

## **Minerals Management Service – Alaska OCS Region**

### **FINDING OF NO SIGNIFICANT IMPACT**

#### **Shell Gulf of Mexico, Inc.**

#### **2010 Exploration Drilling Program Burger, Crackerjack, and SW Shoebill Prospects Chukchi Sea Outer Continental Shelf, Alaska**

#### **Introduction**

In accordance with the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations at 40 CFR 1501.3(b) and 1508.9, Department of the Interior (DOI) regulations implementing NEPA at 43 CFR Part 46, and DOI policy in Section 516 of the Department of the Interior Manual (DM) Chapter 15 (516 DM 15), the Minerals Management Service (MMS) has prepared an environmental assessment (EA) of the potential effects of the Shell Gulf of Mexico, Inc. (Shell) proposed 2010 Chukchi Sea exploration drilling activities. The MMS has prepared the EA to determine whether the proposed action may result in significant effects (40 CFR 1508.27) that could trigger the need for preparation of an environmental impact statement (EIS) and to assist MMS planning and decisionmaking. The EA focuses on analyzing the potential for significant adverse impacts of the specific proposed activities on environmental resources.

In keeping with CEQ regulations at 40 CFR 1506.5(a) and (b) and MMS operating regulations at 30 CFR 250.227, MMS used much of the information and analysis provided in Shell's Exploration Plan (EP) and supporting Environmental Impact Analysis (EIA) to prepare the EA. The MMS reviewed, evaluated, and verified the information and analysis provided in Shell's EIA that were used in the EA. The attached EA is incorporated into this Finding of No Significant Impact (FONSI) by reference.

The site-specific EA tiers from the MMS 2007 Chukchi Sea Planning Area: Oil and Gas Lease Sale 193 and Seismic Surveying Activities in the Chukchi Sea, Final Environmental Impact Statement (OCS EIS/EA MMS 2007-026) that addresses issues and analyzes potential effects of OCS oil and gas exploration at the areawide level appropriate for the lease sale analysis stage.

The MMS evaluated the proposed activities using the significance thresholds defined in the EA and in relation to the significance criteria under 40 CFR 1508.27 (below).

#### **Purpose and Need for the Proposed Action**

Shell submitted to MMS an EP (*Exploration Plan, 2010 Exploration Drilling Program, Posey Blocks 6713, 6714, 6763, 6764, and 6912, Karo Blocks 6864 and 7007, Burger, Crackerjack, and SW Shoebill Prospects, OCS Lease Sale 193, Chukchi Sea, Alaska*, dated July 2009) to conduct exploration drilling to evaluate the oil and gas resource potential of up to three wells on the company's outer continental shelf (OCS) leases in the Chukchi Sea. The MMS requested additional information

from Shell on August 7 and September 4, and the EP was deemed submitted October 20, 2009. Shell acquired the leases through OCS Lease Sale 193 held in February 2008.

Shell's exploration of their Chukchi Sea leases would be consistent with the overall objectives of the Outer Continental Shelf Lands Act (OCSLA) to determine the extent of the oil and natural gas resources of the OCS at the earliest practicable time. The MMS' technical and environmental reviews are done to ensure the proposed activities would be conducted in a manner that protects the human, marine, and coastal environments.

### **Description of the Proposed Action**

Shell proposes three drill sites (one per lease) on three different leases (OCS-Y-2267, Posey block 6714; OCS-Y-2280, Posey block 6764; and OCS-Y-2321, Posey block 6912) in the Burger Prospect, one drill site on a single lease (OCS-Y-2111, Karo block 6864) in the Crackerjack Prospect, and one drill site on a single lease (OCS-Y-2142, Karo block 7007) in the SW Shoebill Prospect. Each of these five drill sites would be permitted for drilling in 2010 to allow for operational flexibility in the event sea ice conditions prevent access to one or more locations. Shell proposed to drill a maximum of three exploration wells to total depth (TD) at these five possible drill sites in 2010. The number of wells drilled would depend on ice and weather conditions and the length of time available in the 2010 drilling season. Applications for Permits to Drill (APD) must be submitted to MMS and approved prior to commencement of drilling during the 2010 drilling season.

The activities are planned to begin on or about July 4, 2010. The drilling operations would be conducted using the M/V *Frontier Discoverer* (*Discoverer*), a modern drillship retrofitted and ice reinforced for operations in Arctic OCS waters. Once the *Discoverer* is mobilized to a drill site and securely anchored to the seafloor, sound-level verification and drilling operations would commence. Wells would be drilled consecutively. Before leaving a drill site, a well would be permanently plugged and abandoned in accordance with MMS requirements (30 CFR 250 Subpart Q) upon completion of drilling.

### **Related Environmental Documents**

The MMS has evaluated the potential environmental impacts of leasing, exploration, development, production, and associated support activities on blocks in the area of the proposed activities and adjacent areas in multiple NEPA documents (listed below). Relevant information from these documents is summarized and incorporated by reference in the EA. The EA tiers from the Final EIS for the Oil and Gas Lease Sale 193 and Seismic Surveying Activities in the Chukchi Sea.

NEPA documents:

- Environmental Assessment: Shell Offshore Inc. 2010 Outer Continental Shelf Lease Exploration Plan Camden Bay, Alaska, 2009 (OCS EIS/EA MMS 2009-052)
- Draft Environmental Impact Statement – Beaufort and Chukchi Sea Planning Areas Oil and Gas Lease Sales 209, 212, 217, and 221 (OCS EIS/EA MMS 2008-0055)
- Environmental Assessment: Shell Offshore, Beaufort Sea Exploration Plan, 2007-2009 (OCS EIS/EA MMS 2007-009)

- Chukchi Sea Planning Area: Oil and Gas Lease Sale 193 and Seismic Surveying Activities in the Chukchi Sea, Final Environmental Impact Statement, (OCS EIS/EA MMS 2007-026)
- Outer Continental Shelf Oil & Gas Leasing Program: 2007-2012 Final Environmental Impact Statement. (OCS EIS/EA MMS 2007-003)

Endangered Species Act Consultation documents:

- National Marine Fisheries Service (NMFS) Biological Opinion for Oil and Gas Leasing and Exploration Activities in the U.S. Beaufort and Chukchi Seas, Alaska and Authorization of Small Takes Under the Marine Mammal Protection Act (USDOC, NOAA, NMFS, July 17, 2008)
- FWS Biological Opinion for Beaufort and Chukchi Sea Program Area Lease Sales and Associated Seismic Surveys and Exploratory Drilling (USDOJ, FWS, September 3, 2009)

### **Environmental Evaluation of Alternatives**

The following prominent issues and concerns were identified in this site-specific environmental review:

- Protection of subsistence activities and the Inupiat culture and way of life;
- Risks of oil spills and their potential impacts to area fish and wildlife resources;
- Disturbance to bowhead whale migration patterns;
- Harassment and potential harm of wildlife, including marine mammals and marine birds, from noise, discharges, and vessel operations;
- Impacts to threatened and endangered species; and.
- Local economic effects.

The MMS evaluated two alternatives in the EA: the No Action Alternative and the Proposed Action Alternative. Other alternatives were considered, but not further analyzed. No additional alternatives that met the purpose and need for the proposal were identified by MMS. Additional mitigation measures are identified in the EA and these are discussed as mitigation under the Proposed Action rather than evaluated as alternatives to the proposed action.

#### **No Action Alternative.**

Under this alternative, MMS would disapprove the proposed activities. This alternative would eliminate any potential economic benefits for local North Slope residents from the proposed activities. This alternative would delay or eliminate any potential impacts to the physical environment, biological resources, and subsistence activities from exploration of Shell's Burger, Crackerjack, and SW Shoebill prospects. In the long term, this alternative could result in lost opportunities for discovery and production of oil and gas resources.

Under the No Action Alternative, no impacts to the physical environment, biological resources, or subsistence activities would occur from proposed activities. Potential economic benefits for local North Slope residents would not be realized.

## **Proposed Action Alternative.**

This is the Agency's Preferred Alternative. Based on review of the proposed exploration drilling activities and the best available scientific information, the analysis in the attached EA concludes that no significant adverse effects are expected to occur from Shell's proposed exploration drilling activities in the Chukchi Sea during the 2010 open-water-drilling season. The analyses considered the mitigation measures incorporated into the proposed action. The overall conclusions of the proposed action analysis are summarized below.

**Biological Resources:** Shell's proposed exploration drilling activities are expected to have negligible or minor and short term effects on biological resources. Effects on marine mammals, marine birds, and most marine fish would be restricted to disturbance and temporary avoidance or displacement.

Threatened and endangered species in the area include humpback, fin, and bowhead whales, polar bear, and Steller's and spectacled eiders. Effects on bowhead whales and polar bear from Shell's planned activities are expected to be minor and limited to disturbance and potentially some avoidance of the area surrounding the drillship and support vessels by some individuals. No population level effects are anticipated. Impacts to humpback and fin whales are unlikely, as these species are extralimital in the proposed action area. Effects are expected to be limited to disturbance/avoidance and therefore will be minor and temporary. Effects are expected to be further reduced by required mitigation measures. Eiders could be disturbed or displaced by vessel traffic associated with Shell's activities, but the effects are expected to be minor and temporary.

**Subsistence Activities, Employment, and Community Health:** With the mitigation incorporated by Shell, effects on subsistence undertaken by Barrow, Wainwright, Point Lay, and Point Hope are expected to be negligible. The number of local residents employed for the proposed activities is expected to be small and the effect is expected to be negligible at the community level. The proposed activities are short term and temporary, and are expected to have a minor effect on the economy of Wainwright and a negligible effect on the economies of Barrow, Point Lay, and Point Hope. The proposed activities are expected to have no adverse impact on the health of the residents of the North Slope Borough, the Northwest Arctic Borough, or the communities of Barrow, Wainwright, Point Lay, and Point Hope.

**Air Quality:** Emissions from the proposed activities are not expected to significantly deteriorate the existing good air quality of the Chukchi Sea and adjacent coastal areas of the North Slope. Air quality impacts from the proposed activities are expected to be negligible to minor and short term.

**Water Quality:** Discharges from the proposed activities would occur over relatively short periods of time (weeks to a few months at individual locations). Impacts to water quality from permitted discharges are expected to be localized and short term. Because the discharges would be regulated through Section 402 of the Clean Water Act to ensure compliance with state water-quality standards, impacts to water quality are expected to be temporary and minor.

## Significance Review (40 CFR 1508.27)

### **1. Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.**

In determining the significance of effects of the proposed action, MMS evaluated both adverse and beneficial potential impacts from the proposed activities. Potential adverse impacts to the physical environment, biological resources, and subsistence activities, with consideration of all required mitigation measures incorporated into the proposed activities, are expected to be minor to negligible. The potential beneficial economic impacts for the North Slope Borough and local residents employed in support of the proposed activities are expected to be temporary and minor. Therefore, the level of adverse and beneficial effects of the proposed action does not render the potential impacts significant.

### **2. The degree to which the proposed action affects public health or safety.**

In determining the significance of effects of the proposed action, MMS evaluated the degree to which the proposed action may have an effect on public health or safety. The MMS considered the distance of the proposed activities from local communities; the proposed siting of onshore support activities; the potential effects of the expected allowable discharges and emissions under Environmental Protection Agency (EPA) permits; the potential effects of the analyzed 48-barrel (bbl) fuel spill; and the potential for the proposed activities to interfere with subsistence activities.

The communities closest to the prospect areas are Wainwright, about 78 miles east-southeast of the Burger prospect, and Point Lay, about 126 miles east-southeast of the Crackerjack Prospect and 133 miles east-southeast of the SW Shoebill Prospect. Shell would temporarily establish shorebase facilities in Barrow and Wainwright and use these facilities for the duration of the planned 2010 exploration drilling program. Activities would be staged from existing infrastructure located in Barrow or Wainwright. Shell personnel must receive a “fitness to work” determination following a complete medical review. Goods and services would be obtained from local village contractors, when available, and these business interactions are not expected to adversely affect community health. Impacts to water and air quality are expected to be short term and localized at the drill sites. The analyzed small fuel spill is not expected to persist long enough to contact the coast. Shell’s proposed exploration activities incorporate specific measures to avoid interference with subsistence activities, including the Plan of Cooperation, the Subsistence Advisory Program, and specified support vessel and helicopter routes to minimize or avoid interference with subsistence activities; these measures are an integral part of the Shell proposal and will be required and enforced by MMS if the proposed action is approved. Therefore, the degree to which the proposed action may affect public health or safety does not render the potential impacts significant.

### **3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.**

In determining the significance of effects of the proposed action, MMS evaluated the degree to which the proposed action may have an effect on unique geographic areas. There are no designated ecologically critical areas in the immediate vicinity of the proposed action areas. The proposed exploration drill sites are located more than 60 miles offshore the U.S. Chukchi coast. There are no farmlands, designated parklands, or designated wild and scenic rivers.

The Ledyard Bay area in the U.S. Chukchi Sea is a federally designated Critical Habitat for spectacled eiders, which are listed as threatened under the Endangered Species Act (ESA) (see also the discussion for criteria 9 below). The entire coastal area of the U.S. Chukchi Sea (barrier islands and denning habitats) and Arctic sea ice have been proposed for designation as Critical Habitat for polar bears, which are listed as threatened under the ESA (see also the discussion for criteria 9 below).

Some sea ice that could serve as a platform for polar bears is expected to be actively managed in the vicinity of the drilling operations (within 19 km of the drillship, depending on drift pattern) so that it can safely pass the drill ship. Once past the drillship, the ice would again be available for use by polar bears. The likelihood of such sea ice being contacted by the analyzed 48-bbl fuel spill is unlikely because pre-booming is required for fuel transfer and fuel transfer would not occur under adverse weather or ice conditions.

Bays, lagoons, and wetlands along the U.S. Chukchi coast support a higher level of productivity and species abundance than the offshore area. Ledyard Bay, Peard Bay, and Kasegaluk Lagoon are the largest of these features. The nearshore waters of the Chukchi Sea provide feeding and overwintering habitat for several fish species. Specific areas along the coast are protected by state or federal regulation. The Chukchi Sea unit of the Alaska Maritime Refuge contains scattered islands, spits, and mainland areas extending along 500 miles of coast from southwest of Barrow to Cape Thompson.

Allowable discharges and emissions are not expected to reach or affect the coastal area or sea ice. Given (1) the likely containment and clean-up of the analyzed 48-bbl diesel-fuel spill, (2) the low chance of a 48-bbl diesel-fuel spill persisting for 3 days or longer, (3) the low chance of occurrence of a large spill, and (4) the low chance of a large spill (should one occur) contacting the coastal area, MMS concludes that it is unlikely that the coastal area would be contacted by an oil spill related to the proposed activities. Because of the distance of the exploration activities from shore, these activities are expected to have no effects on the coastal area. Vessel traffic associated with exploration will travel directly from Wainwright to the exploration sites and will not enter sensitive coastal areas unless required to for safety reasons. Aircraft associated with exploration will remain at or above 1,500 ft., and will follow flight corridors directly from Wainwright to the drill sites and five miles inland from Wainwright to Barrow, unless precluded for safety reasons. Therefore, the degree to which the proposed action may affect unique geographic areas does not render the potential impacts significant.

#### **4. The degree to which the effects on the quality of the human environment are likely to be highly controversial.**

In determining the significance of effects of the proposed action, MMS evaluated the degree to which the potential effects of the proposed action may be highly controversial. The MMS considered the comments and issues presented in comment letters received on the EP,

stakeholder input during public input opportunities associated with previous related NEPA processes and with Shell's outreach on the planned EP, analyses of exploration activities in previous NEPA documents, and current scientific information related to exploration drilling operations and potential impacts. In determining whether the effects of proposed action may be highly controversial, MMS considered the mitigation measures incorporated into the proposed activities.

The MMS technical analysts reviewed the comment letters received on the EP to further evaluate the scope of the effects analysis for the proposed action and to determine if substantial questions exist on whether the proposed action will cause significant degradation of some environmental factor. Specifically, comments were evaluated to determine if issues raised presented substantial disputes over potential effects of the proposed action or presented substantial questions over the likelihood and significance of adverse impacts from the proposed action. Some concerns have been expressed over the potential effects of noise, discharges, and emissions on marine mammals, fish, and birds; the biological significance of bowhead whales' responses to low-level anthropogenic marine noise; and potential interference with subsistence activities. The MMS analysts reviewed information identified in the comments and incorporated the additional information in the EA as needed; however, none of the comments or new information was found to bring into question whether the proposed activities would likely result in more than minor, and in most cases negligible, effects. In coming to this conclusion, MMS carefully considered relevant information related to each specific area of concern or issue in question.

Concerns related to anthropogenic noise in the Arctic marine environment have focused on the potential effects to marine species, particularly the bowhead whale, from impulse sounds associated with high-energy seismic surveys (no high-energy surveys are included in the proposed action), as opposed to the lower-energy, continuous sound from drilling operations. Monitoring of previous Arctic OCS exploration drilling and sound modeling indicate that the level of sound expected to be produced by the proposed exploration drilling and support operations is very low compared to high-energy seismic survey sound sources. Sound from the proposed drilling operations is not expected to reach the 180-dB level, which is the level used by NMFS for Level A harassment (injury) for cetaceans under the Marine Mammal Protection Act (MMPA). The effects of sound from support vessels, including the ice-management vessels, are expected to be mitigated well below significant impact levels through required implementation of Shell's Marine Mammal Monitoring and Mitigation Plan (4MP). The 4MP includes immediate implementation of measures, including slowing down and avoidance, to mitigate potential effects to marine mammals from sound and collision.

Discharges and emissions are regulated and restricted by EPA permits. Permit limitations are based on known fates and effects of discharge constituents and criteria pollutants for emissions. Modeling of the expected allowable discharges and emissions and analysis of the potential effects indicates that effects are expected to be short term and localized.

Although the proposed activities would be conducted during the open-water season, ice conditions are variable. Shell has anticipated and planned for managing potential ice encounters. Icebreaking may be required when entering and exiting the Chukchi Sea. Ice management would occur only as needed to protect operations and is not expected to occur extensively. Ice management effects are expected to be minor (temporary, localized, and of short duration).

The anticipated effects of the proposed activities are based upon well-defined and established models for sound transmission, emissions, and discharges that have been used to determine the areal extent and intensity of these impacting factors. The proposed activities include specific and enforceable mitigation measures. The effects analyses in the EA are based on the best available scientific information. No unavailable information relevant to potential significant effects or essential to a reasoned decision on the proposal or alternatives was identified. While commenters on the EP raised concerns, those concerns were fully considered and addressed as appropriate in the EA and/or have been addressed fully in prior NEPA documents. There remain no substantial questions regarding whether the proposed action may cause significant effects. Therefore, the degree to which the potential effects of the proposed action may be highly controversial does not render the potential impacts significant.

**5. The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.**

In determining the significance of effects of the proposed action, MMS evaluated the degree to which the potential effects of the proposed action may be highly uncertain or involve unique or unknown risks. There has been more than two decades of OCS exploration drilling in the Chukchi Sea and Beaufort Sea, and the potential impacts of exploration activities have been addressed in several previous NEPA documents. From 1989-1991, 5 OCS exploration wells were drilled in the Chukchi Sea. From 1981 to 2002, 30 OCS exploration wells were drilled in the Beaufort Sea. The drilling operations in the Beaufort Sea were monitored and the surrounding environment has been subject to extensive study to understand the actual effects.

With respect to potential effects to bowhead whales, other marine mammals, and subsistence, the potential effects of a more extensive exploration drilling program in the Camden Bay area of the Beaufort Sea (Shell 2007-2009 Camden Bay EP) were analyzed in an EA by NMFS for Shell's incidental take authorization under the MMPA. Based on its NEPA analysis and finding of negligible effects to marine mammals and no unmitigable adverse effects to the availability of subsistence resources, NMFS issued an Incidental Harassment authorization to Shell for the proposed activities. Those findings were neither highly uncertain nor involved unique or unknown risks.

The potential effects to the environment from exploration drilling activities were analyzed previously in the NEPA and ESA documents listed above. The accompanying EA addresses site-specific effects of Shell's proposed activities. The technologies and procedures Shell proposes to use in exploration drilling meet well-established industry standards, and the associated impacting factors are well understood. The operations would be strictly monitored by MMS inspectors and through Shell's 4MP. The effects of the proposed action are not expected to be highly uncertain nor does the proposed action involve unique or unknown risks. Therefore, the degree to which the potential effects of the proposed action may be highly uncertain or involve unique or unknown risks does not render the potential impacts significant.

**6. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.**



In determining the significance of effects of the proposed action, MMS evaluated the degree to which the potential effects of the proposed action may establish a precedent for future actions or represents a decision in principle about a future consideration. Shell's exploration plan was submitted pursuant to MMS operating regulations at 30 CFR 250 Subpart B. The EP is limited to Shell's proposed exploration drilling at up to three sites on five specified leases during one open-water season. Shell's proposed exploration of its Chukchi Sea leases is consistent with the overall objectives of the OCSLA to determine the extent of the oil and natural gas resources of the OCS at the earliest practicable time. In compliance with OCSLA and DOI policy in 516 DM 15, MMS conducts technical and environmental review on each EP. No precedent for future actions or decision on principles for future considerations is made through decision on these specific proposed activities. Although the successful result of exploration drilling is a prerequisite to any decision to proceed with development, approval of an EP does constrain the decision on any subsequent Development and Production Plan (DPP), nor does approving the EP set a precedent for future approval of any future EP or DPP. This action will not establish a precedent for future actions or represent a decision in principle about a future consideration. Therefore, the degree to which the proposed action may establish a precedent for future actions or represents a decision in principle about a future consideration does not render the potential impacts significant.

**7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.**

In determining the significance of effects of the proposed action, MMS evaluated the degree to which the proposed action may be related to other actions with individually insignificant but cumulatively significant impacts. The pending decision on Shell's EP would be applicable solely to the proposed activities. Approval of the EP does not set a precedent for future approval of any other EP. While Shell has also submitted and received approval of an EP for exploration in the Beaufort Sea, the same equipment is proposed to be used for both operations and the proposals have independent utility. The EA considered the potential cumulative impacts of both EPs (assuming both EPs are approved as submitted) and concludes that the proposals are not reasonably anticipated to produce cumulatively significant impacts. Although the successful result of exploration drilling is a prerequisite to any decision to propose development, approval of an EP does not constrain the decision on any subsequent DPP, nor does approving the EP set a precedent for approval of EPs or DPPs. Any DPP would be subject to MMS proposal-specific technical and environmental review and separate decisionmaking process. The proposed action is not directly or causally related to other actions with cumulatively significant impacts. Therefore, the degree to which the potential effects of the proposed action may be related to other actions with individually insignificant but cumulatively significant impacts does not render the potential impacts significant.

**8. The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.**

In determining whether the proposed action may adversely affect historic resources, MMS considered the distance of the proposed activities from shore, MMS review of site clearance and shallow hazards data, and the results of consultations with the Alaska State Historic Preservation Office (SHPO). The proposed exploration drill sites are located 60 or more miles offshore. Allowable discharges and emissions are expected to have no onshore effects. The analyzed 48-bbl fuel spill is not expected to persist long enough to contact the coast. There are no known historic shipwrecks in the vicinity of the proposed drill sites. The site-clearance surveys of the proposed drilling areas do not indicate any surface resources or potential for sub-seafloor prehistoric sites. On November 17, 2010, the SHPO concurred with MMS' determination of "no effect on historic properties" for the proposed activities. The proposed action is not expected to adversely affect historic resources. Therefore, the degree to which the proposed action may adversely affect historic resources does not render the potential impacts significant.

**9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.**

In determining whether the proposed action may adversely affect endangered or threatened species or designated Critical Habitat, MMS considered the current Biological Opinions (BOs) on OCS activities from NMFS and FWS. Shell's proposed exploration activities are within the scope of the activities covered in the consultations.

The NMFS July 17, 2008, BO concluded that OCS exploration activities in the U.S. Arctic Ocean are not likely to jeopardize the continued existence of the fin, humpback, or bowhead whale.

The FWS September 3, 2009, BO concluded that OCS exploration activities in the Beaufort and Chukchi Seas are not likely to jeopardize the continued existence of the polar bear, the Steller's eider, or the spectacled eider, nor will they destroy or adversely modify Critical Habitat. The BO provided incidental take authorization for listed eiders, and required that incidental take of polar bears be authorized under the MMPA, at which time an ESA Incidental Take Statement (ITS) will be issued.

The effects of the proposed action on endangered or threatened marine mammals are expected to be minor and temporary, and limited to disturbance and potentially some avoidance of the area surrounding the drillship and support vessels by a small number of marine mammals. This level of effects would be consistent with findings that are prerequisite to the issuance of incidental take authorizations. Incidental take of marine mammals must be authorized under the MMPA. To issue incidental take authorizations under MMPA, NMFS and FWS must determine that the proposed action would have a negligible impact on marine mammals and no unmitigable impact on subsistence use. Shell's application to NMFS for an Incidental Harassment Authorization under the MMPA was submitted May 22, 2009. Shell's application to FWS for a Letter of Authorization under the MMPA was submitted May 22, 2009. Both NMFS and FWS issued incidental take authorizations under MMPA for activities for Shell's 2007 Beaufort Sea EP, which proposed a greater level of activity.

The best available information indicates that few threatened eiders would be present at the proposed drill locations during the timeframe of proposed operations. Eiders could be disturbed

or displaced by vessel traffic associated with Shell's activities, but the effects would be minor and temporary.

The Ledyard Bay area in the U.S. Chukchi Sea is a federally designated Critical Habitat for spectacled eiders, which are listed as threatened under the Endangered Species Act (ESA) (see also the discussion for criteria 3 above). The nearest proposed drill site is 55 miles from the Ledyard Bay Critical Habitat Area. Under the FWS BO, vessels and aircraft related to the proposed activities are prohibited from entering the Ledyard Bay Critical Habitat Area except in an emergency or as specifically authorized by FWS.

Critical Habitat has not yet been identified for the polar bear. On October 29, 2009, FWS published a proposed rule in the *Federal Register* identifying proposed Critical Habitat for polar bear (74 FR 56058-56086). The FWS has identified landfast sea ice (sea ice that is frozen to the shoreline or to the seafloor and is relatively immobile) and pack ice (annual and multi-year ice that is in constant motion due to winds and currents) as proposed critical sea-ice habitats. The sea-ice habitat considered under the proposed rule to be essential for polar bear conservation is that which is located over the continental shelf at depths of 300 m (984.2 ft) or less. Sea ice is serves as a platform for polar bears when hunting, feeding, traveling, resting, or denning. The coastal area is used by polar bears for denning and reproduction, as well as for seasonal use in traveling or resting.

Shell's proposed activities are planned for the Arctic summer open-water season in 2010. The start of on-site project activities would begin on or after July 1, which coincides with the retreat of the ice in most years (early June to late July). The proposed exploration drill sites are located more than 60 miles offshore the U.S. Chukchi coast, seaward of the typical extent of landfast ice during the time of operations. Stamukhi ice (grounded and ridged ice) is not anticipated in the project area at the time of operations. Pack ice could move into the project area during the time of operations due to wind or currents. Shell has developed and will be required to implement a Critical Operations and Curtailment Plan (COCP) and an Ice Management Plan, which establish protocols to be followed in the event potential hazards (e.g., ice floes, inclement weather) are identified in the vicinity of the drilling operations.

The MMS evaluated the potential effects of Shell's proposed exploration drilling activities in the Beaufort and Chukchi seas on proposed polar bear critical habitat: sea ice, terrestrial denning, and barrier island habitats. Ice management activities would occur when there is ice present at the drill site and ice disturbance would be limited to the minimum needed to permit drilling to safely continue. Vessels will avoid most barrier islands by at least a 1 mi buffer. Short term occasional disturbance could occur from vessels passing near a few barrier islands, e.g., while accessing Wainwright. Depending on sea-ice conditions, ice-management activities may occur as the fleet moves to or from drill sites in the Chukchi and Beaufort seas. Shell intends to exit the Chukchi Sea before the consolidated pack ice edge could interfere with operations. While the proposed action may result in short term, infrequent, adverse effects on some of the proposed critical habitats, these effects are not expected to persist from one season to the next. The MMS concluded the total effect would not result in the adverse modification of the physical or biological features essential to the conservation of polar bear critical habitats and provided the analysis and determination to the FWS by memorandum dated December 3, 2009.

Allowable discharges and emissions are not expected to reach or affect designated and proposed critical habitat areas. Given (1) the likely containment and clean-up of the analyzed 48-bbl diesel-fuel spill, (2) the low chance of a 48-bbl diesel-fuel spill persisting for 3 days or longer, (3) the low chance of occurrence of a large spill, and (4) the low chance of a large spill (should one occur) contacting the coastal area, MMS concludes that it is unlikely that the designated and proposed critical habitat areas would be contacted by an oil spill related to the proposed activities.

Some sea ice that could serve as a platform for polar bear life functions is expected to be actively managed in the vicinity of the drilling operations (within 19 km of the drillship, depending on drift pattern) so that it can safely pass the drill ship. Once past the drillship, the ice would again be available for use by polar bears. The likelihood of such sea ice being contacted by the analyzed 48-bbl fuel spill is unlikely because pre-booming is required for fuel transfer and fuel transfer would not occur under adverse weather or ice conditions.

Any approval of Shell's EP will be a conditional approval. Under the conditional approval of the EP, MMS will not approve an APD authorizing commencement of exploratory drilling activities until MMS has received ITSs from NMFS and FWS. Also under the conditional approval, MMS will not approve an APD until Shell has received all necessary permits and authorizations, including MMPA authorizations from both NMFS and FWS. Therefore, the degree to which the proposed action may adversely affect endangered or threatened species or designated critical habitat does not render the potential impacts significant.

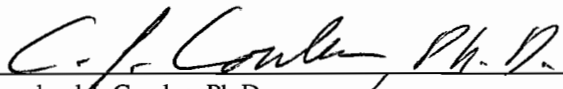
#### **10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.**

In determining whether the proposed action may violate Federal, State, or local law or requirements imposed for the protection of the environment, MMS considered documentation in Shell's EP related to compliance with MMS operating regulations, applicable lease stipulations, and other applicable environmental laws and requirements. The MMS determined that the proposed activities comply with MMS regulations at 30 CFR 250 Subpart B and 30 CFR 254, and with applicable lease stipulations. The EP includes a listing of the laws and regulations applicable to the proposed activities and discusses the status of Shell's major permit applications and certifications. The MMS requires compliance with all applicable Federal, State, and local laws and requirements. Any approval of Shell's EP will be a conditional approval. Under the conditional approval of the EP, MMS will not approve of an APD authorizing commencement of exploratory drilling activities until Shell's receipt of all necessary permits and authorizations. The EP as proposed and approved would require such compliance before MMS approval of any APD. Therefore, the proposed action does not threaten a violation of Federal, State, or local law or requirement imposed for the protection of the environment.

#### **Finding of No Significant Impact**

I have considered the identified prominent issues and concerns, the evaluation of the potential effects of the proposed activities in the attached EA, the mitigation incorporated in the proposed activities to assure that potential impacts are mitigated to the extent possible and major disputes over the effects of the proposal are avoided, and the review of 40 CFR 1508.27 significance factors above. It is my determination that there remain no substantial questions regarding

potentially significant impacts and that no potentially significant impacts are expected to occur as a result of the proposed activities. It is my determination that implementing the proposed action does not constitute a major Federal action significantly affecting the quality of the human environment within the meaning of Section 102(2)(c) of the National Environmental Policy Act of 1969.

  
Cleveland J. Cowles, Ph.D.  
Regional Supervisor, Office of Leasing and Environment  
Alaska OCS Region

  
Date

Copies of the EA on the *Shell Gulf of Mexico, Inc., 2010 Exploration Drilling Program, Burger, Crackerjack, and SW Shoebill Prospects, Chukchi Sea Outer Continental Shelf, Alaska* can be obtained by request to Minerals Management Service, Alaska OCS Region, 3801 Centerpoint Drive, Suite 500, Anchorage, AK 99503-5823 or 1-800-764-2627. The EA can be viewed at MMS' website <http://www.mms.gov/alaska>.

Attachment: Environmental Assessment, Shell Gulf of Mexico, Inc., 2010 Exploration Drilling Program, Burger, Crackerjack, and SW Shoebill Prospects, Chukchi Sea Outer Continental Shelf, Alaska, Chukchi Sea OCS Leases OCS-Y-2280, OCS-Y-2267, OCS-Y-2321, OCS-Y-2111, and OCS-Y-2142. OCS EIA/EA MMS 2009-061.