which is also critical habitat for spectacled eider.

The people whose lives depend upon a healthy, clean environment would be severely impacted by oil and gas development and exploration. Commercial and sport fishers, and Alaska Natives, depend upon clean waters and healthy seafood.

Impacts from oil and gas development, including noise disturbance, pollution, and other industrial activities, could threaten the Alaska Maritime National Wildlife Refuge - which provides habitat for migrating seabirds - and the Cape Krusenstern National Preserve, which provides important subsistence resources.

The Interior Department admits in its draft Environmental Impact Statement that there's a 33-51% chance of a large spill occurring in the Chukchi Sea if drilling goes forward. But industry can't clean up a spill in waters as rugged as the Chukchi, which is covered in ice for much of the year.

Plundering pristine Alaskan waters for more oil and gas would do nothing to help move our nation toward reducing greenhouse gases that are warming the planet and threatening devastating consequences.

Sincerely,



Stephan Donovan

Pacific Environment Letter

Alaska Regional Director J. Goll

Dear Alaska Regional Supervisor Goll,

Thank you for this opportunity to comment on the proposed Chukchi Sea Lease Sale 193 and the associated Environmental Impact Statement. This plan for drilling and exploration in the Chukchi Sea threatens Americas last unspoiled marine ecosystems and will cause disproportionate impacts upon communities exercising the nations oldest subsistence traditions. As such, it is imperative that this Lease Sale is cancelled and permanent protections are enacted for Americas Arctic.

Opening the Chukchi Sea, which already faces ecological stress due to global warming, in order to obtain more fossil fuels, is socially irresponsible. Furthermore, the ecology of the region is largely undocumented, and the Minerals Management Service has provided little baseline data upon which to justify the impacts of seismic exploration and oil and gas development. We do know, however, that the impact will likely be quite severe, and I have a number of specific concerns. These include:

The impacts of oil and gas exploration and development upon marine mammals, including bowhead and beluga whales, walrus, seals, and polar bears.

The impacts to critical habitat for spectacled eiders and migratory seabirds nesting in the cliffs of the Alaska Maritime National Wildlife Refuge.

The demonstrated inability of industry to clean up oil spills, which are inevitable, in broken ice conditions.

The failure to adequately consider the cause and consequences of climate change when planning for future development in the Arctic.

The disproportionate impacts of the lease sale on subsistence cultures and the failure of the Minerals Management Service to achieve Environmental Justice.

The failure to develop a responsible national energy policy based upon solar, wind, geothermal, tidal, and other renewable sources of energy.

In conclusion, it is my belief that Lease Sale 193 and the accompanying Environmental Impact Statement are inadequate to protect the ecosystems of the Chukchi Sea for future generations. It is time for the U.S. to adopt a responsible energy policy that does not rely upon destroying Americas Arctic as a short-term fix to our oil addiction. Cancel this lease sale, reduce our consumption of fossil fuels, and enact permanent protections for Americas Arctic ecosystems.

Sincerely,

Pam Wilkinson
523 E M 43 Hwy
Hastings, MI 49058

P.O. Box 766
Talkeetna, AK 99676
December 22, 2006

Mr. John Goll
Minerals Management Service
3801 Centerpoint Dr. Suite 500
Anchorage, Alaska 99503

Dear Mr. Goll:

These are my comments on Chukchi Sea Lease Sale 193 Environmental Impact Statement (EIS), project ID LEA-AK-0005.

I urge you to select Alternative II (No Lease Sale).

First, offshore oil leasing in the icy Chukchi Sea is fraught with enormous environmental risk and should not go forward. Second, the EIS, because of its clear bias in favor of oil development, does not represent an adequate basis to support any leasing alternative.

The environmental risk of oil exploration and development in ice bound or broken ice waters is enormous. Risk to the marine ecosystems is why, years ago, the Bristol Bay leases were bought back, and it is bewildering to me that MMS can turn around and recommend offering leases in an even more risky area. The EIS states that there is a 40% chance of a large spill,¹ yet throughout the document, this probability is labeled "unlikely."² A 40% probability cannot legitimately be described as "unlikely." This is but one indication of the inherent bias of this EIS in favor of oil development. It is as if MMS has, from the beginning, made the decision to offer leases and that the EIS process is designed solely to support that predetermined decision.

Page II-24 states: "Other concerns were fate and behavior of oil spills, availability and adequacy of oil-spill-containment, oil spill cleanup technologies and strategies, impacts of cleanup methods, effects of winds and currents, weathering, toxicological effects of fresh and weathered oil, and ability to effectively clean up oil spills in broken-ice conditions." These are very real and very alarming concerns. But they are not addressed in the EIS. The Chukchi and western Beaufort (which would be affected by a spill) are noted for their harsh climates and weather, and are covered in ice for much of the year. There have been no successful oil spill response drills in the Beaufort Sea. The

¹ Page IV-63, "The Oil-Spill-Risk Analysis (OSRA) model estimates a 40% chance of one or more large spills $\geq 1,000$ bbl during the production life of the fields...."

² Page V-3, "In the unlikely event of a large offshore oil spill, some significant adverse impacts could occur...."

inescapable fact is that in these harsh ice and weather conditions, coupled with its remoteness, mean that industry, federal government, and state government would be helpless in the likely (40% according to your EIS) event of a large spill. The capacity to contain and clean up a spill in these circumstances does not exist. This EIS is turning a blind eye to this very real and serious, and potentially catastrophic, problem.

The seriousness of this point is only compounded by the recent events at Prudhoe Bay, when the Alaska Pipeline was shut down this past summer due to oil leaks and corroded pipes. Industry is negligent; state and federal oversight is lax and careless. That's the way it is, and that's the way it will be in the future. In these circumstances, how can the EIS possibly consider the likelihood of an oil spill to be "unlikely"?

As with oil spills, the EIS downplays every other environmental risk. The EIS mentions water quality, air quality, lower trophic-level organisms, fishes, essential fish habitat, endangered and threatened species: bowhead whale and spectacled and steller's eiders, but the impacts are always "potential", "temporary", "short duration", "localized", "could be affected", etc. Furthermore, the EIS's so-called 'assessment' typically is so vague as to be meaningless, as: "Adverse effects to the migration, spawning, and hatchling survival of fish most likely would be temporary and localized, and only a moderate level of disturbance or displacement would occur." (IV-77) Your failure to adequately assess the environmental risk is irresponsible and inexcusable.

Along with risk, one, of course, also looks at reward (i.e., the amount of oil produced). But, it appears that, as you have understated the risk, you have also overstated the reward. On page ES-iii, you state "these models assume that leasing, exploration, and development are unrestricted by regulations or industry funding." So, what the EIS is really talking about is the amount of oil that is technically recoverable. The amount of oil that is technically recoverable is irrelevant. The only models that are relevant are those based on the amount of oil that is economically recoverable, which the EIS models do not address. In reality, there are regulations and the industry does incur development costs, and there is a significant difference between what oil may be technically recoverable in the lease area and what may be economically recoverable. If MMS were to make a good faith effort to determine whether leasing is in the best interests of the American public, it would have to look at the amount of oil that realistically and economically would be expected to be produced.

I also find it quite troubling that MMS has chosen December 26th as the comment deadline date. December 26 is the day after Christmas. Most people participate in Christmas and holiday festivities. No agency that is seriously interested in hearing from the public would establish a deadline that in the midst of this major distraction. Clearly, MMS views the public as an obstacle to overcome rather

than as a legitimate participant in the EIS process. I believe this contempt for the public illegitimizes this EIS process.

In its zeal to develop off shore, MMS has lost sight of the environmental risk and the right of the public to meaningfully participate in the process. MMS has understated the environmental risk (i.e., cost) and has overstated the expected benefits. The bias of this document is stunning, and I cannot believe that it complies with NEPA.

I, again, urge the **no lease sale** alternative.

Sincerely,

A handwritten signature in black ink, appearing to read "John Strassenburgh".

John Strassenburgh

**Federal and State
Agency Comment
Letters**

Document 13



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 10
1200 Sixth Avenue
Seattle, WA 98101

December 27, 2006

Reply to
Attn. of: ETPA-088

Ref: 05-049-MMS

John Goll
Regional Director, Alaska OCS Region
Minerals Management Service
3801 Centerpoint Drive, Suite 500
Anchorage, AK 99503-5823

Re: Draft Environmental Impact Statement: Chukchi Sea Planning Area, Oil and Gas Lease Sale 193 and Seismic Surveying Activities in the Chukchi Sea

Dear Mr. Stang,

The U.S. Environmental Protection Agency (EPA) has reviewed the draft Environmental Impact Statement (EIS) for the **Chukchi Sea Planning Area, Oil and Gas Lease Sale 193 and Seismic Surveying Activities in the Chukchi Sea** (CEQ No. 20060423). Our review has been conducted in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act.

The Chukchi Sea Lease Sale 193 and Seismic Surveying Activities Draft EIS (Sale 193 Draft EIS) was prepared to analyze the effects of a lease sale within the Chukchi Sea Outer Continental Shelf. The document is also intended to provide NEPA evaluation for exploration activities in the Chukchi Sea, including seismic survey geophysical permitting and NEPA documentation for National Marine Fisheries Service (NMFS) potential issuance of Incidental Harassment Authorizations. The NMFS is a cooperating agency for the Draft EIS.

The Draft EIS evaluates three action alternatives and a no-action alternative:

- Alternative I: Offer for lease approximately 6,155 whole and partial blocks (about 34 million acres), excluding the 15- to 50-mile wide polynya or spring lead system corridor along the coast (Proposed Action).
- Alternative II: No Lease Sale (No Action Alternative).
- Alternative III: Includes the Proposed Action, excluding an area of approximately 1,649 whole or partial blocks; this alternative would attempt to reduce potential impacts to subsistence hunting and various wildlife species and habitats (Corridor I Deferral).
- Alternative IV: Includes the Proposed Action, excluding approximately 795 whole or partial blocks; this alternative was developed as a result of a 1987 Biological Opinion for the Chukchi Sea (Corridor II Deferral).

General Comments

EPA recognizes the challenges that MMS faced in preparing this Draft EIS, primarily due to the lack of scientific data and the high levels of uncertainty associated with baseline geophysical and biological features in the frontier area of the Chukchi Sea. The Draft EIS acknowledges uncertainties regarding existing environmental conditions, environmental affects of alternatives (including cumulative effects) and mitigation measures to reduce adverse impacts. The lack of data regarding the distribution, abundance and habitat use of important biological and subsistence resources in the area such as the endangered bowhead whale is significant, and creates additional uncertainty regarding Draft EIS conclusions. In addition, the use of the "Opportunity Index" and the hypothetical development scenario that is used in the document add additional layers of uncertainty regarding the probabilities of exploration, production and development activities and the risks associated with those activities.

Although the Draft EIS makes a credible attempt to remind readers of the data gaps and uncertainties in the alternatives analyses, EPA is concerned that, overall, the depth and diversity of uncertainties presented in the document resulted in the lack of adequate support for many of the document's conclusions. EPA has assigned a rating of **EC-2 (Environmental Concerns-Insufficient Information)** to this Draft EIS. Please find enclosed a copy of the EPA rating system used in conducting our environmental review. This rating and a summary of our comments will be published in the *Federal Register*. EPA's primary concerns regarding the Draft EIS and our corresponding recommendations for the Final EIS are summarized below.

Draft EIS Alternatives

EPA scoping comments for the Draft EIS recommended that in addition to information that identifies how the lease sale responds to the current Administration's goal to expedite exploration of domestic energy resources (as stated in the Notice of Intent), the MMS also provide information about what alternatives, alone or in combination, including those other than off-shore oil and gas development, may supply that need. Such alternatives were not analyzed in the Draft EIS. Information regarding the potential roles that energy conservation and use of renewable resources may play in helping to meet increasing energy demands in this country has merit in the evaluation of alternatives for a Chukchi Sea lease sale. The information is particularly relevant given the technical challenges of oil and gas development in the remote area, risks from spills and the inability to ensure adequate cleanups, lack of existing infrastructure, data gaps in critical environmental baseline information, and increasing concerns regarding use of fossil fuels and contributions to global climate change.

013-001

On the basis of information presented in the Draft EIS, EPA believes there is merit in providing for the maximum protection of biological and subsistence resources in the Planning Area, primarily due to the lack of available baseline data on the resources in the area, challenges with monitoring for adverse changes in biological resources, and uncertainties regarding the effectiveness of mitigation measures to avoid or reduce adverse impacts to resources. Alternatives to the Proposed Action that are presented in the Draft EIS include two variations of exclusion areas along the coastward side of the Planning Area. However, it is unclear how the boundaries of the excluded areas in the two alternatives (Alternatives III and IV) were determined. Due to the lack of information about the Planning Area, the use of the "Opportunity

013-002

Index” and other assumptions regarding the potential level of exploration, development and production activity as a result of a lease sale, it is unclear if the two alternatives, together with the Proposed Action and a No Action Alternative, represent a range of reasonable alternatives in the Draft EIS. The Final EIS should present a more thorough discussion of the decision criteria and the geophysical, biological and subsistence information that was used to develop the alternatives in order to demonstrate that a range of reasonable alternatives was considered.

013-002

According to the Draft EIS the U. S. Fish and Wildlife Service (USFWS) Endangered Species Act (ESA) consultation regarding endangered spectacled and Steller’s eiders had not been completed prior to publication of the document; therefore, the action alternatives may not include an option for avoiding unacceptable adverse impact to those species. The Final EIS should document the results from the most up-to-date ESA consultation with USFWS and clearly explain how the selection and analyses of the Proposed Action and the alternatives considered the information.

013-003

Coordination with Other NEPA Activities

The Lease Sale 193 EIS is being developed concurrently with two separate but relevant NEPA efforts by MMS and NMFS. During this Draft EIS public comment period, MMS is also evaluating public comments that were submitted on a Draft EIS for the Outer Continental Shelf (OCS) 5-Year Program (2007-2012) and public scoping comments that were submitted for a Programmatic EIS that will be prepared by MMS and NMFS for permits and authorizations associated with seismic survey activities for oil and gas exploration in the Beaufort and Chukchi Seas. EPA is concerned that the overlapping schedules of the different NEPA documents, and the relatively short timelines assigned to developing and finalizing the documents, will make it very difficult for the sponsor agencies to obtain, evaluate and incorporate the most up-to-date information in each document. In addition, information regarding potential exploration, development, and production scenarios, and oil spill risk analyses does not appear consistent between the OCS 5-Year Program Draft EIS and this Draft EIS. EPA recommends that the MMS carefully review both documents, and the information that is currently being collected for use in the Programmatic Draft EIS, and provide consistency in information that should be common to all the documents. EPA also recommends that the MMS coordinate the schedules, and allow for ample time for public review and input, for the three ongoing NEPA efforts in order to provide for public participation and maximize the use and effectiveness of new, updated information and input from agencies, tribes and the public into each document. EPA also recommends that MMS describe in the Lease Sale 193 Final EIS how the comments that were received have been considered for each document, as applicable.

013-004

013-005

013-006

Throughout the Draft EIS, references are made to information available in the *Programmatic Environmental Assessment (PEA), Arctic Ocean Outer Continental Shelf Seismic Surveys – 2006*. The MMS relied heavily on this document in the evaluation of potential environmental effects of pre-lease seismic survey geophysical permitting. As the PEA is currently being updated by a Programmatic EIS, EPA recommends that MMS review references to the PEA that are in the Lease Sale 193 Draft EIS, update as appropriate with information that is available during development of the Draft Programmatic EIS, and incorporate the information into the Final EIS for Lease Sale 193. This is particularly important as the documents should include robust and comprehensive evaluations of the potential impacts to bowhead whales due to

013-007

noise associated with seismic activities. Again, EPA recommends that the schedules for these documents be synchronized in order to take full advantage of updated information that is obtained during the concurrent NEPA processes.

The Draft EIS discusses the polynya exclusion zone that is applicable to all of the action alternatives, and also notes that the proposed OCS 5-Year Program for 2007-2012 Draft EIS includes different alternatives for this currently protected area, including elimination of the current polynya zone (as defined in the 2002-2007 OCS 5-Year Program) or establishing an arbitrary 25-mile wide corridor. EPA recommends that the Final EIS present a clear description of the boundaries of an excluded polynya zone that would be applicable to a Lease Sale 193 in 2007, which takes into consideration the exclusion zone under the current 2002-2007 OCS 5-Year Program, and the additive features of whichever alternative is selected in the Final EIS for the 2007-2012 OCS 5-Year Program. EPA recommends that that any lease sale area in the Chukchi Sea exclude a polynya zone that provides for maximum protection of sensitive biological and subsistence resources, which is developed and supported with the best available scientific data and traditional ecological knowledge about the area.

013-008

Endangered Species Act

EPA is concerned that relevant information regarding risks to threatened and endangered species [e.g., the spectacle eider (threatened) and the Steller's eider (threatened)] from oil and gas development has not been adequately considered in the Draft EIS. In the case of eiders, and on the basis of information in the Draft EIS, the high probability of a large spill in the planning area combined with the presence of these threatened species during vulnerable life cycle stages indicate a significant risk to their populations. The Final EIS should include a more comprehensive analysis of the probability of significant adverse impacts to these species as a result of spills, including worst case scenarios, and potential implications for survivability of the species.

013-009

EPA is also concerned with data gaps regarding the three species of endangered cetaceans that occur within or near the Chukchi Sea Planning Area. These species include the bowhead whale, fin whale, and humpback whale. Of particular concern is the lack of data regarding the bowhead whale, given its endangered status and the critical role it plays in the subsistence lifestyle of Alaska Natives. Recent data on the bowhead distribution, abundance, or habitat use in the Chukchi Sea Planning area are not available, according to the Draft EIS. The significance of feeding in particular areas to the overall food requirements of the bowhead population or segments of the population is not clear, and both MMS and NMFS believe that there are major questions about bowhead whale feeding that remain to be answered. The Draft EIS also describes significant uncertainties about the details of many cumulative effects on the bowhead population in the area. The Final EIS needs to provide additional information to support conclusions regarding potential adverse impacts to the bowhead whale as a result of oil and gas exploration, development and production in the Planning Area and the effectiveness of mitigation measures to avoid or minimize adverse impacts. The Final EIS should also provide additional explanation of how input from local residents and affected tribes regarding bowhead whale distribution and behavior (with and without industrial activities in the area) was evaluated and used during the NEPA process and how the input was factored into the selection of a final alternative.

013-010

As noted in the Draft EIS, in 2005 the U.S. Fish and Wildlife Service was petitioned to list the polar bear as threatened under the Endangered Species Act, and the agency is currently conducting a status review for a potential listing. A decision regarding listing the polar bear as threatened is expected to occur during preparation of the Final EIS. EPA recommends that the Final EIS incorporate the best available updated information on the regulatory status of the polar bear, including potential designation of any new critical habitat areas, and the implications for a lease sale in the Chukchi Sea.

013-011

Oil Spill Probabilities and Risk

In the Draft EIS, MMS used a combination of oil spill risk analysis and probability assumptions to determine the likelihood of various spill scenarios. EPA is concerned that throughout the document, the reference to an “unlikely” large oil spill causes confusion to the reader, and in general does not accurately reflect the potential for large oil spills to occur and cause significant adverse, and potentially irreversible, impacts to environmental and subsistence resources. According to the oil spill risk analyses presented in the Draft EIS, the chance of a large oil spill greater than or equal to 1,000 barrels (bbls) occurring and entering offshore waters is within a range of 31-51%, which represents a significant risk. For purposes of analyses, MMS models one large spill event of either 1,500 bbl (platform spill) or 4,600 bbl (pipeline spill), and concludes that the low probability of such an event, combined with the characteristics of the resources inhabiting the area, make it “unlikely” that a large oil spill would occur and contact these resources.

013-012

EPA is very concerned that the risk to environmental resources, based on the above simplified risk analysis and probability assumptions, from a large oil spill is understated in the Draft EIS. On the basis of information presented in the document regarding the calculated (statistical) risks of oil spills from OCS development, data gaps regarding sensitive environmental resources in the area, and the proven inability to clean up oil spills in broken ice and other hazardous conditions in the Chukchi Sea that exist for much of the year, the actual likelihood that a large oil spill would occur and significantly impact high-value resources should be considered much greater. EPA recommends that the MMS incorporate a more comprehensive approach to oil spill risk and the adverse impacts that could result from leasing, exploration, development and production of oil and gas resources in the Chukchi Sea. The Draft EIS lacks sufficient justification to conclude that while a large oil spill could cause adverse effects, including significant adverse effects, the low probability for such a spill combined with an assumption that the area affected by the spill would not likely contact biological resources indicate it is “unlikely” that a large oil spill would occur.

Environmental Justice

EPA’s primary concerns with the treatment of environmental justice during the Lease Sale 193 NEPA process and in discussions in the Draft EIS focus on the effects of multiple, overlapping and fast-tracked planning processes that have occurred over the past several months, and increasing concerns from local residents regarding human health impacts from proposed oil and gas exploration, development and production activities in the area.

013-013

EPA recognizes that the voluminous amount of information that has been prepared in various NEPA documents for oil and gas activities in the Alaska Arctic, both onshore and offshore, throughout 2006 has put a strain on local communities' abilities to adequately review and respond to proposed activities that directly affect their quality of life and, in particular, their subsistence way of life. In recent weeks public input has been solicited for the Beaufort Sea Oil and Gas Lease Sale 202 EA and Finding of No Significant Impact, the MMS OCS 5-Year Program for 2007-2012 and the accompanying 5-Year Program Draft EIS, the NOI for a Programmatic EIS for seismic activities in the Chukchi and Beaufort Seas, an NOI for a Supplemental EIS for the Northeast National Petroleum Reserve-Alaska (NPR-A) Integrated Activity Plan, and this Lease Sale 193 Draft EIS. The public review and comment periods have at times occurred during critical whaling and other subsistence activity seasons when many of the key individuals in the communities were likely unavailable, and they have all occurred in such rapid succession that thoughtful and meaningful reviews, which the agencies ask for and expect, have undoubtedly been constrained. More importantly, it is understandable that the pressure to review, comment on and ultimately live with the rapid pace of industrial activities creates stress and other adverse impacts to individuals living in the area. The Draft EIS does not present adequate information to support the statements about the urgency to conduct Lease Sale 193 at this time. EPA recommends that the MMS reconsider the proposed schedule for the lease sale, the accompanying NEPA process requirements, and the myriad of other overlapping resource development planning processes that are currently underway in the area and strive to achieve more balance in the both the planning schedules and in the impacts to residents' daily lives.

013-014

A second concern relative to environmental justice results from EPA's review of the Draft EIS and also from our understanding of the recurring comments from local residents and North Slope Borough officials about recognized and potential human health impacts from onshore and offshore oil and gas activities on the North Slope. It is our understanding that on several occasions MMS and other federal agencies have been asked by North Slope Borough officials to engage in meaningful discussions and consultation about environmental health concerns of local residents. EPA understands the challenges associated with studies of impacts from oil and gas development on community and individual human health and the evaluation of potential mitigation for impacts. However, EPA encourages MMS to foster and participate in focused dialogue with local residents in order to better understand the types of concerns regarding human health that are in the communities and work with communities to explore potential ways to analyze and mitigate adverse impacts. EPA considers the analysis of human health impacts from proposed oil and gas leasing, exploration, development and production part of the NEPA process, and we would be interested in assisting MMS in their efforts.

013-015

Cumulative Impacts

EPA is concerned that the Draft EIS does not adequately analyze potential cumulative impacts on Alaska's onshore and offshore ecosystem and the local communities who depend on healthy ecosystems for their social, cultural and subsistence way of life. An expanded analysis and discussion regarding potential cumulative effects from past, present and reasonably foreseeable future OCS and non-OCS related activities within the planning area should be included in the Final EIS. In particular, an expanded discussion of present and reasonably foreseeable future non-OCS activities, which include the expected significant increase in

013-016

nonenergy related minerals exploration and development in northern Alaska, and their potential impacts should be included for the cumulative case in the Final EIS. Mineral exploration and development activities that are currently underway and expected to increase in northwestern Alaska over the next several years are relevant to the cumulative analysis (e.g., expansions to the Red Dog Mine, coal extraction on Arctic Slope Regional Corporation land and hard rock mining activities in South NPR-A). Additional discussion regarding increased marine vessel traffic, including large-volume cargo vessels, and land use alterations that are likely to result from onshore hard rock mining activity and future development of oil and gas resources in the NPR-A should be included in the Final EIS.

EPA appreciates the opportunity to review and provide comments on the Chukchi Sea Planning Area Lease Sale 193 Draft EIS. If you have any questions or comments concerning this review, please contact me at (206) 553-1601. Please also feel free to contact Colleen Burgh in our Alaska Operations Office at (907) 271-1481.

Sincerely,

/s/

Christine B. Reichgott, Manager
NEPA Review Unit

Enclosure

**U.S. Environmental Protection Agency Rating System for
Draft Environmental Impact Statements
Definitions and Follow-Up Action***

Environmental Impact of the Action

LO – Lack of Objections

The U.S. Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC – Environmental Concerns

EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO – Environmental Objections

EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU – Environmentally Unsatisfactory

EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 – Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 – Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 – Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

Responses to EPA Comments.

EPA 013-001

The MMS agrees that analyzing information regarding the potential roles that energy conservation and use of renewable resources may play in helping meet increasing energy demands in this country has merit. The MMS has analyzed alternative energy at the programmatic level. The MMS evaluated alternative energy as the No Action Alternative in the 2007-2012 OCS 5-Year Program EIS (USDOJ, MMS, 2006c:Sec. IV.I).

EPA 013-002

The Polynya Deferral Area identified in the 2002-2007 5-Year Program is not available for leasing in proposed Sale 193. If some of this area is made available to offer for lease in the 2007-2012 5-Year Program, it still would not be available to offer in Sale 193. If additional area is deferred from leasing in the 2007-2012 5-Year Program (e.g., the proposed 25-mile coastal buffer), the additional area would then be excluded from the Sale 193 Proposed Action. The Sale 193 Proposed Action area would be defined as the boundary farthest from shore under either the 2002-2007 or 2007-2012 5-Year Program. This has been made clear in the final EIS.

The size of the areas offered under the 5-Year Programs and the alternatives developed for specific leases sales are based on consideration of the best available scientific information and traditional ecological knowledge about the area.

EPA 013-003

We have integrated the results of the Section 7 consultation on threatened eiders into the final EIS. We do not anticipate substantial changes to the alternatives.

EPA 013-004

We have not had any problem in obtaining, evaluating, and incorporating the most up-to-date information in all three NEPA documents in preparation by MMS and NMFS (2007-2012 5-Year Program final EIS, Chukchi Sea Sale 193 final EIS, and Arctic Ocean Seismic Surveying draft Programmatic EIS). The same subject-matter-experts from MMS have worked on all three documents. The NMFS is a cooperating agency on the Sale 193 EIS and the Seismic Surveying PEIS. The MMS Region, MMS Headquarters, and NMFS team leads and specialists worked closely together to ensure that the most current information was available and was considered for all three documents.

EPA 013-005

We agree with the comment and have clarified the differences between conditional and risked analysis. The probability that a commercial oil field will be leased, discovered, developed, and produced as a result of holding the lease sale is a separate issue from the potential risk and effects of an oil spill assuming that development occurs.

The chance that a commercial oil development will occur is broadly implied by the so-called "Opportunity Index," which defines the relative oil potential in various portions of the area. Although it is more likely that a commercial discovery will be made if more area is offered for leasing, the Opportunity Index is not the same as the chance of success for exploration and development. In a high-cost area with unproven petroleum resources, the chance of commercial success is probably lower than 10%. This means that if 10 prospects are tested, one could hold potentially commercial oil volumes.

We checked the entire document for errors in oil-spill language and revised sections for clarity. The text in Section IV.A 4 has been revised to clarify that 0.33-0.51 is the estimated range of the mean number of large

spills for Alternative I, III, or IV over the lifetime of production and is not the percent chance of one or more large spills occurring.

The chance of one or more large spills occurring is derived from two components: (1) the spill rate and (2) the resource volume estimates. The spill rate is multiplied by the resource volume to estimate the mean number of spills. Oil spills are treated statistically as a Poisson process, meaning that they occur independently of one another. If we constructed a histogram of the chance of exactly 0 spills occurring during some period, the chance of exactly 1 spill, 2 spills, and so on, the histogram would have a shape known as a Poisson distribution. An important and interesting feature of this distribution is that it is entirely described by a single parameter, the mean number of spills. Given its value, you can calculate the entire histogram and estimate the chance of one or more large spills occurring. The percent chance of one or more large spill occurring for Alternative I is 40% over the life of the project and is derived from adding the mean number of platform and pipeline spills together. That mean number of spills over the production life of the project is used as the mean in a Poisson distribution. There is a 60% chance of no spills occurring over the life of the Proposed Action, and the most likely number of spills is zero.

Regarding the oil-spill trajectories, we modeled more than two spills. Please see Appendix A.1, Section C.1.e, which states that a total of 2,700 trajectories (1,575 in winter; 1,125 in summer) were launched from each of the 1,002 launch points for a total of 2,705,400 trajectories.

We acknowledge that there is considerable uncertainty with regard to the location, timing, and density of biological resources in the Chukchi Sea. As in the past, we intend to continue to improve the resource information in the model as it becomes available.

Please see Appendix A.1 Section D. Oil-Spill-Risk Analysis, for a description of how combined probabilities are estimated. The combined probabilities estimate the chance of one or more spills occurring and contacting a social, economic, environmental, or geographic resource of concern. They are estimated from the chance of one or more large spills occurring, the chance of a large spill contacting (conditional probability), and the transportation assumptions.

EPA 013-006

The MMS has made every effort to stagger the schedules of the three NEPA documents in preparation (2007-2012 5-Year Program final EIS, Chukchi Sea Sale 193 final EIS, and Arctic Ocean Seismic Surveying draft Programmatic EIS), to keep our stakeholders informed of the NEPA process schedules, and to provide multiple opportunities for public and stakeholder input. Both the Final EIS's for the 2007-2012 5-Year Program and proposed Chukchi Sea Sale 193 will be published in spring 2007; both will have a 30-day period for additional public comment. The draft EIS on Arctic Ocean Seismic Surveying has just been published, and public hearings are scheduled for late April and early May. As appropriate, each document discussed consideration of comments received during scoping, during public review of the draft EIS, and on the final EIS. Comments received on any one document are considered as scoping or additional information for the other documents as appropriate for the timing in the NEPA process.

EPA 013-007

The final EIS for Lease Sale 193 has been updated as appropriate with any new information available since publication of the PEA and being incorporated in the Arctic Seismic Surveying Programmatic EIS. As explained in the response to comment **EPA 013-004**, the same subject-matter-experts from MMS and NMFS are working on both EIS's. Please see the response to comment **EPA 013-006** for our response to scheduling these NEPA processes.

EPA 013-008

See the response to comment **EPA 013-002**.

EPA 013-009

The suggested topics are evaluated during the Section 7 consultation process.

EPA 013-010

As required under the CEQ regulations at 1502.22, the EIS makes clear what information is incomplete or lacking. As the comment acknowledges, the EIS states that recent information on the bowhead distribution, abundance, and habitat use in the Chukchi Sea Planning Area are not available. The analysis in the EIS uses the best scientific information available and professional judgment to evaluate the reasonably foreseeable effects resulting from the proposed lease sale and the activities that may result from leasing. We believe that the conclusions in the EIS regarding potential adverse impacts to bowhead whale as a result of oil and gas exploration, development, and production in the planning area are appropriately supported by the analysis of the best available scientific information. The effectiveness of known mitigation and the process for the development of project specific mitigation during NEPA review of specific proposed activities are also fully discussed in the EIS (see specifically Sec. I.E.).

The MMS incorporates traditional ecological knowledge in the description of the environment and impact analysis for each resource and further incorporates that information in the subsistence and sociocultural evaluations. The MMS holds public scoping meeting and public hearings on the draft EIS in the potentially affected communities. The MMS conducts government-to-government meetings with potentially affected tribes at several stages during the prelease, NEPA, and decision processes. This information is used in identifying the issues, alternatives, and mitigation measures included in the EIS. This information is provided to MMS decisionmakers for their consideration in various forms including scoping reports, the draft EIS, summaries of public hearings, comments on the draft EIS and MMS responses to comments, decision documents, and various verbal and written briefings. How input from the local subsistence communities was used in defining the alternatives evaluated in this EIS is explained in the response to comment **EPA 013-002**.

EPA 013-011

The MMS has carefully reviewed and addressed all of the substantial FWS comments on the draft EIS. The MMS will continue to work closely with FWS to incorporate updated information as it becomes available, including information on any designated critical habitat. The decision regarding the listing of polar bears is expected in December 2007 (or January 2008) after publication of the final EIS, which is due out in June 2007.

EPA 013-012

The OSRA model has been developed by the DOI as a tool to evaluate the risk of potential oil spills on the OCS. The OSRA model addresses the following independent factors:

1. the chance of one or more large spills occurring as a function of the quantity of oil to be produced and handled at individual production sites, pipelines, and tanker routes;
2. the probabilities of various spill trajectories from production sites and transportation routes as a function of wind, current, and ice circulation for the area; and
3. the location in space and time of vulnerable resources defined according to the same coordinate system used in the spill-trajectory simulation.

The results of these individual parts of the analysis are combined to estimate the total oil-spill risk associated with production and transportation at locations within a proposed lease area. The information from each component is used separately and together in the risk analysis that is present in the EIS.

The chance of one or more large spills ranges from 28% for Alternative III to 40% for Alternative I over the production life. The numbers cited by EPA in their comment are the estimated mean number of spills

and are generally not cited as percentages. Those estimated mean numbers of spills range from 0.33 for Alternative III to 0.51 for Alternative I; we estimate approximately one-third to one-half of a large spill. For purposes of analysis, we assume one large spill over the life of the field.

Please see comment **EPA 013-005** for the sentence regarding modeling one spill of either 1,500 or 4,600 bbl.

The combined probabilities in Appendix A, Tables A.2-73 through A.2-90 represent the chance of one or more spills greater than or equal to 1,000 barrels, and the estimated number of spills (mean), occurring and contacting a certain environmental resource area, land segment or group of land segments within 3, 10, 30, 60, 180, or 360 days. The MMS does not agree with the commenter that this is a simplified analysis. The MMS uses the three components listed above to derive the combined probabilities. The MMS estimates the chance of one or more spills occurring over the production life of the Alternative. The information from more than 2 million trajectories is used to tabulate the likelihood of whether a resource is contacted within 3, 10, 30, 60, 180, or 360 days. These two components are combined through matrix multiplication to derive the combined probabilities in Appendix A, Tables A.2-73 through A.2-90. The analysis of large oil spills assumes no cleanup. Oil-spill cleanup is analyzed separately. This assumption is listed in Section IV.A.4.a, Large Oil Spills.

EPA 013-013

A discussion of the MMS outreach process that dealt with environmental justice concerns can be found in Section III.B.6., Environmental Justice. For comments on the planning and leasing schedule and human health impacts, see responses to comments **NSB 006-010**, **Point Lay 001-008**, **Barrow 003-017**, **NSB 006-005**, and **NSB 006-011**.

EPA 013-014

For a discussion of the MMS leasing and planning schedule, see response to comment **NSB 006-010**.

EPA 013-015

The MMS welcomes any assistance the EPA could offer on advancing the human health impacts-analysis process. For a discussion of MMS's recent dialogue with the NSB and the Alaska Inter-Tribal Council on human health impacts, see responses to comments **Point Lay 001-008**, **Barrow 003-017**, **NSB 006-005**, and **NSB 006-011**.

EPA 013-016

We believe that the scope of the cumulative analysis is appropriate for this EIS and is in accordance with the provisions of NEPA regulations to keep EIS's concise and no longer than absolutely necessary (40 CFR 1502.2(c)), to evaluate actions at a level of detail appropriate to focus issues relevant to the decisionmaking process. While the level of detail for this cumulative impact analysis is less broad than that of the 5-year Program, it is considerably more focused for the level of detail necessary for an individual lease sale. This approach is in keeping with NEPA (40 CFR 1502.20), involving the use of a tiered approach of analyses.

Past and present activities associated with the South, Northeast, and Northwest NPR-A Planning Areas have been considered in a cursory way within this analysis. However, MMS acknowledges and includes present NPR-A activities and infrastructure into the Lease Sale 193 cumulative impact analyses but does not include a particular scenario for the various planning units of the NPR-A. The selection of possible scenarios associated with the future of NPR-A development is far too speculative for MMS to include into the cumulative impact analysis for this lease sale.

The MMS has included Nikaitchuq prospect in the Beaufort Sea in the cumulative analysis for Lease Sale 193 (see Sec. V.B.3 and Table V-1). The drillship Kulluk purchased by Shell was not specifically

mentioned in this document, because MMS does not keep track of industry capital. However, exploration activities associated with the Beaufort Sea prospects were considered in this analysis, and it is likely that the drillship Kulluk could be used for exploration within these areas. Description of the Kulluk and associated operations (including potential impacts) would be analyzed in detail within Shell's Exploration Plan Environmental Assessment stage of analyses.

The Red Dog Zinc Mine was considered in the cumulative case for the Lease Sale 193 as well as within the EIS for the 2007-2012 5-Year Program. The MMS recognizes that Northwest Alaska has extensive bodies of ore that might be developed if world metal prices were favorable and extensive coal deposits could someday be mined economically. The MMS information indicates that no firm plans to develop any new mines for ore or coal, although those resources generally are considered in long-term regional planning for Northwest Alaska (U.S. Army Corps of Engineers, 2005). As a result, any long-term plans for the development of coal mines within the geographic vicinity of the Chukchi Sea are considered outside the scope of cumulative impacts for Lease Sale 193.

The MMS considered the OCS activities in the Canadian Beaufort at the programmatic stage of analysis during the 2007-2012 5-Year Program. At present, no process is in place to acquire meaningful information regarding Russian commercialization and industrialization in the high arctic. While MMS acknowledges the existence of various industrial activities, these activities are not well understood and, as a result, fall into the speculative category of activity as defined in Section V of the Lease Sale 193 EIS.



IN REPLY REFER TO:

United States Department of the Interior

FISH AND WILDLIFE SERVICE
1011 E. Tudor Rd.
Anchorage, Alaska 99503-6199

*Lease Sale 193
Draft EIS
Comments*

Document 17

FWS/AFES

DEC 19 2006

Memorandum

To: Regional Director – Minerals Management Service

From: Regional Director - Region 7 *Thomas O. Melius*

Subject: Comments on the Draft Environmental Impact Statement for the Chukchi Sea Planning Area Oil and Gas Lease Sale 193 and Seismic Surveying Activities in the Chukchi Sea

The U.S. Fish and Wildlife Service have reviewed the Draft Environmental Impact Statement prepared by the MMS for Lease Sale 193 in the Chukchi Sea Planning Area of the Alaska Outer Continental Shelf. The DEIS evaluates four alternatives for conducting oil and gas leasing in the 34 million-acre planning area, including the Proposed Action (Alternative I) to make the entire planning area available for leasing. We are providing general comments and recommendations that address broad issues or issues applicable to several of the analyzed alternatives, as well as specific comments referenced to the applicable text in the DEIS (see Attachment). Our responsibilities, resource concerns and principle recommendations are summarized below.

Fish and Wildlife Resources at Risk

The Service has management responsibility for a number of public trust resources that could be affected by oil exploration and eventual development associated with the proposed lease sale. The DEIS recognizes the importance of the planning area and adjacent habitats to these resources, particularly migratory waterfowl, seabirds, polar bears and Pacific walrus. Near the southern part of the planning area, the Service also manages the Cape Thompson and Cape Lisburne units of the Alaska Maritime National Wildlife Refuge, which support some of the most important seabird nesting colonies in northern Alaska. The Service recognizes the tremendous effort the MMS has expended in compiling information and public comment, and we commend the MMS for soliciting and assimilating Service data pertaining to our trust resources.

The remoteness of the planning area and its distance from existing infrastructure make it difficult to predict the ultimate level of development, if any, that may follow leasing and exploration. The Service concurs with the MMS that if development occurs the potential for oil spills exists, and that under some circumstances spills could significantly impact fish, wildlife, habitats and

subsistence harvest. The lack of effective spill containment, recovery and clean-up technologies for the conditions that often prevail in the Chukchi Sea heightens our concerns that spills could reach important habitats and that biological resources could be adversely affected.

Threatened and Endangered Species and Candidate Species

The Chukchi Sea Planning Area and adjacent nearshore waters are within the ranges of the spectacled eider (*Somateria fisheri*) and the Alaska-breeding population of Steller's eider (*Polysticta stelleri*), both listed as threatened under the Endangered Species Act. Both species use nearshore and offshore waters along the Chukchi Sea coast as they migrate to and from Arctic Coastal Plain breeding areas. Open-water leads are thought to be important to spring migrating eiders, while post-breeding and fall migrating eiders use nearshore waters and lagoons as foraging and staging areas. Ledyard Bay is an important molting area at which spectacled eiders congregate each year; it has been designated as critical habitat for this species.

The Fairbanks Fish and Wildlife Field Office's Endangered Species Branch is currently working with MMS staff on the Section 7 consultation for listed eiders, which will be completed prior to issuance of the Final EIS and ROD. The consultation will evaluate whether the direct, indirect and cumulative effects of the proposed action will jeopardize the survival and recovery of either species.

No other listed species occur in the project area; however, Kittlitz's murrelet (*Brachyramphus brevirostris*), a candidate species for listing, has been recorded as nesting on the Lisburne Peninsula. The status of this species within the planning area and the potential impacts of the proposed lease sale are being evaluated through the Section 7 consultation. Additionally, the Service has been petitioned to list the yellow-billed loon (*Gavia adamsi*) and polar bear (*Ursus maritimus*), both of which occur in or immediately adjacent to the planning area. Under Section 7 of the Act, species petitioned for listing are not assessed as part of the consultation; however, if these or any other species are listed in the future, it will be necessary to reinitiate consultation.

Summary Comments and Recommendations

Based on our review of the action alternatives presented in the DEIS, we recommend the MMS:

Adopt Alternative III (Corridor I Deferral) as the preferred alternative in the Final EIS to reduce the likelihood of impacts to important coastal and nearshore habitats and the numerous species that concentrate there.

The Service concurs with the analyses presented in the *Alternatives and Environmental Consequences* sections of the DEIS that deferring lease blocks closest to the coast would benefit a variety of resources by moving sources of potential adverse impact further from important coastal and nearshore habitats. Under Alternative III, the likelihood of a large spill is reduced by 30 percent, and the chance of spilled oil reaching some high-value habitats is reduced by 50 percent or more, compared to the Proposed Action.

Alternative III would make most of the planning area available for leasing while reducing

the risk of a spill reaching sensitive coastal, nearshore and spring-lead habitats that support the most important seasonal concentrations of fish, wildlife and subsistence resources (e.g., Ledyard Bay, Kasegaluk Lagoon and some spring-lead systems). Of the action alternatives evaluated in the DEIS, we support Alternative III as the best reflection of a balanced approach that would provide access to high-potential energy areas and conserve important fish and wildlife resources.

Conducts an analysis of changes in conditional probabilities (the percent chance that a large spill would reach coastal habitats) associated with each action alternative and include the results of this analysis in the Final EIS.

We believe this analysis would further clarify the differences in risk to trust resources associated with each of the action alternatives.

Promote additional analyses of pipeline design, focusing on the need for pipeline integrity and monitoring, secondary containment and highly reliable and sensitive leak-detection systems.

Development in the Chukchi Sea would require subsea pipelines many times longer than anything used in the Arctic to date. Due to the importance of the fish, wildlife and subsistence resources in the area combined with difficulties in responding to spills, should they occur, we recommend the highest standards and state-of-the-art technologies for well control, spill prevention, leak detection, pipeline integrity, spill modeling and response.

Continue to support and conduct research addressing resource concerns on Alaska's Outer Continental Shelf.

The Service commends the MMS's efforts in this area and we look forward to the continued opportunity to collaborate on research needed to fill information gaps, determine appropriate facility construction requirements, and develop and evaluate measures to mitigate potential impacts of oil and gas activities on fish and wildlife in the Chukchi Sea Planning Area. Specific recommendations regarding studies and mitigation measures are included in the Attachment.

We appreciate this opportunity to review and comment on the DEIS, as well as the MMS's earlier invitations to provide resource data, maps and other technical information, and to participate in planning meetings throughout this process. We look forward to working closely with your agency as you proceed to the Final EIS and ROD. If you have questions concerning our comments, or if we can be of further assistance with regard to resource information, please contact Mr. Larry Bright of the Fairbanks Fish and Wildlife Field Office at (907) 456-0324.

Attachment

ATTACHMENT

U.S. Fish and Wildlife Service Comments on the Draft Environmental Impact Statement for the Chukchi Sea Planning Area Oil and Gas Lease Sale 193 and Seismic Surveying Activities in the Chukchi Sea

Our comments are limited to a discussion of potential impacts to Service trust resources including migratory birds, marine mammals, anadromous fish, subsistence resources, species listed under the Endangered Species Act, and National Wildlife Refuge conservation units. General comments and recommendations address broad issues or issues applicable to several of the analyzed alternatives. Specific comments reference text in the DEIS.

GENERAL COMMENTS

Potential Impacts to Service Trust Resources

The Service is responsible for conserving a number of public trust resources that could be impacted by oil and gas leasing, exploration and development in the Chukchi Sea OCS Planning Area. These include species listed as threatened under the Endangered Species Act, migratory birds, anadromous fish, certain marine mammals, and the habitats on which these depend. The Service is also responsible for stewardship of the Cape Thompson and Cape Lisburne units of the Alaska Maritime National Wildlife Refuge.

Of particular concern are potential impacts to threatened spectacled eiders and Alaska-breeding Steller's eiders, other waterfowl species thought to be suffering declines, including king and common eiders and Pacific brant, as well as seabirds, shorebirds, loons, polar bears and Pacific walrus. Many of these spend substantial amounts of time in the Chukchi Sea Planning Area or in adjacent nearshore and coastal habitats. Ledyard Bay, Kasegaluk Lagoon, Peard Bay, capes Lisburne and Thompson, Spring Lead systems, and seasonal ice-edge areas all support seasonal concentrations of wildlife, often during physiologically stressful or otherwise vulnerable life history stages, including nesting, brood-rearing, molting, staging, denning, and calving. Some of these concentrations may represent a significant portion of a species' entire population, increasing the chance that oil spills and other potential effects of oil exploration and development could result in significant impacts. Many species that could be impacted by oil and gas activities also are important subsistence resources for communities in western Alaska.

The DEIS thoroughly summarizes available information regarding these resources while recognizing that important information for some species, including distribution and habitat use, is dated or lacking entirely. It also recognizes the greatest threat to these resources related to oil and gas activities in the Chukchi Sea is the potential for large oil spills. Although the MMS considers the probability of a large spill resulting from Lease Sale 193 to be low, this seems to be based on the assumption that leasing is unlikely to result in subsequent development. Regardless of the likelihood of development, the Service agrees with the MMS's conclusion that oil spills could occur should leasing lead to offshore development; that spills could be difficult or

impossible to effectively contain and clean up; and that they could, depending on size, location and timing, result in significant impacts to fish, wildlife, habitats and subsistence harvest.

Other aspects of offshore oil activities could affect Service trust resources. For example, the likelihood of smaller spills or chronic releases is much greater than that of large spills, and these could impact birds, fish, marine mammals and their prey. Seismic surveys, exploration drilling, production activities, and boat and air traffic also could disturb or displace wildlife, and offshore exploration and production facilities could pose a collision risk to migrating birds. If climate trends continue, pipeline land-fall and other onshore facilities may be threatened by eroding shorelines and more severe Arctic storms; these may present additional spill hazards.

Much remains to be learned about the locations and importance of specific coastal and offshore areas to polar bears and walrus, and to foraging, molting and staging waterfowl, seabirds and shorebirds. Nonetheless, it is clear that the Chukchi Sea Planning Area and adjacent nearshore and coastal waters provide important habitat for a number of species that may be impacted by offshore oil development. We believe the surest way to reduce the likelihood of impacts to fish, wildlife and their habitats, as well as to subsistence resources and hunters, is to: 1) keep potential sources of impacts (particularly oil spills) as far as possible from important habitats and subsistence use areas; and 2) prevent the release of oil to the environment by requiring state-of-the-art technologies for well control, pipeline design and integrity, leak detection, monitoring, and spill response. With regard to oil spills, we concur with the MMS's conclusion that keeping development further from important habitats would reduce the chance of spilled oil contacting seasonal concentrations of wildlife, increase the time for weathering of spilled oil prior to contact, and increase the amount of time available for spill response to potentially minimize the impact to wildlife. Below we provide specific information on some Service trust resources that we hope will assist in preparation of the Final EIS for Lease Sale 193.

Threatened and Endangered Species

The Chukchi Sea Planning Area and adjacent nearshore waters are within the ranges of the spectacled eider (*Somateria fisheri*) and the Alaska-breeding population of Steller's eider (*Polysticta stelleri*), both listed as threatened under the Endangered Species Act (Act). Both species use nearshore and offshore waters along the Chukchi Sea coast as they migrate to and from Arctic Coastal Plain breeding areas. Open-water leads are thought to be important to spring migrating eiders, while post-breeding and fall migrating eiders use nearshore waters and lagoons as foraging and staging areas.

Satellite telemetry data indicate that after nesting near Barrow, Steller's eiders use nearshore coastal waters of both Alaska and Russia prior to arriving at molting areas in the southern Bering Sea (Martin et al. *In prep.*). Birds that departed Barrow enroute to the Chukotka Peninsula in Russia used sites along the Chukchi Sea coast of Alaska briefly (≤ 3 days), while birds that did not continue to Russia used these sites for 12-23 days. The majority of stopover use-days occurred in nearshore marine waters within 5 km of the coastline; however, offshore migration tracks also were documented.

Male spectacled eiders depart the nesting grounds for the marine environment by mid- to late June (Troy 2003). Females that fail to nest successfully leave breeding areas from mid-July to early August; successful females and their broods depart from late August to early September (Petersen et al. 1999, Troy 2003). During late summer, spectacled eiders congregate to molt and stage in large flocks along coastal areas in three principal molting areas: Ledyard Bay in the northeastern Chukchi Sea, Norton Sound in the northeastern Bering Sea and Mechigmenskiy Bay in Russia. Males that breed in northern Alaska appear to use these three molting areas in roughly equal numbers. Although a few females marked on the North Slope molted at Mechigmenskiy Bay, Russia, and off of St. Lawrence Island (Petersen et al. 1999), the vast majority of North Slope-nesting females are thought to molt at Ledyard Bay (USFWS 2001), adjacent to the southern part of the lease sale area. The summer distribution of non-breeding eiders is not known, but these birds are believed to congregate in small flocks in coastal waters throughout their range.

Over 33,000 spectacled eiders were recorded in Ledyard Bay during aerial surveys in September 1995 (USFWS 2001). The large numbers of birds that congregate there for considerable periods during energetically demanding life history stages indicate the importance of the habitat in this area. Because of its importance to large numbers of migrating and molting eiders, Ledyard Bay has been designated as critical habitat under the Act. As such, the area receives protection under Section 7 of the Act through the prohibition against destruction or adverse modification with regard to actions carried out, funded, or authorized by a Federal agency. The Service believes perturbations in this area may have significant consequences for this species.

Given the uncertainty regarding future levels of development, how development would be managed, and how listed eiders may be affected, it is difficult to evaluate potential impacts of the action alternatives on these species. Clearly, if an oil spill were to reach Ledyard Bay when large numbers of spectacled eiders are molting there, the potential for population-level impacts exists. A spill occurring when molting eiders are not present could adversely impact this area through contamination of benthic habitats and damage to eider food resources. Other activities associated with exploration and development, including seismic testing, exploration drilling, facility and pipeline construction and increased boat and air traffic, could also adversely affect listed eiders.

The Fairbanks Fish and Wildlife Field Office's Endangered Species Branch is currently working with MMS staff, and we believe Section 7 consultation will be completed prior to issuance of the Final EIS and ROD. The consultation will evaluate whether the direct, indirect and cumulative effects of the proposed action will jeopardize the species' survival and recovery.

No other threatened or endangered species occur in the Chukchi Sea Planning Area; however, Kittlitz's murrelet (*Brachyramphus brevirostris*), a candidate species for listing, has been recorded as nesting on the Lisburne Peninsula, adjacent to the southern portion of the planning area (USFWS 2005). Nesting records for this species are exceptionally rare, and information is lacking on the number of birds that nest in the vicinity or use the planning area or adjacent marine waters. Although Kittlitz's murrelets that breed in northwest Alaska are thought to be at the limit of their range, concentrations were observed near the Lisburne Peninsula in the 1970s (Day et al. 1999). Although assessment of impacts to candidate species is not required under

Section 7 of the Act, we understand the MMS has decided to include evaluation of this species in the Section 7 consultation.

Additionally, the Service has been petitioned to list yellow-billed loons (*Gavia adamsi*) and polar bears (*Ursus maritimus*), both of which occur in or immediately adjacent to the Planning Area, under the Act. Under Section 7 of the Act, species petitioned for listing are not assessed as part of the consultation; however, if these or any other species are listed in the future, it will be necessary to reinitiate consultation. Additional information on yellow-billed loons and polar bears is provided below.

Migratory Birds

Although our knowledge of bird use and important habitats within and adjacent to the Chukchi Sea Planning Area is imperfect, the importance of the area to a number of species has been well documented. The planning area and adjacent nearshore waters, lagoon systems and coastal tidelands are used by large numbers of waterfowl, seabirds and loons, and adjacent coastal areas provide important breeding, brood-rearing, molting and pre-migration staging habitats for these and for shorebirds. In addition to listed eiders, other waterfowl that breed in northern Alaska congregate in open leads and nearshore waters during spring and fall migrations, particularly king and common eiders, Pacific brant and long-tailed ducks. Pacific, red-throated and yellow-billed loons also use these areas. Hundreds of thousands of seabirds, primarily common and thick-billed murres, breed within Alaska Maritime National Wildlife Refuge lands at Cape Lisburne and Cape Thompson; these birds forage, molt and raise their young in offshore waters in and adjacent to the planning area. Recent research focused on shorebirds suggests that coastal areas in the vicinity of Kasegaluk Lagoon provide important pre-migration staging habitat for a number of species, particularly phalaropes.

Increased oil activities in the Chukchi Sea Planning Area could result in impacts to migratory birds and the habitats that support them, and to the subsistence communities that depend on them. Seismic testing, construction activities, human disturbance, boat and air traffic, and construction of subsurface pipelines all have potential to negatively affect marine birds. As with listed eiders, however, the principal threat to the conservation of other migratory birds is the potential for large oil spills. Both direct effects of oiling, through fouling of feathers, and indirect effects from contamination and depletion of food sources, could significantly influence the continued and long term value of this region to migratory birds.

The Service has been petitioned to list yellow-billed loons as threatened under the Endangered Species Act. Our understanding of how and to what extent this species uses the planning area is incomplete; however, it is a regular migrant along the coastlines of northern Alaska (Earnst 2004). Although spring staging is not well studied, and the extent of open water and degree to which loons congregate presumably varies annually, large numbers of yellow-billed loons have been reported in open-water leads in some years (Alexander et al. 1997). Satellite telemetry data indicate the species also uses near-shore marine waters in the Chukchi Sea during fall migration (J. Schmutz, unpubl. data). Breeding yellow-billed loons may be particularly vulnerable to near-shore oil spills during spring and fall migrations, while the poorly understood non-breeding segment of the population, which is thought to spend nearly all its time in the marine

environment, may be vulnerable during the entire open-water season. The Service, Alaska Department of Natural Resources, Alaska Department of Fish and Game, Bureau of Land Management, Mayor of the North Slope Borough and National Park Service have entered into a Conservation Agreement for the yellow-billed loon. The agreement, signed by all parties in September 2006, addresses threats to onshore habitats in the U.S.

We are also concerned about apparent population declines in king and common eiders. The numbers of king and common eiders recorded during spring migration counts at Barrow declined by 56 percent and 53 percent, respectively, from 1976 to 1996 (Suydam et al. 2000). Both species occur in significant numbers in Chukchi Sea nearshore waters during spring and fall migrations to and from breeding grounds in northern Alaska and Canada. Open water leads in the Chukchi Sea are important during spring migration, and both species can become concentrated in these areas if poor weather prevents them from continuing northward (Roseneau and Herter, 1984). Ledyard Bay is an important resting, foraging and staging stopover site in spring (Powell et al. 2005, Dickson et al. 2003), and in summer and fall, Kasegaluk Lagoon and Peard Bay are important staging and molting areas for common eiders. A large oil spill reaching Ledyard or Peard bays, Kasegaluk Lagoon, or spring lead systems could impact a significant portion of both king and common eider populations.

Pacific brant have also suffered population declines despite interagency and interstate efforts to reverse the downward trend. Winter survey numbers have declined in recent years to the point that the Pacific Flyway Council recommended "very restrictive" harvest levels for this species, which is an important subsistence resource for communities in northern and western Alaska and an important sport species along the Pacific coast in Washington, Oregon and California. Subadults and failed breeders from the Yukon Delta and Russian breeding areas move along the Chukchi Sea starting in mid-June (Lehnhausen and Quinlan 1981), most on their way to the unique communal molting area near Teshekpuk Lake along the central Beaufort Sea coast (Derksen et al. 1979). Up to 30 percent of the entire Pacific brant population, including birds that breed in Alaska, Canada and Russia, congregate to molt north of Teshekpuk Lake (Mallek 2004). After molt, these birds and Canada-breeding migrants use marine habitats of the Beaufort and northern Chukchi seas. Thousands of brant rest and feed in salt marsh, and mudflat habitats along the Chukchi Sea coast in August and September, especially at Kasegaluk Lagoon (Roseneau and Herter 1984), where up to 45 percent of the Pacific Flyway population may congregate. A large spill in Kasegaluk Lagoon could threaten a significant portion of the already beleaguered Pacific brant population.

Polar Bears

Alaska's two stocks of polar bears spend the majority of their life cycle in the ice-covered waters of the Beaufort and Chukchi seas, including the proposed lease sale area. The Service has been petitioned to list polar bears as threatened under the Endangered Species Act. We are currently evaluating whether such a listing is warranted. If polar bears become listed under the Act, the Section 7 consultation for the proposed lease sale will need to be amended to include an assessment of the potential impacts to this species. Consultation could lead to additional requirements to reduce the likelihood of adverse effects of oil activities on polar bears. Additionally, legislation to implement the bilateral *Agreement on the Conservation and*

Management of the Alaska-Chukotka Polar Bear Population was just signed by Congress and will require an increased level of international coordination and communication with our Russian counterparts for activities that affect polar bears, as well as other actions deemed appropriate by the Joint Commission that will be formed to oversee implementation of the *Agreement*.

In the proposed lease sale area, our primary concerns for polar bears are: 1) large-scale oil spills or other pollution events; 2) disturbance to denning bears; and 3) cumulative effects from oil and gas development that could cause habitat loss or preclude the use of preferred habitat. The potential for oil spills and the subsequent impacts on polar bears are a major concern. Polar bears may be affected directly through contacting spilled oil or ingesting contaminated prey, or indirectly through loss of habitat or displacement of prey species. Polar bear vulnerability to oil spills in the offshore environment would increase if spilled oil occurred near or dispersed to areas with aggregations of bears.

In the Chukchi Sea, areas of concern include the recurrent lead system between Point Hope and Barrow (winter and spring) and the southern edge of consolidated multi-year ice where polar bears are concentrated during late summer and early autumn. Clearly, coastal and nearshore areas provide important habitat for polar bears, and the risk of an oil spill in the nearshore environment is a significant concern. Polar bears have a low reproductive capacity, which makes them slow to recover from major environmental or anthropogenic perturbations. Confounding this are additional factors such as high harvest levels, changes to sea ice, and reduced prey availability. Given these factors, oiling of even a small number of polar bears could result in population-level effects.

Oil activity in the Chukchi Sea also has the potential to increase disturbance to polar bears through increased levels of seismic, aircraft, overland, and barge activities. Effects to polar bears would depend on the level, location, and timing of activities, as well as other factors such as the age, sex, number, and distribution of bears during the specific activities, and environmental factors such as ice conditions and availability of prey. Activities that disturb polar bears or preclude them from using their desired habitats could result in a loss of net recruitment into the population or lowered reproductive rates. For example, in the Chukchi Sea, polar bears tend to aggregate along leads or polynyas during winter and spring months, and along the pack ice edge during late summer and early fall months, making them vulnerable to disturbance related to human activities in these areas. This is particularly noteworthy with respect to changing ice conditions in recent years, including seasonally diminished ice cover and reduced thickness, earlier ice break-up near shore during spring, and increased periods of open water during summer and fall months.

One of the most critical phases in the life cycle of polar bears is maternity denning, which is dependent on snow and ice. In the Chukchi Sea, most denning is believed to occur in Russia; however, some denning has been noted on multi-year ice, primarily in pressure ridges where snow drifts accumulate. Denning also has been reported along shore-fast ice, barrier islands and on the mainland between Point Lay and Barrow. Activities that may preclude use of preferred denning habitats or result in disturbance to bears in maternity dens pose serious concerns and warrant use of pro-active mitigation measures such as accurate delineation of denning habitat, use of FLIR or scent-trained dogs to detect dens, and 1-mile buffers around known dens.

Pacific Walrus

The Pacific walrus is represented by a single stock of animals, which ranges across the shallow continental shelf waters of the Bering and Chukchi Seas. The planning area encompasses seasonally important foraging and resting habitat for this species. Almost the entire Pacific walrus population migrates into the eastern Chukchi Sea each summer to forage on benthic invertebrates. Previous monitoring efforts associated with exploratory drilling of the Popcorn, Crackerjack, and Burger prospects documented tens of thousands of walrus within the proposed lease sale area. The shallow, productive, ice covered waters of the eastern Chukchi Sea are considered particularly important habitat for female walrus rearing their dependent young. Walrus are hunted throughout much of their range and these offshore waters offer important refuge from anthropogenic disturbances. Walrus are highly susceptible to disturbances; there are numerous published accounts of walrus fleeing land and ice haulouts in response to the sight, sound, or smell of humans and machines. Because walrus usually associate in large densely packed groups, these disturbance reactions occasionally result in animal injury, mortality and mother-calf separations.

Oil exploration and development activities in the Chukchi Sea have the potential to impact walrus in a number of ways. Air and vessel traffic may cause herds to stampede, causing disruption in energy budgets as well as possible physical injury or death. Noise from air traffic, seismic surveys, icebreakers, and supply ships may displace individuals and herds. Development of offshore production facilities increases the potential for large offshore oil spills, which could affect walrus directly, either through contact with oil or by ingesting contaminated prey, or indirectly through the loss of habitat or reduction in prey numbers or availability.

Walrus are a highly migratory species and a resource of considerable economic and cultural importance to coastal Natives both in Alaska and Chukotka; harvest levels are estimated at more than 5,000 walrus per year (2000-2005). In addition to the potential for localized impacts on subsistence hunting opportunities in the coastal communities along the eastern Chukchi Sea coast of Alaska, any degradation of the health and status of the Pacific walrus population will have far reaching consequences for coastal communities in the Bering Strait region in Alaska and Russian Chukotka. Many of these communities rely on walrus hunting as their primary source of food and income. To address this concern, we recommend that the analysis of potential impacts to subsistence hunting patterns be expanded to include the aboriginal communities in the Bering Strait region and the northern coastline of Chukotka. Information concerning hunting patterns in these communities is available from the Services' Marine Mammals Management Office.

017-001

Given the importance of the Chukchi Sea Planning Area to the Pacific walrus population, and the significance of this species to the culture and economy of many coastal communities in the Bering and Chukchi Seas, walrus should be more prominently featured in the analysis and summary of potential impacts of proposed actions. In the Final EIS, we recommend that Pacific walrus be identified as a species of special concern. We believe the importance of the offshore habitats within the planning area to the Pacific walrus population, the documented sensitivity of walrus to anthropogenic disturbances, and the significance of walrus hunting to the economy and culture of indigenous communities in Alaska and Chukotka, Russia merit special consideration.

017-002

We further recommend that the analysis of potential impacts to Pacific walrus consider various aspects of their life history (e.g., the tendency of walrus to aggregate in large groups, their longevity, and low rates of reproduction), which make them particularly vulnerable to disturbance events, susceptible to cumulative impacts, and limit their ability to recover from population-level perturbations. The Final EIS also should acknowledge that, based upon previous monitoring efforts in the Chukchi Sea, exploration activities (seismic and particularly exploratory drilling) are expected to result in the take (Level B harassment) of up to several thousand walrus. The analysis and proposed mitigation measures should also identify particular concerns with respect to potential impacts to female walrus and dependent calves.

017-003

The analysis of effects of a large oil spill does not adequately address potential impacts to the Pacific walrus population and affected subsistence communities. The conclusion suggests that only small numbers of walrus would be impacted and that recovery would occur within 1-5 years, but it is unclear how this conclusion was drawn. The oil spill trajectories presented in the EIS indicate a relatively high probability of fouling at several important coastal haulout sites in both the United States and Russia that are used seasonally by tens of thousands of animals. Displacement from these crucial areas would likely result in population-level impacts on recruitment and survival. Walrus are long-lived animals with low rates of natural mortality and low rates of reproduction. This life history strategy will severely limit the ability of the Pacific walrus population to recover from any adverse impacts associated with a large oil spill. Similarly, the conclusion that subsistence hunting opportunities would be interrupted for no more than 1-5 years following a large oil spill also seems unrealistic. In addition to disruptions of walrus hunting during clean up efforts, the analysis should also consider long-term effects such as concerns over the consumption of tainted meat, and secondary effects of oil on benthic communities. As walrus are long-lived animals, concerns over contaminants are likely to persist for decades.

017-004

The mitigation measures proposed in the DEIS do not adequately address concerns over potential impacts of oil activities in the Chukchi Sea to Pacific walrus or subsistence use of walrus. The measures identified in the DEIS to protect marine mammals and subsistence uses of them are based on oil and gas activities in the Beaufort Sea, where walrus are relatively rare and subsistence cultures have traditionally targeted other marine species such as bowhead whales, seals, and polar bears. Due to the importance of the planning area to the Pacific walrus population, mitigation measures for walrus should be strengthened. Although the Service is likely to promulgate stipulations through development of incidental take regulations under the Marine Mammal Protection Act, we also recommend that walrus be implicitly addressed in several of the proposed mitigation measures considered in the Final EIS. We provide details on this recommendation in the Specific Comments section below.

017-005

We also believe that additional information concerning walrus habitat use patterns and subsistence hunting patterns in the Chukchi Sea are needed to adequately evaluate potential impacts of oil activities and to formulate effective mitigation strategies. Unfortunately, no published information exists regarding walrus habitat use patterns in the planning area and adjacent marine waters, and there is only minimal information concerning walrus hunting patterns in the Chukchi Sea. The Service recommends the Final EIS specifically identify these information gaps. Until they are addressed, we recommend a precautionary approach to

017-006

exploration and development in this region to reduce potential impacts to subsistence walrus hunters.

Alternatives

The DEIS presents four alternatives for conducting oil and gas leasing in the 34 million-acre planning area. The Proposed Action (Alternative I) is to make the entire planning area, 6,156 whole or partial lease blocks, available for leasing. Alternative II, the No Action Alternative, would not authorize leasing at this time. Under Alternative III (Corridor I Deferral), 1,649 lease blocks encompassing 9.1 million acres along the shoreward edge of the planning area would be deferred from leasing to reduce impacts to subsistence hunting, fish, wildlife and habitats. Alternative IV (Corridor II Deferral) would include a smaller shoreward deferral area covering 795 lease blocks, roughly half the area deferred under Alternative III, primarily to reduce potential impacts to migrating whales.

Although the No Action Alternative would eliminate the potential for impacts to fish, wildlife, and subsistence resources, the Service understands that such an approach would preclude the opportunity to explore for and develop other resources. We also acknowledge that the MMS faces a difficult challenge in trying to balance protection of important biological resources with efforts to provide access to areas with high energy-development potential. Based on our review of the action alternatives presented in the DEIS, the Service believes Alternative III (Corridor I Deferral) best achieves this balance. This alternative would make nearly three-fourths of the planning area available for leasing while prohibiting development in those areas from which a spill would be most likely to reach sensitive coastal, near shore and spring-lead habitats that support the most important seasonal concentrations of fish, wildlife and subsistence resources.

The DEIS estimates a 40 percent chance of a large spill occurring over the production life of a hypothetical million barrel field under Alternative I. It concludes that potentially significant impacts to a number of fish, wildlife and subsistence resources could occur, depending on the location, size and timing of a large spill, and that the risk that several regional bird populations could experience significant adverse impacts is high. Spills from several launch sites analyzed in the DEIS have relatively high probabilities of contacting habitats that are of particularly high value to a number of resources; these include Ledyard Bay, Kasegaluk Lagoon, Peard Bay and Spring Lead systems.

Under Alternative III (Corridor I Deferral), the chance of a large spill is reduced to 28 percent (Table A.1-26), and, assuming development occurs, the likelihood that spilled oil will reach the highest value habitats is reduced by half or more (Table A.2-75). The DEIS concludes that the Corridor I Deferral area would reduce potential impacts to listed eiders and other marine and coastal birds (ES-vii) and that Alternative III would have a lower level of potential impacts to lower-trophic level organisms, fish and Essential Fish Habitat, marine mammals and subsistence harvest than the other action alternatives (pages IV-372-376). The area deferred under Alternative III also would reduce the likelihood of spills reaching the southern portion of the planning area, which is an important region for seabirds, especially male murrelets attending flightless young. Large groups of these birds drift north and west through the planning area in

late summer and fall until juvenile birds are flight capable; adult males also molt during this period, which would prevent large numbers of birds from moving large distances to evade a spill.

Conclusion

Due to the lack of effective techniques for containing, recovering and cleaning up oil spills in Arctic marine environments, particularly during poor weather and broken ice conditions, a large spill could have significant impacts on a variety of Service trust resources. Although the extent of impacts would depend on the size, location and timing of spills relative to seasonal concentrations of fish and wildlife and on the effectiveness of spill response and clean-up efforts, under some scenarios, population-level impacts to some species could be expected. We believe selection of Alternative III (Corridor I Deferral) would reduce the likelihood of such impacts while making the majority of the Chukchi Sea Planning Area available for oil and gas leasing and development.

The Service believes the magnitude of potential impacts from large spills warrants the highest standards and state-of-the-art technologies for well control, spill prevention, leak detection, pipeline integrity, spill modeling and response. With only a single production facility (Northstar) currently operating in Northern Alaska OCS waters, oil and gas infrastructure remains largely untested in Alaskan Arctic marine environments. Development in the Chukchi Sea Planning Area would require substantial increases in infrastructure, including much longer pipelines subject to a wider range and perhaps greater intensity of ice, wave and current conditions. We recommend, therefore, that secondary containment and advanced leak detection technologies be further developed and analyzed for potential use in the Chukchi Sea.

We encourage the MMS to continue working with Industry, State and Federal resource agencies, universities, and local communities to develop effective methods for containing and recovering oil spilled in Arctic waters, and to improve spill modeling capabilities. The results of these efforts should be used to guide the placement of infrastructure to minimize potential impacts to fish, wildlife and subsistence resources and the habitats that support them. If oil development is proposed in the Chukchi Sea, an effort should be made to assess future infrastructure needs so that redundancy of both offshore and onshore facilities can be minimized via consolidation, sharing, and planning for future capacity. This could reduce the potential for spills in some areas as well as the direct, indirect and cumulative impacts of infrastructure sprawl. Such an effort should recognize the increased likelihood of additional development following construction of the pads, pipelines and other support infrastructure needed for development of the first field.

To address the array of potential impacts of offshore oil and gas development in the Chukchi Sea, continued and expanded research and monitoring efforts will be needed to fill information gaps, determine appropriate facility construction requirements, develop appropriate mitigation measures and evaluate their effectiveness. Mitigation measures focused on the effects of climate change will be needed to protect the Arctic environment over the life of oil and gas projects. Research and monitoring plans should be developed in consultation with State, Federal and North Slope Borough resource specialists, Native communities and the oil and gas industry. Results of all research and monitoring efforts should be made available to agencies and the public to facilitate evaluation of impacts and the effectiveness of mitigation efforts.

017-007

Recommendations

As the MMS prepares the Final EIS for the proposed Lease Sale 193 in the Chukchi Sea OCS Planning Area, the Service provides the following recommendations.

- 1) Alternative III (Corridor I Deferral) should be adopted as the preferred alternative in the Final EIS to reduce the likelihood of impacts to important coastal and nearshore habitats and the numerous species that concentrate there.
- 2) An analysis of changes in conditional probabilities (the percent chance that a large spill would reach coastal habitats) associated with each action alternative should be completed and included in the Final EIS. We believe this analysis would further clarify the differences in risk to trust resources associated with each of the action alternatives.
- 3) Development in the Chukchi Sea would require subsea pipelines many times longer than anything used in the Arctic to date; therefore, the MMS should facilitate further analyses of pipeline design focusing on the need for pipeline integrity, secondary containment, pipeline monitoring, and highly reliable and sensitive leak-detection systems.
- 4) The MMS should evaluate whether winter-only drilling in the Chukchi Sea would effectively reduce the likelihood of oil spill impacts to seasonally concentrated fish, wildlife and subsistence resources.
- 5) The MMS should continue to support research that will improve understanding of important bird use areas in the Chukchi Sea Planning Area.
- 6) The MMS should work cooperatively with the Service to initiate studies to determine the number, status, and distribution of polar bears and walruses in the Chukchi Sea.
- 7) To moderate anthropogenic effects on polar bears from oil and gas operations, the MMS should work with the Service to develop and implement Incidental Take Regulations for the Chukchi Sea.
- 8) New oil and gas activities should continue to be administered under previously successful stipulations including requirements for developing oil spill contingency plans, bear-human interaction plans, waste prevention and management plans, and measures to minimize bear attractants and disturbances from oil and gas activities. We also support MMS working with NOAA to develop *Information To Lessees* that protects polar bears' primary prey, ice seals.
- 9) Oil and gas operators and contractors should be encouraged to participate in the Service's Incidental Take Program for polar bears and Pacific walrus for exploration, development or production activities.

- 10) To prevent unnecessary conflicts with walrus hunters, lessees should be specifically required to consult with the Eskimo Walrus Commission (EWC) prior to the submission of exploration, development or production plans in the Chukchi Sea Planning Area.
- 11) We recommend that the analysis of potential impacts to subsistence walrus hunting patterns be expanded to include the aboriginal communities in the Bering Strait region and the northern coastline of Chukotka. Information concerning hunting patterns in these communities is available from the Services' Marine Mammals Management Office.
- 12) The MMS and the Service should work cooperatively to develop *Information to Lessees* (ITL) regarding planning for protection of walruses. Alternatively, ITL # 14 in the DEIS (planning for protection of polar bears) could be expanded to include Pacific walruses. Our Marine Mammal Management staff would be pleased to assist in developing the necessary language.
- 13) The MMS should continue to work with Federal, State and North Slope Borough agencies to develop mitigation measures to protect fish, wildlife and subsistence resources and a rigorous monitoring program to evaluate the effectiveness of these measures.
- 14) The MMS should continue to work with Industry, State and Federal resource agencies, universities, and local communities to develop effective methods for containing and recovering oil spilled in Arctic waters, and to improve spill modeling capabilities.

SPECIFIC COMMENTS

Executive Summary

D.2. Effects in the Unlikely Event of a Large Oil Spill: Here and elsewhere in the DEIS, a large spill is repeatedly referred to as "unlikely," despite the spill analysis that estimates a 33-51 percent chance of a large spill over the production life of a hypothetical million barrel field under Alternative I. We do not consider this an unlikely event, and we believe that the potential for large spills could be even higher given that the infrastructure required to develop such a field is largely untested in Arctic marine environments. The Biological Evaluation (BE, Page 7) states that a large bottom-founded structure would likely be needed as a central facility for development and that although such platforms "...have been used in high latitude settings worldwide, no platform...has operated in environmental conditions equivalent to the Chukchi Shelf." The oil spill analysis indicates that upheaval buckling and thaw settlement, two factors we believe could influence spill likelihood, were assessed based on professional judgment and that "...no engineering analysis was carried out for the assessment of frequencies to be expected for these effects" (Appendix A, pg. A.1-18). We believe that a 33-51 percent chance of a large spill should be described as a "moderate likelihood" event in the Final EIS.

017-008

Alternatives

Page II-38: This section states: “The absolute changes in conditional probabilities (the percent chance that a large spill would reach coastal habitats) associated with [Alternative III] could be quantified, but this has not been done.” We recommend that this analysis be completed for the Final EIS, and we believe it will further clarify the differences in risk to trust resources associated with each of the action alternatives.

017-009

Migratory Birds

III.B.5.f(3): Add to text and citation list that Common Eiders stage in spring in Ledyard Bay (Dickson et al. 2003).

017-010

III.B.5.f(3): This section is incorrectly numbered (both the “Common Eider” and “King Eider” sections are numbered III.B.5.f (3); this section should be III.B.5.f (4), and subsequent sections renumbered accordingly). Additionally, this section should highlight the importance of Ledyard Bay as a spring staging area for king eiders. Add to text that Powell et al. (2005) found that all radio-marked king eiders (n = 60) used Ledyard Bay as a spring staging area over a 3-year period. Dickson et al. (2001; in current citation list) also highlighted Ledyard Bay as an important spring staging area for king eiders. These sources suggest that most Alaskan and Canadian breeding king eiders likely use this area in spring. About 300,000 king eiders are estimated pass Barrow in spring (Suydam et al. 2000), and all or most could be at risk of direct oil contact if a large spill were to reach Ledyard Bay in spring. If oil contacted the region when eiders are not present, chronic oiling, and alteration of benthic communities on which eiders depend also could result in significant negative impacts to the species.

017-011

III.B.5.f(4): This section indicates that up to 45 percent of the Pacific Flyway population of Pacific brant may stage in Kasegaluk Lagoon during the postbreeding period (late August and September). An oil spill reaching Kasegaluk Lagoon during this time could have a significant impact on this already declining species, which also is an important subsistence resource.

017-012

III.B.5.g: Only a few shorebird species move west along the coast – notably the *arcticola* race of the dunlin and possibly ruddy turnstones and bar-tailed godwits (although there is little to no data on the latter two species). Most of the shorebirds that stage on the North Slope coastal sites migrate to Central and South America, and thus are likely to move east along the North Slope. We have ample data from band resightings to confirm that *arcticola* Dunlin migrate from Barrow west along the coast to the Yukon Delta (exactly when they cut south is unknown) and then on to Japan, China, and other countries in Southeast Asia. The Taylor et al. project will likely provide much better data on this species (as well as on phalaropes and Semipalmated Sandpipers) once information from radio-equipped birds has been analyzed. I also think the last sentence of the paragraph above could be clearer. Perhaps you should say that only a few specific sites (e.g., Kasegaluk and Peard Bay Lagoon) have had bird studies conducted. This includes studies from the 1980s and more recently by A. Taylor. These studies were not focused on specific species.

017-013

IV.C.1.g(1): The summary of Marine and Coastal Birds should include Ledyard Bay in its description of important bird areas. Ledyard Bay is not only designated critical habitat for

017-014

Spectacled Eiders, but is also used for spring and fall staging common and king eiders. All or most members of these species that breed on the North Slope of Alaska and in northwest Canada may use Ledyard Bay in spring and fall.

017-014

IV.C.1.g(2)(a)1): This section should stress that molting birds are unable to fly; thus particularly high levels of energy expenditure would result from disturbance at a time when energy demands are already high due to molting.

017-015

IV.C.1.g(4)(a)2): Ledyard Bay should be included in this section, with information regarding the percent chance of spills. Ledyard Bay is relevant not only to Spectacled Eiders, but to nearly all marine birds.

017-016

IV.C.1.g(6)(a), Long-tailed Ducks: The DEIS suggests the worst-case scenario for long-tailed ducks are up to 7,000 birds being contacted by oil in Peard Bay or Kasegaluk Lagoon. Indeed a far worse scenario could result from spilled oil if the benthic organisms that long-tailed ducks feed on are contaminated from spilled oil. Chronic low-level contamination and depleted food reserves could have a far greater impact on marine birds than the immediate direct oiling event.

017-017

IV.C.1.g(6)(a), Common Eiders and King Eiders: Worst-case scenarios for common and king eiders are described in which oil reaches Kasegaluk Lagoon or Peard Bay. Again, Ledyard Bay should be included in the description of such scenarios as it regularly hosts large portions of both populations in spring and fall.

017-018

IV.C.1.g(6)(a), Common Eiders: This section estimates that 4,000 birds could be impacted by oil if Peard Bay is contaminated from a spill; however, his number does not account for turnover during migration. Satellite telemetry suggests that large portions of the northern Canada population of Pacific common eider use Ledyard as a spring staging location. Various other locations along the Chukchi coast are used in fall (Dickson et al. 2003). If oil were present in Ledyard bay in April, potentially tens of thousands or even hundreds of thousands of COEI could be impacted directly.

017-019

IV.C.1.g(6)(a), Common Eiders: The DEIS states that in the event that the local breeding population of common eiders is contacted by spilled oil, recovery would be expected to occur in fewer than three generations. This assessment does not address recovery time if common eiders that use Ledyard Bay in spring contact oil. In this case the entire Pacific population could experience substantial depletions.

017-020

IV.C.1.g(6)(a), King Eiders: In this section, the DEIS states that “the number of birds that could be affected at sea during spring or fall migration is unknown.” It is known, however, that the number of birds that could be affected at sea during spring is virtually the entire Pacific population numbering in the hundreds of thousands. In an MMS report, Powell et al. (2005) found that all radio-marked king eiders (n = 60) over 3 years used Ledyard Bay as a spring staging area. Canada-breeding king eiders also stage in Ledyard Bay in spring and fall (Dickson et al 2001).

017-021

IV.C.1.g(6)(b), Conclusion: This section should identify the importance of Ledyard Bay to all marine birds.

017-022

Polar Bears

II.B.3.c(2): The Service supports the standard stipulations and the new polar bear ITL #14 described in this section; however, we believe the following additional actions are warranted to moderate the anthropogenic effects on polar bears from oil and gas operations:

- 1) Development of an ITL that protects polar bears' primary prey, ice seals;
- 2) Development and implementation of Incidental Take Regulations for the Chukchi Sea; and
- 3) Selection of Alternative III (Corridor I Deferral) as the preferred alternative.

017-023

III.B.6.c: This section of the DEIS provides good coverage of polar bear life history; however, the Service would like to make MMS aware of a new report that has recently become available and pertains to polar bears (Regehr et al. 2006). Based on this report, we recommend that the Final EIS includes the following points in discussions relating to the southern Beaufort Sea (SBS) population of polar bears:

017-024

- 1) The population size estimate has been revised downward from 1800 to 1500 animals;
- 2) Cub-of-the-year survival has declined;
- 3) Declines in skull sizes of cubs-of-the-year and adult males have been noted; and
- 4) Declines in adult male body weights have been noted.

IV.C.1.h(4): In this section, the DEIS notes various anthropogenic factors that may affect polar bears. We recommend that this section be expanded to include discussion of increased bear-human interactions and level B harassment as a potential additional source of stress on polar bears, particularly if coastal habitat use by polar bears continues to increase. As oil and gas activities along the coast expand from existing operations in the Beaufort Sea into the Chukchi Sea, the increased presence of both humans and bears in the coastal environment will likely result in increased bear-human interactions, especially if bears become nutritionally stressed; this will warrant closer monitoring and evaluation. This discussion could be added at pages IV-233-234.

017-025

IV.C.1.h(4)(e): We recommend that the DEIS clearly notes the following as important habitat for polar bears (as noted in USFWS 1995 and Kalxdorff 1997):

- 1) The coast, barrier islands, and shore-fast ice edge between Point Hope and Barrow (and beyond) provide an important corridor for polar bears traveling and feeding during fall, winter, and spring months;

017-026

- 2) Late winter and spring leads that form off shore from the Chukchi Sea coast provide important feeding habitat for polar bears;
- 3) Polar bear denning has occurred at Cape Lisburne, Cape Beaufort, the barrier islands between Point Lay and Peard Bay, the Kukpowruk, Kuk, and Sinaruruk Rivers, Nokotlek Point, Point Belcher, Skull Cliff and Wainwright Inlet. While we agree with the DEIS statements that most polar bear denning occurs in Russia, traditional ecological knowledge indicates that denning may be more frequent along Alaska's Chukchi Sea coast than scientific studies have previously been able to quantify. In addition, the distribution of denning areas may be changing as a result of climate change. Because of the importance of denning events to the population, identification of all known denning habitat is warranted.

017-026

Pacific Walrus

II.B.3.c(1), Stipulations, Stipulation #5: The conflict Avoidance Agreements that have been negotiated between industry and the Alaska Eskimo Whaling Commission appear to be working well. Similar agreements may be necessary to reduce conflicts with walrus hunters in the Chukchi Sea. We recommend that lessees be specifically required to consult with the Eskimo Walrus Commission prior to the submission of exploration, development or production plans in the Chukchi Sea Planning Area, to discuss potential conflicts with the siting, timing, and methods of proposed operations and safeguards or mitigating measures that could be implemented by the operator to prevent unreasonable conflicts with walrus hunters.

017-027

II.B.3.c(2), Information to Lessees (ITL) Clauses: We recommend that MMS and the Service cooperatively develop *Information to Lessees regarding planning for protection of walrus*. Alternatively, Stipulation # 14 (planning for protection of polar bears) could also be expanded to include Pacific walrus. Our Marine Mammal Management staff would be pleased to assist in developing this language.

017-028

II.B.4, Mitigation Measures for Seismic Operations in the Chukchi Sea: Based on the potential for animal injury, mortality and mother-calf separation caused by disturbance events we recommend the following stipulation should be included in this section:

017-029

“Vessels and aircraft should avoid concentrations or groups of walrus. Operators should, at all times, conduct their activities at a maximum distance from such aggregations. Under no circumstances, other than an emergency, should aircraft be operated at an altitude lower than 1,000 feet when within 0.5-mile (800 meters) of walrus groups. Helicopters may not hover or circle above such areas or within 800 lateral meters of such areas.”

Section II.B.4.a, Measures to Mitigate Seismic-Surveying Effects: Note that the Service will also require a July restriction to provide walrus cows and calves additional protection during the spring migration.

017-030

Section III (Description of Effected Environment): While this section provides a good overview of Pacific walrus in the Chukchi Sea, this information was not adequately addressed in the analysis or summary of potential impacts of proposed actions. Therefore, we recommend that Pacific walrus be identified and highlighted as a species of special concern in Sections IV (Environmental Consequences) and V (Cumulative Effects), similar to the treatment of bowhead whales in Section IV.C.1.f(1).

017-031

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MMS Responses to USDOJ, Fish and Wildlife Service Comments

FWS 017-001

The Service was consulted on Chukotka coastal community hunting patterns. A discussion of Chukotkan subsistence-hunting patterns and potential impacts is found in Section III.C.3.c(3)(h), Russian Northern Chukchi Sea Coastal Communities. The concerns referenced in the comment are discussed in detail in that section, as well as in Section IV.C.1.l., Subsistence-Harvest Patterns.

For a discussion of the Bering Strait region subsistence communities, see response to comment **EWC 008-001**. See also response to comment **NAEC 011-006**.

FWS 017-002

Text expanding the discussion relating to walrus and their habitat has been added to Section III.B.6.a(5).

FWS 017-003

Additional discussion on potential impacts to walrus has been added to Section IV.C.1.h(3)(a), Noise and Disturbance, Section IV.C.1.h(3)(b) Effects from Oil Spills, and Section IV.C.1.h(2) Effects from 3D/2D Seismic Surveys.

FWS 017-004

The origin of the statement “recovery would occur within 1-5 years” is unclear. It is not found in the subsistence-impact discussion; furthermore, even if significant effects on subsistence resources means a resource “becomes unavailable, undesirable for use, or available only in greatly reduced numbers” for a period of years, it does not necessarily imply recovery of that resource after that period. Impacts from a large oil spill by definition imply significant effects. Tainting, contamination, and climate change concerns are discussed in Sections IV.C.1.l., and V.C.12, Subsistence-Harvest Patterns.

Section D.2. in the Executive Summary, Effects in the Event of a Large Oil Spill, has been revised. The issue of secondary effects of oil on benthic communities was discussed in Section IV.C.1.h(3)(b), Effects from Oil Spills. Additional text has been added.

FWS 017-005

With respect to proposed mitigation measures, under Section II.B.4.b., “Alternative Mitigation for Seismic Surveying” the 193 EIS states:

Depending on the environmental issues and analysis associated with an individual seismic survey or with multiple seismic surveys in the Chukchi Sea Planning Area, some of the mitigations measures described below may be selectively incorporated in Incidental Take Authorizations issued by either NMFS or FWS under section 7 of the ESA or LOA’s/IHA’s issued under the MMPA for activities under Geological and Geophysical exploration permits issued by MMS.

Text has been added to Alternative Mitigation Measures 5 & 6:

5. Potential impacts to female walrus and dependent calves are a major concern. Seismic-survey and associated support vessels shall observe a 0.5-mile (~800-meter) safety radius around Pacific walrus groups hauled out onto land or ice.
6. Potential impacts to female walrus and dependent calves are a major concern. Aircraft shall be required to maintain a 1,000-foot minimum altitude within 0.5 miles of hauled-out Pacific walrus.

These mitigation measures are not mandatory unless and until selected by the Secretary. To ensure that “mitigation measures for walrus should be strengthened,” FWS could include appropriate mitigation measures in their incidental take authorizations under the MMPA.

FWS 017-006

Section IV.C.1.h(1), Conclusion, has been edited.

FWS 017-007

The MMS acknowledges that continued research and monitoring would address the array of potential impacts of offshore oil and gas development in the Chukchi Sea. The MMS will continue to work with the appropriate agencies to develop mitigation and monitoring during the NEPA process. Any research published by MMS is placed on a MMS website for public information.

FWS 017-008

The MMS agrees with this comment. Qualifying language related to oil spills has been eliminated from the text. The actual numbers resulting from the analyses will be used in the text.

FWS 017-009

The OSRA model has been developed by the USDOJ as a tool to evaluate the risk of potential large oil spills on the OCS. The OSRA model addresses the following independent factors:

1. the chance of one or more large spills occurring as a function of the quantity of oil to be produced and handled at individual production sites and pipeline routes;
2. the probabilities of various spill trajectories from production sites and transportation routes as a function of wind, ice and current patterns for the area; and
3. the location in space and time of vulnerable environmental, social and economic resources defined according to the same coordinate system used the spill trajectory simulation.

The results of these parts of the analysis are combined to estimate the total oil-spill risk associated with production and transportation at locations within a proposed lease area and its alternatives.

This information from each component is used separately and together in the risk analysis that is presented in the EIS. The conditional probabilities for the Alternatives are generally not standard OSRA products. For the areas identified in the FWS letter (e.g., Ledyard Bay, Kasegaluk Lagoon, and some spring lead systems) we have provided annual conditional probabilities for the FWS preferred alternative, Alternative III, for 3, 10, and 30 days. In the future, MMS can better serve the FWS if they request this type of information during the Scoping process.

Most of the estimates are slightly smaller probabilities, as one might expect for resources “not too close” to a slightly smaller (and further offshore) launch area. Some estimates are larger, consistent with an offshore resource that can be contacted by the part of the launch area that is further offshore, and thus gets a higher probability.

Annual Conditional Probabilities (Expressed as Percent Chance) that an Oil Spill Starting at a Particular Location Will Contact a Certain Environmental Resource Area Within 3 Days, Chukchi Sale 193

ID	Environmental Resource Area Name	Alternative I						Alternative III					
		LA 8	LA 9	LA 10	LA 11	LA 12	LA 13	LA 8a	LA 9a	LA 10a	LA 11a	LA 12a	LA 13a
—	Land	-	-	-	-	-	-	-	-	-	-	-	-
1	Kasegaluk Lagoon	-	-	-	-	-	-	-	-	-	-	-	-
10	Ledyard Bay Spectacled Eider Critical Habitat	-	-	6	4	-	-	-	-	-	-	-	-
19	Chukchi Spring Lead 1	-	-	-	-	-	-	-	-	-	-	-	-
20	Chukchi Spring Lead 2	-	-	-	-	-	-	-	-	-	-	-	-
21	Chukchi Spring Lead 3	-	-	-	-	-	-	-	-	-	-	-	-
22	Chukchi Spring Lead 4	-	-	-	1	2	-	-	-	-	-	-	-
23	Chukchi Spring Lead 5	-	-	-	-	-	-	-	-	-	-	-	-

Notes- ** = Greater than 99.5 percent; - = less than 0.5 percent; LA = Launch Area, P = Pipeline. Rows with all values less than 0.5 percent are not shown.

Annual Conditional Probabilities (Expressed as Percent Chance) that an Oil Spill Starting at a Particular Location Will Contact a Certain Environmental Resource Area Within 10 Days, Chukchi Sale 193

ID	Environmental Resource Area Name	Alternative I						Alternative III					
		LA 8	LA 9	LA 10	LA 11	LA 12	LA 13	LA 8a	LA 9a	LA 10a	LA 11a	LA 12a	LA 13a
—	Land	-	1	4	3	2	4	-	-	-	-	-	-
1	Kasegaluk Lagoon	-	-	2	2	-	-	-	-	1	-	-	-
10	Ledyard Bay Spectacled Eider Critical Habitat	-	1	12	7	-	-	-	1	4	1	-	-
19	Chukchi Spring Lead 1	-	1	-	-	-	-	-	-	-	-	-	-
20	Chukchi Spring Lead 2	-	-	2	-	-	-	-	-	-	-	-	-
21	Chukchi Spring Lead 3	-	-	1	2	-	-	-	-	1	-	-	-
22	Chukchi Spring Lead 4	-	-	-	2	3	-	-	-	-	1	-	-
23	Chukchi Spring Lead 5	-	-	-	-	-	1	-	-	-	-	-	-

Notes- ** = Greater than 99.5 percent; - = less than 0.5 percent; LA = Launch Area, P = Pipeline. Rows with all values less than 0.5 percent are not shown.

Annual Conditional Probabilities (Expressed as Percent Chance) that an Oil Spill Starting at a Particular Location Will Contact a Certain Environmental Resource Area Within 30 Days, Chukchi Sale 193

ID	Environmental Resource Area Name	Alternative I						Alternative III					
		LA 8	LA 9	LA 10	LA 11	LA 12	LA 13	LA 8a	LA 9a	LA 10a	LA 11a	LA 12a	LA 13a
—	Land	4	11	15	11	9	11	-	-	-	-	-	-
1	Kasegaluk Lagoon	-	1	6	7	1	-	-	1	6	3	-	-
10	Ledyard Bay Spectacled Eider Critical Habitat	-	5	19	11	1	-	-	5	11	4	-	-
19	Chukchi Spring Lead 1	-	1	-	-	-	-	-	-	-	-	-	-
20	Chukchi Spring Lead 2	-	-	4	1	-	-	-	-	1	-	-	-
21	Chukchi Spring Lead 3	-	-	4	4	-	-	-	-	4	1	-	-
22	Chukchi Spring Lead 4	-	-	1	5	5	-	-	-	2	3	1	-
23	Chukchi Spring Lead 5	-	-	-	-	1	2	-	-	-	-	1	-

Notes- ** = Greater than 99.5 percent; - = less than 0.5 percent; LA = Launch Area, P = Pipeline. Rows with all values less than 0.5 percent are not shown.

FWS 017-010

We believe the best available information on eider use of Ledyard Bay during spring migration is from Opiel (2007, pers. commun.).

FWS 017-011

We have corrected these typographical errors in the EIS. We also have revised the king and common eider sections. We believe the importance of Ledyard Bay to a variety of sea ducks is consistently emphasized throughout the final EIS.

FWS 017-012

These points are made in Section IV.C.1.g(6)(a) Birds with Higher Potential for Substantial Effects, Pacific Brant.

FWS 017-013

These points are well taken, but several changes have been made to the EIS text. We have revised the last sentence of the first paragraph to read: “While established for a few sites (Kasegaluk Lagoon and Peard Bay) for a few species, shorebird use of concentration areas along the Chukchi Sea coast has not been well studied.”

FWS 017-014

See response to comment **FWS 017-013**.

FWS 017-015

The potential impacts to individual species are described in Section III and are not necessarily duplicated in their entirety in Section IV. For example, Section III.B.5.b(1), Murres, concludes that molting “is a critical portion of their life cycle, because molting and foraging birds are vulnerable to both disturbances and spills and flightless individuals are not capable of undertaking large-scale movements to other areas.” Section IV.C.1.g(2)(a)1 restates the sensitivity of molting birds to disturbances in terms of energetic expenditures that could be minimized or avoided.

FWS 017-016

During much of the winter, Ledyard Bay is covered with ice and is unavailable to marine birds. In late spring, birds returning to their breeding grounds make use of open-water areas consisting of polynyas or leads in the ice. The MMS described these areas by hypothetical polygons (ERA’s 19-24) for oil spill risk analysis. Consequently, ERA 20 represents Ledyard Bay as envisioned to be April 15-June 10. The percent chance of a spill reaching this ERA is included in this section.

FWS 017-017

We described the potential long-term effects from a spill impacting benthic foods for long-tailed ducks. Our worst-case scenarios assumed all birds within the lagoon during certain times would be killed from oil contact. The scenario is unlikely. We cannot assume that all benthic organisms would be killed, nor is it known for how long or to what extent low-level contamination would impact long-tailed ducks. We believed it would be highly speculative to ascribe a numeric estimate to these potential and unlikely impacts.

FWS 017-018

The use of nearshore areas of the Alaska Chukchi Sea by king eiders has only been studied recently and preliminary results were unavailable when the draft EIS was prepared. We believe the importance of the spring lead system is included in species descriptions in Section III. Similarly, Ledyard Bay is identified as being particularly important to king eiders in the fall. We believed it speculative to estimate how many

common or king eiders could be affected by a spill in offshore areas, such as Ledyard Bay, because at sea density information is lacking.

FWS 017-019

We agree that turnover rates would be important factors in estimating the potential numeric impacts to marine and coastal birds from oil spills. Turnover rates for marine and coastal birds during spring and fall migration, however, are largely unknown.

The importance of the spring lead system is described for both king and common eiders in Section III. We concur that a winter spill in the spring lead system could affect many eiders; however, there is an estimated maximum 4% chance that a spill originating from a platform would contact these areas (see Sec. IV.C.1.g(4)(a)2), Winter Spill).

Furthermore, it is unclear what percentage of a migrating eider population could be affected at any one time or during any one spill event. Additional research on the seasonal distribution and abundance of marine and coastal birds using these areas could be useful in identifying the range of potential impacts to these species.

FWS 017-020

The first part of this comment addresses a summer spill and potential effects to eiders nesting on barrier islands. We believe our conclusion regarding this impact is correct.

The second part of this comment is similar to comment **FWS 017-019** and we refer the reader to that response.

FWS 017-021

See the response to comment **FWS 017-019**.

FWS 017-022

We concur with this recommendation and have revised the section accordingly.

FWS 017-023

The MMS agrees that the development of appropriate mitigation measures that protect ice seals, the polar bear's primary prey, is warranted. We believe that the best approach would be to develop such mitigation measures through direct discussions between the polar bear and seal experts at FWS and NMFS, respectively, and to incorporate them directly into the Incidental Take Authorizations each agency provides under the MMPA, and that they be incorporated as conditions of approval for specific MMS-permitted activities.

FWS 017-024

The MMS is aware of the report noted, which was not available at the time the draft EIS was written. The new information in the report has been incorporated into Section III.B.6.c and Section IV.C.1.h(4)(e).

FWS 017-025

The text in Section IV.C.1.h (4) has been modified to add the requested discussion on anthropogenic factors.

FWS 017-026

The text of Section III.B.6.c, Marine Fissipeds – Polar Bear, has been expanded to include more discussion on polar bear habitat.

FWS 017-027

We believe that this comment already is appropriately addressed in Stipulations 4 and 5 and in the discussion of those stipulations in Section II.B.3.

FWS 017-028

The MMS agrees that such an ITL is a good idea and would be pleased to work with the FWS Marine Mammal Management staff in developing the appropriate language.

FWS 017-029

After further discussions with FWS and MMS protected species biologists, modifications were made to II.B.4.b, Alternative Mitigation for Seismic Surveying. See response to comment **FWS 017-005**.

FWS 017-030

The MMS acknowledges that FWS is well within their management authority under the MMPA to enforce any such restrictions it deems appropriate to mitigate potential impacts to Pacific walrus.

FWS 017-031

Text was added to Section IV.C.1.h(3)(b), Effects from Oil Spills.

STATE OF ALASKA

SARAH PALIN, GOVERNOR

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January 3, 2007

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Director, Alaska OCS Region
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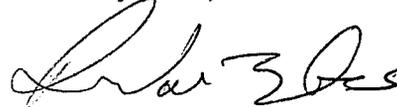
RE: Lease Sale 193

Dear Mr. Goll:

Thank you for the opportunity to comment on the draft environmental impact statement (DEIS) for Proposed Outer Continental Shelf (OCS) Chukchi Sea Lease Sale 193. The proposed sale, tentatively scheduled for November 2007, covers approximately 34 million acres (6,155 whole or partial blocks) off the northwest coast of Alaska. The DEIS analyzes potential environmental effects of Lease Sale 193 from exploration, development, and production of the area proposed for leasing, and also considers various deferral alternatives.

At this time, the State of Alaska is still evaluating the information contained in the DEIS and the various deferral alternatives. We intend to submit additional comments in the near future – within 30 days from today's date.

Sincerely yours,



Randy Bates
Acting Director

cc: Marty Rutherford, Acting Commissioner, DNR
Mike Maher, Acting Commissioner, DEC
Denby Lloyd, Acting Commissioner, ADF&G
Pat Galvin, Commissioner, DOR
Mike Tibbles, Office of the Governor
Mike Nizich, Office of the Governor
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Bruce Anders, Petroleum Lands Manager, DNR /DOG
Kerry Howard, Director, DNR/OHMP
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Craig Perham, Louise Smith, Larry Bright, FWS
Johnny Aiken; Tom Lohman; Gordon Brower; Karla Kolash; Dennis Roper, North Slope Borough
Lanston Chinn; Brian Boyd, Issac Nukapigak, Kuukpik
The Honorable Edward Itta, Mayor, North Slope Borough
The Honorable George Kingik, Mayor, City of Point Hope
The Honorable Joseph Ahmaogak, Mayor, City of Wainwright
The Honorable Elizabeth Hollingsworth, Mayor, City of Atkasuk
The Honorable Nathaniel Olemaun, Jr., Mayor, City of Barrow
The Honorable Lon Sonsalla, Mayor, City of Kaktovik
The Honorable Carl Brower Mayor, City of Nuiqsut
Leonard Lampe, Native Village of Nuiqsut
Maggie Ahmaogak; Margaret Ferguson, AEWC
Price Leavitt, Executive Director, Inupiat Community of the Arctic Slope
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2



United States Department of the Interior

MINERALS MANAGEMENT SERVICE
Alaska Outer Continental Shelf Region
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Ms. Judith Bittner
State Historic Preservation Officer
Office of History and Archaeology
550 West 7th Avenue, Suite 1310
Anchorage, Alaska 99501-3565

Dear Ms. Bittner:

The Minerals Management Service (MMS) is pleased to initiate Section 106 consultation, as required by the National Historic Preservation Act, for Chukchi Sea Oil and Gas Lease Sale 193. A draft environmental impact statement was published in October 2006 (Enclosure 1).

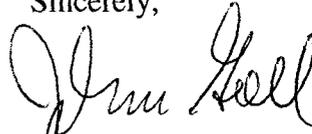
Based upon previous consultation with your staff, the MMS is aware of two (2) historic resources in the Lease Sale 193 area, one whaling bark wrecked in 1876 and a whaler/tender wrecked in 1886, as depicted on the attached map (Enclosure 2) and table (Enclosure 3). To date, there are no specific prehistoric resources identified in the Lease Sale 193 area.

Activities associated with Lease Sale 193 that have the potential to disturb offshore historic and prehistoric resources include: (1) use of bottom cables for seismic data collection; (2) anchoring which may disturb host or overlying sediment; (3) excavating well cellars; and (4) emplacement of bottom-founded structures.

In the event the aforementioned activities are planned in areas of known offshore historic resources or, based upon geophysical data, an area with a high potential for prehistoric resources (e.g., water depths <60 m that do not have high-density ice gouging), the MMS will require each lessee to prepare an archaeological report by a qualified archaeologist as specified in MMS NTL No. 05-A03, "Archaeological Survey and Evaluation for Exploration and Development Activities." The MMS staff of trained geologists and geophysicists will interpret the geophysical data (which forms the basis of a sub-surface archaeological report), and determine if activities are protective of the resources. The MMS will provide your staff a copy of the archaeological report and any recommended mitigation prior to commencement of the activities.

Given our procedures outlined above, MMS concludes that proposed Chukchi Sea Sale 193 will have no effect upon known offshore historic and/or prehistoric resources. We ask your concurrence with our findings. If you have any questions, please contact Michael Burwell, Sociocultural Specialist, at (907) 334-5249 or Deborah Cranswick, Chief Environmental Assessment Section, at (907) 334-5267.

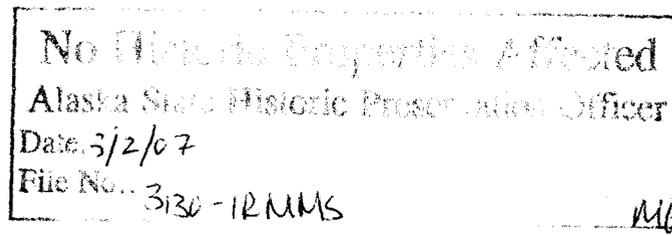
Sincerely,



John Goll
Regional Director

Enclosure(s)

Chukchi Sea Planning Area Sale 193 Environmental Impact Statement-CD
Map of known historic resources in Lease Sale 193
Table of Shipwrecks in the Chukchi Sea Planning Area



Due to the high volume of reviews, our office is no longer writing letters of concurrence in cases where there are no historic properties affected by a given project. Instead, the cover letter is being stamped with **"No Historic Properties Affected"** and being returned to the applicant. The stamp will serve as evidence of consultation with the State Historic Preservation Office as required by Section 106 of the National Historic Preservation Act. We will continue writing letters in situations where there are historic properties that may be affected by a given project. **If cultural resources are inadvertently discovered as a result of this project, work that may further disturb the resources must cease. Our office must be contacted immediately in order for the project to stay in compliance with the National Historic Preservation Act.** Please note that if your Scope-of-Work changes, you must send another letter of concurrence to this office prior to implementing changes.

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally-owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. Administration.



OCS EIS/EA
MMS 2007-026

Chukchi Sea Planning Area
Oil and Gas Lease Sale 193 and Seismic Surveying Activities
Final Environmental Impact Statement VOLUME II

U.S. Department of the Interior
Minerals Management Service
Alaska OCS Region