

**OCS Scientific Committee Meeting  
May 10 – 12, 2006  
Hotel MarMonte  
Santa Barbara, California**

[Official Proceedings](#)

- Wednesday
  - [Agenda](#)
  - Presentations
    - › MMS Director's Welcome – [Mr. Greg Gould](#)
    - › Pacific OCS Region Update – [Ms. Ellen Aronson](#)
    - › The Energy Policy Act of 2005 – [Ms. Maureen Bornholdt](#)
    - › MMS's Data Management and Requirements – [Dr. Mary Boatman](#)
    - › Impacts of Hurricanes Katrina and Rita to the MMS Gulf of Mexico Region – [Mr. Joe Christopher](#)
  
    - › Highlights of the MMS ESP – [Dr. James Kendall](#)
    - › The National Ocean Research Priorities Plan – [Dr. Duane Gill](#)
  - [Transcripts Outline](#)
  
- Thursday
  - [Agenda](#)
  
- Friday
  - [Agenda](#)
  - Discipline Subcommittee Presentations
    - › [Biology and Ecology](#)
    - › [Physical Oceanography](#)
    - › [Social Sciences](#)
    - › [Renewable Energy & Alternative Use](#)
  - [Transcripts Outline](#)
  
- [Acronyms](#)

Transcripts are available upon request. Please go to Transcripts outline and request which pages you would like to receive. Please e-mail your request to [EnvironmentalStudiesProgram2@BOEMRE.gov](mailto:EnvironmentalStudiesProgram2@BOEMRE.gov).

[Meeting Summary](#)

**Supporting Materials**

- [Committee Members](#)
- [Retiring Members](#)
- [MMS Speakers](#)
- [Other Participants](#)
- [Attendees](#)
- [Federal Register Notice](#)
- [Charter](#)

- [Discipline Breakout Groups and Subcommittees](#)

# OFFICIAL PROCEEDINGS

**Wednesday, May 10, 2006**

## **Introduction**

The Outer Continental Shelf (OCS) Scientific Committee (SC) is chartered under the Federal Advisory Committee Act (FACA) to advise the Minerals Management Service (MMS) on the feasibility, appropriateness, and scientific value of the MMS Environmental Studies Program (ESP). Its May 2006 meeting was called to order by Dr. Lynda Shapiro, Chair of the SC.

Dr. Shapiro announced that this would be her last meeting on the SC and thanked the members, MMS staff, and regional staff for their hard work.

She explained that the SC has evolved in terms of formatting its meetings which appears to be working very well. She explained to the new members and the audience that the SC meets in plenary session on the first day and, on the second day, it breaks into Discipline Breakout Groups and meets with the regions' staff to discuss planned future programs since the SC can have the best impact by working with the regions prior to the beginning of a program so that suggested changes may be put into effect.

On the last day, the SC meets in plenary session for presentations and discussions relating to the Discipline Breakout Groups' sessions, to discuss topics for the Letter to the Director, and to identify emerging issues.

Dr. James Kendall, Executive Secretary to the SC and Environmental Sciences Branch Chief, presented members with various books containing manuscripts, peer review literature, and reports that MMS staff has had published relating the ESP.

Dr. Shapiro then handed the meeting over to Vice Chair Dr. Robert Diaz.

## **MMS Director's Welcome, Presentation, and Discussion**

*Presentation by Mr. Greg Gould*

Dr. Diaz introduced Mr. Greg Gould who was representing the MMS Director, Ms. Johnnie Burton.

Mr. Gould explained that in addition to being the Director, Ms. Burton is also acting Assistant Secretary for Lands and Minerals Management and that she was unable to attend the meeting due to her schedule. Mr. Tom Readinger, Associate Director for Offshore Minerals Management, who would normally be addressing the SC in her stead, will be retiring in June and also had prior commitments. He stated that the SC's work is critical to the success of the ESP and MMS and welcomed members to Santa Barbara.

**Gulf of Mexico OCS Region.** Mr. Gould stated that the 2005 hurricane season brought 27 named storms, 15 of which became hurricanes, and was the first year that three Category-5 hurricanes hit the Gulf of Mexico. In addition, the 2005 season was the first time four major hurricanes hit the U.S. in one season. As a result, over 30,000 offshore workers in the Gulf of Mexico were evacuated and the 4,000 structures in the Gulf prepared for hurricanes many times.

Fortunately, he reported, there was no loss of life or injuries to offshore workers at any OCS facility and there were no fires, damages, or major pollution events caused by process equipment failure during the storm.

The MMS office, located in Metairie, was not destroyed, but it did suffer enough damage to close the building for several months. Therefore, the decision was made to temporarily move some essential managers and staff from the Gulf of Mexico regional office in New Orleans to Houston, Texas, in September. In late October, all employees originally in the Elmwood office building reported to three locations: two in the New Orleans area and one in Houston. On April 3<sup>rd</sup>, the MMS staff that moved to Houston relocated back to the New Orleans area.

Hurricane Katrina had a peak shut-in of 94 percent of gas production. As of today, 78 percent of the oil and 87 percent of the natural gas has been restored. Mr. Joe Christopher, who is the Gulf of Mexico's Regional Supervisor for Leasing Environment, would be discussing the effects of Hurricanes Katrina and Rita on production, infrastructure, leasing, and the ESP in more detail during his presentation.

In addition to MMS's continued responsibilities pertaining to OCS oil and gas and marine minerals, it will now be looking to the community for guidance on studies regarding renewable energy and alternative uses of the OCS. He reported that the Energy Policy Act (EPAAct) was enacted in August of last year which gave the Secretary of the Interior authority to grant access for renewable energy-related uses on the Federal OCS. The Secretary named MMS as the lead agency for coordinating the permitting process with other federal agencies and monitor and regulate those facilities used for renewable energy production.

The Act also directed MMS to complete a comprehensive inventory of the undiscovered recoverable oil and gas resources on the OCS. MMS has completed this inventory and estimates that there are 115.4 billion barrels (Bbbl) of oil and 633.7 trillion cubic feet (Tcf) of gas to be discovered on the OCS.

The largest task of the EPAAct gave MMS responsibility for regulating renewable energy and alternative uses on the OCS. MMS has begun the process of writing regulations in addition to working on two wind farm proposals that were grandfathered into the MMS.

He introduced Ms. Maureen Bornholdt, the Program Manager for the Renewable Energy and Alternative Use team, who would discuss the Act and the current status of the regulations, proposals, and environmental studies in her presentation.

Recognizing the importance of the oceans, coasts, and Great Lakes in the United States, Congress enacted the Oceans Act of 2000 which created the U.S. Commission on Ocean Policy.

On September 20 2004, the Commission fulfilled its mandate to submit recommendations for coordinated and comprehensive national ocean policy to the President and Congress.

The Commission's report and ocean blueprint for the 21<sup>st</sup> century contains 212 recommendations which address all aspects of ocean and coastal policy, including resource protection, transportation, ocean resource use, science, education, mapping, and other topics.

On December 17, 2004, in order to meet the challenges raised by the Commission, the President issued an executive order creating a cabinet-level committee on ocean policy to coordinate the activities of the executive branch departments and agencies regarding ocean-related matters in an integrated and effective manner. Simultaneous to this executive order, the President submitted to Congress the U.S. Ocean Action Plan response to the Commission.

To implement the President's U.S. Ocean Action Plan, the Administration created the ocean governance structure that coordinates through several new as well as existing ocean-related committees and subcommittees.

Within this structure, both the department and the MMS are represented at various levels:

- the Secretary of the Interior is a member of the Committee on Ocean Policy;
- the Assistant Deputy Secretary is a member on the Interagency Committee on Ocean Science and Resource Management Integration (ICOSRMI);
- MMS and the U.S. Geological Survey (USGS) are members of the Joint Subcommittee on Ocean Science and Technology (JSOST);
- MMS is a member of the Subcommittee on Integrated Management in Ocean Resources (SIMOR);
- MMS management and staff are directly involved in a number of interagency work groups and task forces related to these committees; and
- one of MMS's current responsibilities includes working on the development of the Ocean Research Priorities Plan and Implementation Strategy (ORPPIS).

Mr. Gould stated that the current 5-year leasing program expires on June 30, 2007, so in early August of 2005, MMS began developing the 5-year leasing program for 2007 to 2012. He explained that before the Secretary of Interior can approve a new leasing program, a lengthy, multi-step process of consultation with interested and affected parties is conducted along with an analysis of all 26 planning areas.

The first document issued in the process is the draft proposed program. Due to the public comments received from state and local representatives, MMS decided to include areas for leasing that have not been offered in many years. These areas include an area off of Virginia and in the North Aleutian Basin in the Bering Sea off the coast of Alaska.

He reported that the 5-year Environmental Impact Statement (EIS) will address the issue of climate change for the first time using available research to assess potential results of climate change on accumulative analysis. He said that impacts of climate change are already being observed in Alaska and the analysis will consider potential impacts on marine mammals and subsistence lifestyles. The MMS is also examining the impacts of rising global temperatures on coastal habitats in the Gulf of Mexico that would be flooded by rising sea levels in response to ice melting.

In the EIS, as suggested by the Ocean Commission and supported under the U.S. Ocean Action Plan, MMS is introducing a regional ecosystem-based management approach for describing and analyzing the environment. This is being done at the "scales" appropriate for a national, programmatic EIS. For example, the Gulf of Mexico OCS spans a subtropical/tropical environment unbroken by any continental barriers, so analysis and descriptions are for the entire region. The Alaska OCS, however, can be divided into three areas based on ecological climate zones and by the natural divisions created by the Alaska land masses: 1) the Arctic, 2) the Bering, and 3) the South Alaska subareas.

Mr. Gould thanked the SC for its hard work and dedication, time, insights, and advice in working to fine-tune the studies plans which helps MMS make better decisions about its current and future research.

### ***Open Discussion***

Dr. Michael Rex asked Mr. Gould if leasing for the new alternative sources of energy included in the energy bill would happen in the same kind of way as for petroleum resources. Mr. Gould responded that that is currently being worked on and that Ms. Bornholdt would be discussing the subject during her presentation.

Dr. Michael Fry noticed that neither Mr. Gould nor Director Burton, when giving her presentation last year to the SC, had mentioned sand and beach nourishment in their presentations and asked where this program currently stands. Ms. Bornholdt responded that MMS has recently been given the responsibility of another new program, the Coastal Impact Assistant Program (CIAP). This program has identified six states (Alabama, Alaska, California, Louisiana, Mississippi, and Texas) to receive \$250 million each fiscal year (FY) 2007 through 2010. These funds will be allocated based upon the proportion of qualified revenues derived from OCS activities offshore the individual state. Therefore, MMS is examining the existing structure of the Leasing Division in order to move the marine minerals stewardship to the regions that house these CIAP states. Mr. Gould added that these states will dictate what projects will be funded and the MMS is going to work with them on approving their plan.

### **Pacific OCS Region Update**

*Presentation by Ms. Ellen Aronson*

Ms. Aronson explained that the Pacific OCS Region is comprised of about 50 staff since being downsized approximately 3 years ago due to the expectation that there would be no development of the 36 leases in offshore Central California or the Northern Point Conception.

The Pacific OCS currently oversees the drilling and production on existing leases of which there are 43; the current priorities in the region are safety and enforcement associated with production from these leases, coordination with the State and other stakeholders regarding OCS Lands Act (OCSLA)-associated proposals and activities, multiple-use management, and EPAct implementation.

Ms. Aronson then provided a visual overview (PowerPoint) of the majority of producing leases offshore California.

She then explained the Region's safety and enforcement program. The Region had recently undergone a reorganization of the field inspection/enforcement function, consolidating two district offices into a single California District, which co-located with the Region in Camarillo.

There are advantages of co-locating the district with the Region:

- MMS can use its engineers, environmental scientists, and geologists more effectively in the management of the producing leases;
- the environmental liaison program, established several years ago to ensure that the environmental aspects of platform operations are carefully reviewed on an ongoing basis and on-board the facilities as appropriate, operates more efficiently with immediate and ongoing access to field inspectors and engineers (District Office functions); and
- MMS has a strong partnership with the County of Santa Barbara which keeps careful track of the inspections and enforcing programs; the management of functions in the field by a single District Manager ensures that the County will have consistent and timely information regarding the offshore operations.

She reported that the Pacific OCS Region has been contributing to the Nation's energy supplies since 1968 with a cumulative production of about 1 Bbbl of oil and 1 Tcf of gas. Current production is at 78,000 Bbbl of oil and 159 million cubic feet of gas.

Decommissioning in the Pacific OCS Region, once thought to be imminent, has been delayed as the price of oil has increased; operators are continuing operations and investing in additional wells and technologies to continue production from these leases.

In the area of innovative recovery efforts, there is a lot being done in extended-reach drilling. ExxonMobil plans to drill a well that will be the longest extended-reach well in the U.S. reaching about five and a half miles. With extended-reach drilling, ExxonMobil, with extended-reach wells, has been able to produce one of the reservoirs in the Santa Ynez Unit without an additional platform.

There are two federal/state developments that are in the planning stages by the operators. North of Point Conception (Tranquillon Ridge field), PXP is working on a proposal to produce reserves primarily underlying State tidelands from their existing Federal Platform Irene. In the Santa Barbara Channel (Carpinteria field), Pacific Offshore Operators has proposed producing State leases from existing Federal Platform Hogan. Effecting production of State tidelands from Federal platforms involves considerable coordination between MMS and the State and a number of formal agreements associated with operations, inspections, etc.

There are also a number of multiple-use management issues in which the Pacific OCS Region is involved. There are somewhere between two and four Liquefied Natural Gas (LNG) ports that have been discussed. The Cabrillo Port is a deepwater LNG port proposed for construction offshore southern California; the Region is working with the U.S. Coast Guard as a partner in looking at the environmental issues associated with the placement of that port and with respect to the issuance of a pipeline right-of-way. Clearwater Port LNG facility proposal involves an existing Federal platform that is currently idle; the LNG operation would preclude the use of this platform for OCSLA oil and gas operations.

She discussed continuing work being made to the marine minerals program and said the Region is working closely with the State on a potential sand proposal offshore northern California.

Aquaculture is still a possibility. That was a proposal that was discussed on Platform Grace which is idled. A pilot project had been proposed a few years ago, however, it has been replaced with the LNG facility proposal. [This proposal, in the interim between the meeting and today, is no longer under consideration by the Federal oil and gas lessee or Hubbs Sea World Research Institute (HSWRI), which had proposed the marine aquaculture activity.]

In regards to the issue of renewable energy, there is a lot of interest in California and Oregon regarding wave and current energy; therefore, the Region would be involved in those proposals.

The Region has also been very involved in the area of education, with curriculum development, internships, classroom presentations, teacher workshops, educational events, collaborative partnerships, and field trips.

Examples include:

- "Tidepool Math," a K-12 curriculum that teaches basic math and science principles using tidepools as the learning platform;
- "Watts it to You" is a 9<sup>th</sup>-12<sup>th</sup> grade curriculum and provides a role-play where students discuss, debate, and develop a regional energy plan, exploring renewable and nonrenewable energy resources and the mix in a community in an effort to make the community energy self-sufficient;
- working with the Santa Barbara Community Environmental Council through sponsoring energy education workshops with the National Energy Education Development Program; and,
- in the area of studies, MMS is a partner in the Multi Agency Rocky Intertidal Network (MARINe), which monitors the health of the intertidal zone in areas near oil and gas operations.

The Region is also involved in partnerships with academic institutions, other federal and state agencies, and organizations. Dr. Fred Piltz and Dr. Ann Bull represent the MMS on the Channel Islands National Marine Sanctuary Advisory Committee, and Dave Panzer sits on the Scientific Advisory Committee of the Southern California Ocean Observing System Coordinating Organization.

The Region's environmental studies program emphasizes two main areas:

- monitoring regional context for oil and gas operations; and
- the ecological role of oil and gas platforms offshore southern California.

The high visibility of MMS in regulating the oil and gas industry requires an understanding of the regional environment and the changes that are occurring there in relationship to potential environmental effects of oil and gas offshore California. In addition, the precarious status of any fish populations that occur along California's coast requires that MMS understand the valuable role that offshore oil and gas platforms play in recruiting and harboring fish populations.

### ***Open Discussion***

Dr. Michael Castellini stated that past sessions of Discipline Breakout Groups focused on decommissioning and was wondering whether the Pacific OCS Region was going to shut down. Ms. Aronson responded that the Region is not expected to close, though the reorganization of the Region and the associated downsizing is associated with the current opinion that development of the undeveloped leases will not be pursued. This situation, the litigation associated with the undeveloped leases, had resulted in a significant dampener on the way the OCS program is perceived here. This is in combination with an already adversarial environment in the region regarding offshore oil and gas leasing. There has not been leasing within the past 20 years, and she feels once the issue of whether or not there is going to be additional development on the undeveloped leases offshore California is finally put to rest and concerns regarding the prospect of future leasing or development of areas outside the currently producing area are effectively addressed, the Region can settle in to the work before them: attending to operations on the existing producing leases, working with the State on Federal/State development proposals (from existing Federal platforms), addressing marine mineral extraction proposals, working toward implementation of EAct alternative energy/alternate use provisions in the Region.

Dr. Eugene Shimm asked if the Pacific OCS Region or the National Oceanic and Atmospheric Administration (NOAA) are involved in the issue of marine mammals and seismic surveys. Ms. Aronson emphasized that the Region is involved in the national discussion regarding this issue. She said concerns do exist in the Pacific Region with respect to seismic activity; however, there had been some important work done a number of years ago through the High Energy Seismic Survey (HESS) team, which was a cooperative effort involving agencies, interest groups, and academicians to look at seismic survey issues and regulatory requirements in southern California. The team was highly successful in the development of measures to protect the marine mammals. The concerns with seismic surveys were primarily associated with deep seismic work associated with exploration; however, the Region has used the protocol and measures developed by the HESS team for pipeline projects and will continue to do so.

Dr. Fry mentioned the buy-back leases and asked if the entire Santa Maria Basin leases are being bought back by the MMS and does that mean those areas will no longer be considered. Ms. Aronson replied that there is a possibility those leases may be bought back and, if so, there won't be development of those areas, a major part of the Santa

Maria Basin, other than the few existing, developed leases. The undeveloped leases are the subject of several lawsuits, including one filed by the lessees arguing breach of contract and demanding that the leases be bought back.

Dr. Joe Smith asked Ms. Aronson for additional information on the partnership between the Coast Guard and the MMS on these facilities. Ms. Aronson replied that the Coast Guard is the permitting agency on deepwater ports and that since the MMS has a lot of environmental information in that area, the Region has been involved in providing environmental review and guidance. In addition, the MMS is going to be responsible for the issuance of the pipeline rights-of-way associated with these deepwater ports.

Dr. Duane Gill asked whether or not there is anything in the works for using platforms as part of the Renewable Energy Program that develops in the future. Ms. Aronson said there are no active proposals on the table (HSWRI had proposed using idled Platform Grace as a marine mariculture facility), but feels that as the Alternative Energy and Alternate Use program (under the Energy Policy Act) develops, there may be some interest in alternate use of platforms.

Dr. Fry asked if there has been meteorological monitoring on platforms to look at potential wind. Dr. Piltz responded that he is aware that one or several of the platforms have been instrumented for meteorological purposes, but not with regard to renewable energy. Primarily, it was because of physical oceanography studies.

Dr. Rex asked if leases have a term or are they issued in perpetuity. Ms. Aronson said that the producing leases are in existence for the life of production. He then asked what if production stops for a period of time because of the market and then might become initiated later. Ms. Aronson explained that as long as there is production from a unit, the unit is held and decommissioning isn't required. But when the unit stops producing, a decommissioning plan has to be submitted within 1 year of that cessation of production. There are two platforms that are currently not producing – Platform Grace and Platform Eureka – and with these changes in oil prices, it is likely there may be a change in the status of those with respect to production.

Dr. Smith asked, in regards to leases that cannot be developed because of the moratorium, whether or not there is a time limit where the operator would lose the lease. Ms. Aronson explained that the moratorium prohibits issuing new leases but has no effect on existing leases.

Dr. Fry said that some Santa Maria leases that had never entered into production were sold 15 years ago and asked if the developer has any legal obligations to develop those leases. Ms. Aronson replied that the leases have been continued by what is known as “suspensions.” Prior to 1999, the lessees received suspensions for the leases based on efforts underway to bring the leases into production. In 2001, the leases were suspended under direction of MMS to provide for the resolution of matters under litigation. The litigation continues.

Dr. Diaz wondered whether or not the law suit dealing with the developer of the Maneo leases off North Carolina has been settled. Mr. Gould replied that the suit was settled about 10 years ago, and the Government did buy back those leases. Mr. Paul Stang added that the companies who sued for buy-backs in the Bering Sea had won their suits; however, the terms of the settlement were not disclosed.

## **[The Energy Act of 2005](#)**

*Presentation by Ms. Maureen Bornholdt*

President Bush signed the EAct on August 8, 2005, which contained numerous provisions associated with the offshore resource management of the OCS. Ms. Bornholdt focused on Section 388, which granted the Department of the Interior (DOI) new authority to regulate offshore renewable energy and alternate uses of the OCS. The DOI then designated MMS as the lead agency whose responsibility will be to regulate projects from construction to operation, to decommissioning, and to removal. With this designation previously under the OCSLA, it gives the MMS an advantage to developing its program. The main initiatives contained in Section 388 are to 1) create a new regulatory process; 2) develop a consultation and coordination process; and 3) create a comprehensive mapping tool.

In the many years that it took to finally enact renewable energy and alternative use authority, there was concern about the specifics in the program. The program directives authorize development of a regulatory regime that:

- ensures consultation with States and other stakeholders,



- grants leases, easement, and/or right-of ways,
- enforces regulatory compliance,
- requires financial surety, and
- provides fair return to the Nation.

Section 388 also noted what it did not do:

- supersede or modify existing Federal authority,
- authorize any oil and gas activities in moratoria areas (Congressional moratoria and administrative withdrawals remain in effect), and
- apply to areas designated as National Marine Sanctuaries, National Parks, National Wildlife Refuges, or any National Monuments.

Actions that MMS need to do include:

- develop a regulatory program that integrates “new” uses with existing uses of offshore resources and
- manage two existing projects (1) Cape Wind, that is offshore Massachusetts in Nantucket Sound, and (2) Long Island Power Authority’s offshore windfarm off of Jones Beach in Long Island, New York.

She continued that when developing a program framework, program premises include entering into meaningful dialogue with stakeholders, creating a new regulatory process, focusing on “regulator” role, and using sound science, engineering, and environmental protection principles.

The MMS Action Plan is to:

- Prepare a Programmatic EIS. She explained that the Programmatic EIS is not going to be like the usual Programmatic EIS for the 5-year program since the types of renewable projects are unknown. MMS will be analyzing the five known projects which are wind, current, wave, solar, and hydrogen; however, there may be additional projects. The Programmatic EIS also will be generic (evaluating and understanding the interface between the human, the coastal marine environment, and technologies) in order for a foundation to be built, establish some best management practices, determine conditions, and stipulations that can be used no matter what kind of environment. These steps will lead to more specific EIS’s, or eventually Environmental Assessments, to a lease sale, perhaps to a project.
- Develop a regulatory program for offshore renewable energy and alternate use projects.
- Develop a strategic studies plan for offshore renewable energy and alternate uses.

Ms. Bornholdt told the SC that in February 2006, MMS received public comments for drafting an Advanced Notice of Proposed Rulemaking and that about 150 comments and about 60 questions covering major components of the program, from access to regulatory, environmental regulation and compliance, operation regulation, fiscal structures, and consultation and coordination, were received.

She announced that scoping meetings would begin on May 18 in the Washington D.C. area. Other scoping meetings planned are:

- June 23 through 25, in Trenton, New Jersey, Boston, Massachusetts, and Long Island, New York,
- June 6, in Atlanta, Georgia,
- June 8, in Orlando, Florida,
- June 23, Gulf of Mexico in Austin, Texas,
- June 25, Long Beach, California, and
- June 6-8, Portland, Oregon, and San Francisco, California.

### **MMS Goals**

For June 2006, the goal is to award a synthesis study that will assess the current state of knowledge regarding renewable energy/alternate use activities.

FY 2006:

- identify planned and ongoing research associated with renewable energy/alternate use projects (e.g., Cape Wind, Long Island Power Authority) to avoid duplicative MMS efforts and

- look for study efforts of other Federal/State agencies and Non-Government Organizations (NGO) to identify opportunities to collaborate and co-fund (e.g., Massachusetts Audubon study).

Winter 2006-2007:

- to publish draft regulation and open comment period;
- file draft Programmatic EIS; and
- hold public hearings.

Summer 2007:

- file the final Programmatic EIS and
- convene a workshop in June to discuss issues and identify data gaps (based on the June 2006 synthesis study) to assist in forming the basis for a strategic studies plan.

Summer/Fall 2007 target is to present the strategic studies plan to be integrated into FY 2008 MMS ESP for the SC's review.

Fall 2007:

- publish final regulations;
- publish Record of Decision; and
- hold public workshops.

She stated that Cape Wind Associates, LLC, proposes to construct a wind park in Nantucket Sound, Massachusetts, about 4.7 miles offshore. The proposal consists of 130 wind turbine generators and could produce up to 454 megawatts of electricity. MMS will prepare an EIS to evaluate the project's impact from construction through decommission and scoping for the MMS EIS will begin shortly.

The other project is the Long Island Power Authority and the developer, Florida Power Light, proposes to build an offshore wind park about 4 miles off the south shore of Long Island, New York. This particular proposal is for about only 40 wind turbines for about 140 megawatts and will be used in the local community. MMS will prepare an EIS to evaluate the project's impact from construction through decommission; scoping is planned for late Spring 2006.

### **Consultation and Coordination**

Critical given the growing number of ocean uses:

- Aquaculture
- Commercial & recreational activities
- Disposal sites
- Marine parks & sanctuaries
- Military restricted areas
- Natural gas import facilities
- Oil & gas development
- Renewable energy projects
- Scientific research
- Shipping
- Subsea communication
- Wetlands & coastal protection

With all of these offshore activities, it is becoming a very crowded place and trying to work with all of these users and the permitting agencies, there is a potential for generating conflicts.

The MMS is coordinating the establishment of a Multipurpose Marine Cadastre that will make its mission, and that of other OCS stakeholders, much easier and will help assuage or at least minimize conflicts. The purpose of the cadastre is to establish a physical, social, and political map of the OCS to show what resources are in the OCS, who claims those resources, who needs them, what restrictions affect them, and who has responsibility for each acre. This tool will be used to develop the Programmatic EIS. The MMS's Mapping and Boundary Branch will coordinate the development and implementation of the Multipurpose Marine Cadastre with input from other agencies such as NOAA and the U.S. Fish and Wildlife Service. MMS plans are ongoing to have the Multipurpose Marine Cadastre available online.

Ms. Bornholdt pointed out that there are a lot of opportunities in coordinating the Multipurpose Marine Cadastre such as:

- opening the OCS to renewable energy possibilities;
- building partnerships with new stakeholders;
- expanding our offshore expertise and scientific knowledge; and
- balancing multiple uses on the OCS to diversify the Nation's domestic energy portfolio.

### ***Open Discussion***

Dr. Shapiro asked if these new responsibilities are going to be accompanied by new dollars or are these programs going to come at the expense of other programs? Ms. Bornholdt replied that it will be a little bit of both. MMS did not expect to get this authority early in 2006, so there was a scramble. New dollars were received which enabled the hiring of people to do the studies and to execute MMS's responsibilities in developing this program.

Dr. Shapiro asked if anyone has come up with an estimate of what the potential energy is available and how this would compare with oil and gas. Ms. Bornholdt responded that an estimate has been determined but was unable to recite the numbers. She said that the Department of Energy (DOE) has on its website estimates with regard to wind and wave with the wind estimate being fairly accurate. The wave tidal current is still really neophyte since there haven't been many tests. She continued that when the National Energy Policy Report came out early in the Bush Administration, the target was 20 percent.

Dr. Gill asked, in regard to the marine cadastre, what role, if any, does the DOE have and asked for more clarification. Ms. Bornholdt said that she was not overly familiar with what the mapping group does but believes it is the Department of Commerce, the Coast Guard, and the Department of Defense, which does not mean or limit them from working with the group as they move forward since they are already working with MMS on renewable energy. In fact, one of the things that will be done with scoping is have a Natural Resource Ecology Laboratory (NREL) person who is going to help with the introduction of scoping describing to the public the renewable energy projects and the technologies that are available.

Dr. Rex said that a lease is a piece of seafloor and if an EIS is done, it has to be with respect to some particular kind of disturbance, such as windmill versus solar. He asked if the MMS is anticipating multiple uses for a lease. Ms. Bornholdt answered that MMS is looking at whether a lease, an easement, or a right-of-way is used, that would be for a specific purpose.

Dr. Smith asked whether or not the operators of the Cape Wind Project are going to be obligated to pay for the privilege of setting up their facility. Ms. Bornholdt replied absolutely – when President Bush signed the EAct, that changed things for Cape Wind. If the EAct had not been signed and if Cape Wind were able to move ahead with its Corps of Engineers Section 10 Rivers and Harbors Act Permit, there would not have been that obligation. But now that the EAct is signed and the OCSLA is amended, they will have to pay some sort of rent and royalty.

Dr. Smith remarked that, looking back over the history of oil and gas, there are areas that have had both a production and leasing program where energy and revenue were derived from the federal government for the leasing program, and there are other areas where this has not been as productive, not primarily because of the lack of resources, but because of public acceptance was not achieved for the facilities that were needed. He suggested that, as the Alternative Energy Program goes forward, take advantage of the lessons that have been learned from the oil and gas sector - that public acceptance of these facilities needs to be secured. There are already signs that there is going to be problems of acceptance of these facilities in some places; therefore, the overall program needs to pay a lot of attention to what is needed to get local communities to accept the presence of these facilities. Ms. Bornholdt agreed and announced that stakeholders' meetings, including regional, federal, and state government, NGOs in the region, and the public are scheduled for August and September 2006. Afterwards, it will be determined whether there is a follow-on that needs to be done, whether that follow-on could be a regional technical working group or some sort of FACA committee or the state wants more of a dialogue. She added that the OCS Policy Committee has a Subcommittee on Alternative Use which will explain issues from the state level, identify NGOs, and the affected public. Dr. Fry said that with the signing of the EAct, did that give MMS the ability to review and oversee the environmental studies at Cape Wind. Ms. Bornholdt answered that it did and that Dr. Rodney Cluck, who is the project manager, and his team have been working with Cape Wind. MMS has electrical and structural engineers reviewing Cape Wind's application to determine if it is acceptable.

Dr. Fry stated that prior to Exxon Valdez, the only information was that of the Hazardous Materials Simulated Environmental Test Tank Program for MMS in Alaska and without that data, the trustees would have been completely unable to prepare a case against Exxon. Therefore, he encouraged MMS to get involved with NREL's program, the National Wind Coordinating Committee in Washington, which is holding a workshop in November to talk about offshore wind.

He then asked if MMS foresees a possibility of co-locating or working with the Sand and Gravel Program for some of these offshore wind facilities to avoid conflicts. Ms. Bornholdt replied that the new responsibilities handed down in the EAct have been compared with MMS's existing structure and could result in a conflict. Mr. Barry Drucker, Program Manager of the Sand and Gravel Program, will be working closely with the Renewable Energy Program and, although it will not be easy, at least there are resources at hand to aid in making those types of decisions.

Dr. Castellini asked Ms. Bornholdt to imagine what her PowerPoint presentation would be in 3 years to the SC. The SC is charged with environmental impact, essentially, and its scientific perceptions along those lines. From the five predicted areas (wind, current, solar, wave, and hydrogen), the SC has the expertise to talk about the placement of platforms, impact to local benthic communities, and disturbance to the sand base. He asked how is the SC going to be dealing with these issues 3 years from now. Ms. Bornholdt said that she does not know the kinds of issues MMS will be facing until they occur. She added that these strategic studies plans are dynamic and are not set in stone, so what may be seen as a forecast for 2008 and 2009, may be in gathering and doing this Programmatic EIS. She agreed that it is going to be a challenge; however, it is in being flexible and understanding that whatever occurs with the strategic studies plan for renewables has to be evolution. It cannot be stuck or cast in concrete since it is unknown what renewable technologies could be employed.

Dr. Smith commented that he is in agreement that there is going to be environmental consequences that are not understood yet of extracting energy from these sources. He said that no one knows what the consequences may be, but there will be side effects if an energy is extracted from natural systems on the scale needed to develop alternative energy sources. Extracting energy from ocean currents may not have the consequence of global climate change, but there will be other consequences that will need to be addressed.

Dr. Rex said it is going to be difficult to evaluate the impact of fisheries when extracting offshore energy since it involves equipment on the OCS and that no one knows the environmental circumstances under which they will recover, or if they will ever recover. He asked if fishing communities are being questioned to see what potential conflicts may occur. Ms. Bornholdt stated that is why MMS is initially starting out with the generic Programmatic EIS which casts those types of questions. It is known that there will probably be an impact of fish resources, but it is not known to what extent. Things will need to be taken slowly and deliberately from this Programmatic EIS to more project specific.

Dr. Rex stated that the entire ecosystem is so close to collapse now that he believes going ahead with this program ought to be tempered with the fact that any kind of intervention might be disastrous. Ms. Bornholdt responded that because the SC has worked with MMS's studies plans to identify areas of information, MMS is as informed as it can be and it can move slowly and conditionally. As an example, she referred to the evolution of the oil and gas program – there is knowledge and there is learning. No one envisioned the deepwater development of today back in 1985, but yet there was a framework that MMS could work from, and that is what is being envisioned here; build a template that can be flexible, that can address issues, and hopefully be able to look into the future working with the SC to help identify those things so there is no disaster.

Dr. John Trefry asked if anyone knew the percent of total U.S. energy that is from on-land wind. Ms. Bornholdt said it is small, but it is booming and the issues that it is causing would never have been thought about.

Mr. Drucker explained that a lot of these sites are on sand areas and when dealing with fisheries issues, MMS realizes that these shoals are very diverse relative to what fish inhabit different areas and that studies will be done prior to wind structures being sited. Ms. Bornholdt agreed and added that it is going to be a challenge which is why MMS will be talking with research centers, universities, the industry, affected states, and stakeholders.

Dr. Kendall commented that for the first time in history, the oceans have a voice in the White House and resource management is now considered equal with resource and ocean science. There have been new subcommittees and committees formed to look at resource management and to hold the science accountable for providing the information to do that management. These issues being raised by the SC need to be addressed and because of the work this committee has done, MMS is going to be recognized as a frontrunner.

Dr. Gill commented that it seems obvious that as the members of the SC rotate, this emerging renewable energy field needs to be taken into account when recommending new members.

## **Data Management Efforts**

*Presentation by Dr. Mary Boatman*

Dr. Boatman explained that the National Environmental Policy Act signed in 1969, requires consideration of environmental impacts and public input which is the decision-maker to not only move forward with an action, but also to know the environmental implications of that action. This decision-making document is the EIS. The OCSLA, as amended in 1979, requires collection of information which includes the economic impacts, impacts to society, impacts to communities, air quality, whales, dolphins, et cetera, which is the Statement of Work (SOW).

She continued that the ESP was initialized in 1978 and publications go back as far as 1974. MMS was created in 1982 as an agency from groups from the USGS and from Bureau of Lands Management (BLM). Therefore, the initial baseline studies that are in MMS records as being done through the studies program were actually done for BLM.

Dr. Boatman explained that environmental information needs that are incorporated into the SOW include:

- Data for physical oceanography which is collected raw data using current meters modeled by MMS contractors. The outputs of that model are entered into MMS's internal oil spill modeling systems.
- Raw data for biology which are taken from locations of chemosynthetic communities, topographic features, deepwater corals, etc., and needs to be protected. Also, life cycles of marine animals, such as turtles and their nests, are collected to study potential impacts from an oil spill.
- Economic modeling is done in terms of socioeconomics which entail economic indicators and census information.

MMS requires all collected raw data be submitted to the National Oceanographic Data Center (NODC) by the contractor.

Dr. Boatman said that the data is released at the end of the contract with the final report after it has gone through several levels of review, internal review, and often through a scientific review board. MMS also facilitates sharing between contractors and since the data is derived from federal funds, it is made available to the public.

## ***Open Discussion***

Dr. Shapiro asked, in regards to data sharing, if there is any requirement in large interdisciplinary programs that the data be made available within the program to other investigators at some timeline. Dr. Boatman replied that MMS encourages and facilitates internal meetings to share information. Dr. Kendall added it is strongly enforced that any collected data be immediately available to any researcher on the project.

Dr. Rex stated that he has always thought MMS has the most valuable resources, but it is not in a very organized and usable form since the final report to the contract does not include raw data. He encouraged MMS to develop its own national database to include raw data so that it can be used and manipulated and would truly be available to the public. He felt that this database needs to be professionally managed so people can access it in that way. Dr. Smith agreed with him and added that there should be a single repository for all of the data.

Dr. Shapiro also suggested that MMS retain the raw data to avoid having to go back and collect similar data where often data can be reused to answer a different question. Dr. Boatman agreed and explained that that had been done a couple of years ago. Dr. Alexis-Lugo Fernandez added that MMS is beginning to require the submission of the raw data to the NODC and that some reports now have the raw data attached in CD form. Dr. Shapiro suggested that MMS converse with the Long Term Ecological Research Sites who have very good data management programs for their sites since she feels it would be worthwhile to talk to them about how they archive data and how they maintain access to that data.

Dr. Piltz commented that in the OCS Pacific region there was one in-house study of birds surveys along the Ventura County coast where two MMS scientists collected, analyzed, and prepared the final report on the raw data and that the report is available. There is collected data on aerial surveys and boat surveys on marine mammal and seaward distribution beginning in the late to mid-late '70s and extending through the '80s. With regard to physical oceanography data, there is also some physical oceanography data in the office. Collected physical oceanography raw data is being used not only in regards to oil spill risk analysis but by researchers who look at larval recruitment to platforms and larval transport. It's fundamentally important to scientists who are investigating those phenomena have the best scientific information. He mentioned SCRIPPS Research Institute stating that it had acquired MMS's large physical oceanography project and that the raw data are archived and available on Scripps's website.

Dr. Trefry asked whether or not raw data sets generated at MMS are sediment chemistry and asked it was in any database. Mr. James Cimato replied that it has been sent to NODC but that it is difficult to retrieve and MMS does not have a single database for the sediment chemistry. However, he believes that the OCS Alaska and Pacific Regions would have something coupled together. Dr. Trefry explained that he is unable to find any MMS raw data. Mr. Dick Prentki said that as of about 1985, the OCS Alaska Region's raw data was available on floppy disks but now it is stored on CDs in the back of the report. He added that paper copies of the raw data are in the finished report. He also explained that the Science Review Boards for sediment work essentially have said that it doesn't want a corporate database; it wants the raw data in the back of the report for the sediment chemistry work so that both the methods and the quality control and the data can be reviewed at the same time. Ms. Mary Elaine Dunaway from the OCS Pacific region reported that she had gone back to the scientist who created the original raw data and was able to retrieve the information.

It was concluded at the end of this session that it would be a very good thing if MMS were to hold onto the data sets as well as submitting them to NODC and tracking that data in order to go back and re-mine it to answer other questions.

## **Impacts of Hurricanes Katrina and Rita to the MMS Gulf of Mexico Region**

*Presentation by Mr. Joseph Christopher*

Mr. Christopher stated that the Gulf of Mexico supplies 29 percent of the domestically-produced oil and 19 percent of the domestically-produced natural gas. The Gulf Coast region is very important to the Nation for its gate of entry for imports as well. He said that 60 percent of the crude oil imports come in to the country through the Gulf of Mexico and 47 percent of the Nation's refining capacity is located along the Gulf Coast.

The year 2005 brought 23 named storms to the Gulf of Mexico was a memorable year; yearly average total is about 10.

He said that within a 6-month period, eight hurricanes had entered the Gulf of Mexico and disrupted OCS production. Katrina and Rita came one after another which caused special problems. The MMS regional office suffered extreme damage which forced relocation of employees to locations around the country. There were 100 percent of oil production shut-in during the hurricanes, and 94 percent of natural gas production which is approximately 5 million barrels a day of oil and 10 billion cubic feet per day of gas.

He continued that over 90 percent of the manned platforms were evacuated, 85 percent were working rigs. There were 3,050 platforms in the path of the hurricanes, which represents 76 percent of the 4,000 total platforms in the Gulf. About 22,000 miles of pipelines were in the path of the hurricanes, which is 67 percent of the 33,000 total miles.

Statistical highs from Hurricane Katrina:

- 9.4 billion cubic feet of gas and 6 million barrels of oil shut-in,
- 660 manned platforms evacuated,
- 89 rigs evacuated,
- 44 platforms were destroyed,
- 21 more platforms with extensive damage,
- 4 rigs destroyed,
- 5 jackups extensively damaged,
- 7 semisubmersibles and jackup rigs were set adrift, and
- 255 pipelines had been reported damaged.

Statistical highs from Hurricane Rita:

- 8.6 billion cubic feet of gas, and 6 million barrels of oil shut-in,
- 754 manned platforms evacuated,
- 107 rigs evacuated,
- 69 platforms were destroyed,
- 32 platforms had extensive damage,
- 6 rigs were destroyed,
- 12 jackups were extensively damaged,
- 16 semisubmersibles and jackup rigs were set adrift, and
- 206 pipelines reported damage.

He reported that as of May 3<sup>rd</sup>, there are still 79 platforms unoccupied, the shut-in oil production is over 324,000 barrels per day, and the shut-in gas production is over 2 billion standard cubic feet per day. Mobile Offshore Drilling Units (MODU) stationkeeping was a big problem since they can drift for miles during a storm. With Hurricane Katrina, there were seven drilling rigs with total stationkeeping failure and four with anchor pattern breaks of the 14 drilling rigs in the storm's path. With Hurricane Rita, there were 13 drilling rigs set adrift, none with anchor pattern breaks, of the 16 drilling rigs in the storm's path.

He explained that MODU's are floating drilling rigs that are piloted to the drill site and then drill while floating on station. In the case of jackup rigs, the legs of the drilling rig, are jacked down to the seabed and ultimately lift the floating facility or vessel out of the water to provide a stable drilling platform. Jackup rigs are limited to relatively shallow water compared to MODU's and drill ships.

The American Petroleum Institute and MMS are addressing the problems with stationkeeping. The mooring systems' mooring lines are going to be increased, the wires and chains are going to be upgraded, and their reliability is going to be accelerated. Also, the anchors will be upgraded, maintenance and inspection will be improved along with the site planning and mooring analyses, and the monitoring capabilities for evacuated rigs will be improved.

Plans for the jackup rig stationkeeping are:

- establish new air gap standards,
- improve site assessment standards, and
- improve preloading operations, and add transponders to rigs for location monitoring when evacuated.

These improvements are a result of problems with air gaps which is the distance between the average level of the water and the bottom of the vessel once it is jacked up due to the rig not being jacked up high enough. Apparently, there was not enough attention given to the stability of the soils that the rig was being jacked down onto, so testing is being done so that when they are emplaced, they will be prepared for the stresses encountered by a hurricane.

He mentioned a few thoughts on these two storms:

- hurricanes hit more prolific and sensitive areas than the previous storms,
- damage exceeded that of all previous storms,
- these hurricanes came on heels of Hurricane Ivan the previous year, from which the oil and gas industry in the Gulf of Mexico had not fully recovered,
- MODU's adrift is an issue to be resolved,
- nearshore and onshore damage was widespread,
- time between storms stripped available resources necessary for normal recovery, and
- support bases were temporarily unable to fully support recovery operations

In response to these issues, MMS is putting money into some research efforts. One is modeling waves and currents produced by the two storms. Estimated cost, \$500,000 and the period of performance is 2006-2008 with a broad agency announcement. Another study is the post-hurricane assessment of sensitive habitats on the Flower Garden Banks vicinity with a performance period of 2006 with an estimated cost of \$3,000,000 which will be a sole-source procurement to PBS Ecological Sciences. The purpose of this study is to do a hard look at the Flower Garden Banks due to the damages caused by these hurricanes. Waves of 50 feet were reported during these and were within 60 feet of the surface to the National Marine Sanctuary where there were a lot of overturned coral heads, broken coral heads, and biota covered with sand.

Another study is a post hurricane assessment of OCS related infrastructure in communities in the Gulf with an estimate of \$225,000 with a co-op to Louisiana State University (LSU) and the period of performance of 2006-2008. MMS has an infrastructure fact book that looks at ports and facilities that support the OCS program and the capabilities of those facilities. This book is going to be updated and some things will be implemented relating to this project.

A study entitled "Spatial Restructuring and Fiscal Impacts in the Wake of Disaster: The Case of the Oil and Gas Industry Following Hurricanes Katrina and Rita" will look how employees of the gas industry have been affected, what kind of spatial shifts there are in employment, compare the OCS industry to other major industrial sectors, and what strategies oil and gas companies are going to use to recruit new and retain current employees. On the engineering side, the MMS Technology and Research Program is assessing and evaluating platform damage to make sure the engineering is up to what it needs to be and evaluating pipeline movement and damage. It is also looking at hindcast data for use by contractors doing hurricane assessments and assessing methods to eliminate hydrates in pipelines and risers during startups after hurricanes.

Mr. Christopher told the committee that 54 percent of the leases are now in 1,000 feet of water or greater and 28 percent of those are in ultra-deepwater, which is 5,000 feet and greater.

There were six new projects in FY 2005 and there are nine projects in FY 2007. He continued that that the Gulf of Mexico is expected to produce about 2 million barrels of oil per day in the next few years.

Some of the ultra-deep water studies for FY 2007 are:

- Deepwater Artificial Reef Effects II,
- Continued Investigations of Northern Gulf of Mexico Deepwater Hard Bottom Communities with Emphasis on Lophelia Coral, and
- Gulf of Mexico Integrated Deepwater Ecology synthesis.

The MMS has one LNG project online which came online in March 2005 in West Cameron which is the Gulf Gateway Energy Bridge and uses a submerged turret system. When the LNG ship pulls up to it, the turret comes up into the bottom of the ship and offloads its product. When the ship is not there, the turret is submerged 80 or 90 feet below so that it's not a hazard to navigation.



Other planned LNG projects in the Gulf of Mexico are:

- Gulf Landing,
- Compass Port,
- Main Pass Energy Hub,
- Beacon Port, and
- Bienville O/S energy Terminal.

He explained that these projects are in process. The Main Pass Energy Hub was vetoed by the governor of Louisiana because of the fact that they wanted to use an open-loop system that would use seawater to reheat the gas so it would come back into a gaseous state again. The draft EIS has been distributed for the Beacon Port and the draft EIS for Bienville Offshore Energy Terminal is being prepared. All of these projects are facing the same issue with the open-loop, closed-loop system.

### ***Open Discussion***

Dr. Shapiro asked what criteria are used to determine which way a study is awarded, i.e., cooperative agreement versus a broad Request for Proposal (RFP). Dr. Pat Roscigno explained the decision for a broad agency announcement gives MMS flexibility in getting contractors to start on a project fairly quickly. The broad agency announcement is the quickest way to get the information, RFP/SOW, out into the environment so it can be competed. In reference to the Flower Gardens, MMS has a longstanding cooperative agreement contract with PBS&J which is a company that does research for MMS at the Flower Gardens and there is ample justification to do that as a sole source. For LSU, it was recognized that there is expertise there to do the two social science studies, so they were contacted directly and two cooperative agreements were created to look at the infrastructure and the impact study. Mr. Cimato added that although Congress was to fund the studies dealing with hurricane effects, funds have not yet been received. However, MMS decided to go forward with them because of their importance and the fact that MMS has invested quite a bit of work on these issues. MMS was also informed that monies needed to be obligated and contracts awarded by April 2007.

Dr. Shinn asked why MMS is involved in studying the damages of the Flower Garden Banks since it is a national marine sanctuary and asked what exactly PBS&J is doing. Dr. Thomas Ahlfeld replied that MMS is a cosponsor along with the NOAA Marine Sanctuary Program and it is felt that the MMS still has responsibilities there since there is oil and gas development in that region. PBS&J has been doing the monitoring for the last 4 years, and the monitoring goes back to 1984 in a prescribed format with photo surveys. So it's a continuation of that type of work plus it's being extended to a couple other banks in the area besides the Flower Gardens.

Mr. Cimato asked about the Gulf Gateway turret buoy and whether it was a closed or open system. Mr. Christopher said that he believes it is a closed-loop system on the vessel and seawater is not used.

Dr. Gill asked if the money that Congress has promised is not delivered, what programs get cut and how is that decision made. Dr. Roscigno stated that, at this point, nothing will be cut. Mr. Cimato added that a couple of studies had been deferred which allows the hurricane studies to go forward and that he is very hopeful that the second supplemental from Congress will be granted which will take care of those deferred studies.

Dr. Shapiro commented that MMS should be upfront about what studies have been deferred in order to get the hurricane studies done so that the MMS is justified to ask for that money. Dr. Kendall said that Congress did give \$110,000 for hurricane studies and another \$1 million is expected. He added that MMS got \$1 million this year for the EPA activities, and next year there's a potential of a \$3.4 million increase to the studies program. Next year, the ESP may have a budget of \$21 million instead of \$17 million for new starts.

Dr. Smith commented that the LNG vessels used for submerged turret buoy type of LNG terminals have their own integrated vaporization systems that use seawater in a once through mode but are not open loop systems whereas the other terminals that are proposed for the Gulf of Mexico have the vaporization facilities on the terminals themselves and, in that situation, can consider using an open-loop system.

Dr. Rex said that he was very encouraged that there is talk about contemplating an ecosystem level or seascape level approach in the Gulf because this was proposed by the Deepwater Subcommittee which had advocated and had linked it, actually, to the database issue in order to critically write that that information needs to be consolidated.

Dr. Fry asked what Mexico does in the way of environmental studies since clearly they have the same issues. Dr. Lugo-Fernandez stated that MMS has funded the Mexican researchers to do current measurements in deep and ultra-deepwater in the Western Gulf of Mexico. A joint workshop is also planned to design integrated studies on both sides of the Gulf. He said that the Institute of Mexican Petroleum is developing their own infrastructure to do current measurements and perform ecological research. Dr. Ahlfeld added that, in addition, the Mexicans have been incorporated into the deepwater Gulf benthic study. On a number of cruises, scientists from Universidad Autónoma de Bucaramanga in Mexico participated and samples were retrieved from Mexican waters for an analysis of the deepest part of the Gulf.

Dr. Gill asked if the Gulf of Mexico region is encouraging institutions and organizations such as refineries and other oil and gas producing entities to look at their organization to try to be more resilient should they experience a severe hurricane, in particular, the LSU project. Mr. Christopher replied that the region is focusing internally on its continuation of operations plan so that it can react as a result of storms. He added that the region is interacting with industry on things such as joint industry projects to look primarily offshore. Since MMS has little to do with refineries, there is no involvement. Information is being provided to the ports. Ms. Asha Luthra added that the infrastructure update is mainly an update on how the infrastructure in the original fact book study has been affected by the hurricane; however, it does have a community aspect to it as well. Somewhere between six and ten communities that have a high concentration of OCS-related infrastructure and at-risk populations are being studied, so it is going to have an environmental justice component to the study, which is one thing that the original fact book study did not have. So, it is going to give an idea of what communities were most affected by the hurricane and that information can be used to do more specific community studies. Dr. Gill suggested that while it is important to look at how communities and infrastructure have been impacted by these events, there is a need to be forward-looking and how preparedness can be improved to prevent some of the more debilitating impacts by being more resilient such as having a reserve work force that can be called upon to come in the immediate aftermath of a disaster so that no production time is lost. Mr. Christopher said that was a very interesting point – that an MMS article was featured in the *Government Executive Magazine* explaining how the regional personnel responded to the storm.

Dr. Shinn commented that the Chinese apparently will be drilling for Cuba in ultra-deepwater and said there is a lot of concern since it is in the axis of the loop current and wondered what effect the Cuban drilling experience will do to the ESP, and whether or not MMS will be involved.

Dr. Tyler Priest said that industry has learned a lot in this last year from hurricanes and that practice documents are being drawn up for jackups and semisubmersibles, and tasked if the recommended practice documents will be incorporated into the MMS program and in what way.

Mr. Christopher mentioned that the Notice to Lessees that MMS send out will require the companies to follow the procedures as laid out. Basically, MMS summarizes the recommended practices document and tell them that they have to report on what they're doing along the lines of the items that are specified. Mr. Gould added that in OCSLA, there is a “best available safest technology” that can be used to incorporate many of these recommended practices that industry puts together; therefore, it is easy to incorporate those recommended practices if it's the best available and safest technology.

### **[Some Highlights of the MMS Environmental Studies Program and Our Goal for the Next Day-and-Half](#)**

*Presentation by Dr. James Kendall*

Dr. Kendall read the Mission Statement for MMS:

**“To manage the energy and mineral resources on the OCS in an environmentally sound and safe manner and to timely collect, verify, and distribute mineral revenues from Indian and Federal lands.”**

And the ESP Mission:

**“To provide the information needed to predict, assess, and manage impacts from offshore energy and marine mineral exploration, development, and production activities.”**

Dr. Kendall announced that for FY 2005, the ESP had about \$17 million:

- About fifty-three percent of that was devoted to the Gulf of Mexico considering all of the OCS activities occurring there.
- The remainder was split between the other offices: Alaska, Pacific, Headquarters and the Marine Minerals (sand and gravel) Program.

He stated with these resources they initiated approximately 25 new MMS projects and that a couple of additional projects were initiated by the USGS Biological Resources Discipline with \$2.5 million that USGS devotes to the offshore program.

Currently, there are more than 300 active studies being managed – not necessarily all science projects or studies; some of these funds are used to sponsor workshops and symposiums. The MMS also supports the OCEAN.US office, the Nation’s center for ocean observations as well as other activities affiliated with the National Ocean Partnership Program (NOPP).

He reported that for FY 2006, MMS has approximately \$17 million with about 47 percent available for new projects. He reminded the Committee that MMS has projects that go from 1 year to 5 years, and that they are not all paid for “upfront”. As such, fifty-three percent of the ESP budget is used for ongoing studies and 47 percent is available for new starts.

There is also \$2.5 million available from USGS via their Offshore Program and it is anticipated that MMS will receive some additional funding for “hurricane related” studies (\$110,000 to \$1.2 million). He reported that \$1 million for the Renewable Energy Studies was also received and as a result of all of this, approximately 28 new projects will be started this year.

Dr. Kendall stated that it has been a very busy year with the hurricanes and new responsibilities and authorities.

He reported that some of the ESP highlights include:

- MMS NOPP Related Activities
  - Chemo III which would be the third study on chemosynthetic communities.
  - Surface Circulation Radar Mapping in Alaska using coastal radar facilities to map currents.
  - A Marine Mammal Research Initiative.
  - The World War II Shipwreck Study which is a biological and archeological investigation of World War II shipwrecks in the deep Gulf of Mexico. This study was also given the DOI Cooperative Conservation Award by the Secretary of Interior since it involves universities, both domestic and international, NGOs, and industry.
  - An economic study completed in 2002 of the economic benefits to the private sector of the Integrated Ocean Observing System.
- Joint Industry Projects

He announced that the oceans now have a voice in the White House since President Bush responded to the Ocean Commission with the U.S. Ocean Action Plan (USOAP). This plan includes policy and resource management – not just science. As a result of this plan, the Committee on Ocean Policy was formed including a number of subordinate/supporting groups including:

- ICOSRMI,
- Ocean Research and Resources Advisory Panel,
- National Security Council Policy Coordination Committee – Global Environment,
- JSOST, and
- SIMOR.

The USOAP is focused around a core requirement that the Nation's investment in ocean science be fully integrated with ocean resource management.

He described the ORPPIS as one of JSOST's priorities which is a plan and implementation strategy for ocean science for the next decade and had to be submitted to the President by the end of December 2006. It explains what the U.S. needs to do in the next 10 ten years and one of the big deals it contains is using science to support resource management.

He added that other highlights of the ESP include the following research opportunities:

- 1<sup>st</sup> MMS Marine Minerals Information Transfer Meeting;
- 7<sup>th</sup> International Temperate Reef Symposium; and
- 9<sup>th</sup> International Marine Environmental Modeling Seminar.

He announced that MMS's ongoing environmental studies will be updated on MMS's website on a regular basis and demonstrated to the Committee ways to access information. He also explained that information needs are accessed annually for the ESP planning process and from that, the Studies Development Plan (SDP) is developed. The Committee then reviews the SDP and, with the Committee's input, priorities are balanced with the resources available and it is then sent to the MMS Directorate for approval. Procurement then advises and determines which procurement vehicle should be used.

MMS is always cognizant of the need to maintain program quality; therefore, information needs are reviewed internally and externally. There have been reviews done by the National Academy of Science; Technical Proposal

Evaluation Committees; Scientific/Quality Review Boards; Peer-Reviewed Literature is supported; and 2 years ago, the Office of Management and Budget (OMB) did a P.A.R.T. review.

Priorities are determined by:

- mission relevance,
- technically feasible,
- scientific merit,
- timing,
- applicability, and
- affordability.

The Scientific Committee reviews:

- relevance,
- scientific merit,
- objectives,
- relationship to other research,
- feasibility, and
- timing.

Dr. Kendall said he had discussed the meeting mechanics with the Chair, SC, and has broken the discipline breakout groups up into a biological session, a social science session, and a physical session. He added that there is also a time when the Committee members get to break up into these groups with the MMS staff that are either responsible for the idea or has to develop the SOW's leading to RFP's. On Friday morning, the Committee will present their recommendations.

### **Committee Members' Observations: *The National Ocean Research Priorities Plan***

Dr. Gill said that the meeting he attended with Dr. Kendall was a very exciting opportunity to have input in the National Ocean Research Priorities Plan. The other opportunity that is available is that this document will soon on a Website and available for anyone to comment and participate.

He explained that he was a break-out session leader for the Quality of Life Session and there was a lot of interaction, not only from social scientists, but ocean scientists who attended. He felt that some really good ideas about what direction the research should go and what kinds of research are needed.

### ***Open Discussion***

Dr. Castellini asked Dr. Kendall if the MMS Mission Statement is entirely relevant due to the new bill that was signed in August since it specified mineral resources. Dr. Kendall said that it absolutely does and that he had updated it earlier to read “energy and mineral” resources. Mr. Christopher stated that the Mission Statement could actually be broader than alternative use, which opens the door to other uses of obsolete platforms for aquaculture and whatever else.

Dr. Hildreth questioned Dr. Gill about the Ocean Research Priorities Plan since he is privy to information that some social scientists at the University of California who were not particularly impressed by the attempts to build social science in kind of that classic issue in these exercises. Dr. Gill acknowledged that there is obviously a lot of room for more input; however, the Quality of Life Session fits in with the social science and he recognizes that all of the other components or work groups basically needed to pay attention to quality of life issues i.e., why do resource management if you are not addressing the questions, management for whom, and for what ultimate purpose in terms of improving quality of life. Dr. Kendall added that that the quality of life section was viewed as one of the seven themes and thinks that the social sciences was bumped up to sort of the umbrella crosscut for everything, where everything needs to feed into quality of life, whether it is fisheries management, ocean observations, or mitigating natural hazards. Dr. Piltz said that he was really impressed that that there were two plenary keynote speakers, Admiral James D. Watkins who had been the chair of the U.S. Commission on Ocean Policy Commission, and Secretary Mike Chrisman from the California Resources Agency. He said that the message he took away from his plenary talk was that there is a window of opportunity that has been opened for anyone that works in the coastal zone and the ocean sciences. These windows are unpredictable and the broadly-defined ocean science community/coastal community needs to take advantage of this in a way that grabs both Congress' attention about research and issues in the ocean and the public's attention for research and issues in the ocean. He continued that Admiral Watkins, who has worked both in the policy arena as a government employee and now as a private citizen, tried to get the message across to the attendees that what has to happen ultimately is a one- or two-page document that can be taken to the Hill to show the Congressmen and the Senators that here are the top two or three priorities of the United States in ocean research and that the priorities are important to you and your constituents, that the money is there, and that money needs to be reprogrammed. Dr. Piltz said that his impression of the meeting was that this is great background material, but someone is going to have to distill this down and come up with the sound bites that appeal to Congress because, as Admiral Watkins pointed out, according to his metric, approximately \$600 million is spent in ocean research around the country and that number has been stable for the last decade, which means because of inflation that it has really been eroded and we are probably at a half, or a quarter of that level. It's not enough to address the issues confronting the country in ocean management and the information that we need.

### **Charge to the Discipline Subcommittees**

Dr. Diaz instructed the SC to break out into Discipline Breakout Groups.

Members of each Discipline Breakout Group were:

- Biology: Drs. Robert Diaz, Mike Castellini, Michael Fry, Mike Rex, Gene Shinn, and John Trefry;
- Physical/Chemical: Drs. Mike Kosro and Joe Smith;
- Social Sciences: Drs. Richard Hildreth and Tyler Priest.

During the Discipline Breakout Group's meeting, focus will be on:

- MMS ESP Planning Process
  - Information needs assessed annually
  - Studies development plans
  - OCS SC Deliberations
  - Balance needs/priorities with resources
  - Research approved by MMS Directorate
  - Procurement vehicle
- Program Quality
  - Information needs reviewed internally/externally

- National Academy of Science Reviews
- OCS Scientific Committee
- External participation by a Technical Proposal Evaluation Committee
- Scientific/Quality Review Boards
- Peer reviewed literature
- OMB P.A.R.T review
- Determining Priorities
  - Mission relevance
  - Technically feasible
  - Scientific merit
  - Timing
  - Applicability
  - Affordable

The SC will also focus on:

- Relevance
- Scientific merit
- Objectives
- Relationship to other research
- Feasibility
- Timing

Dr. Kendall reminded those presenting to the SC, first and foremost, to give an explanation as to why the study is needed. This was a recommendations made by the SC during the previous meeting.

## **Thursday, May 11, 2006**

This day was spent reviewing regional draft Studies Development Plans. Following a brief charge from the Chair to the Discipline Breakout Groups, the groups went into their sessions (Ecology/Biology, Physical Oceanography, and Social Sciences) to consider proposed regional priorities and information needs. Each Discipline Breakout Group met with staff members from each MMS OCS Region and Headquarters. In each breakout session, a Committee member was designated as a discussion leader and an MMS staff member was assigned to take notes. The Regional MMS Studies Chiefs and staff members were asked to identify, justify, and discuss priorities for future environmental studies.

## **Friday, May 12, 2006**

### **Discipline Breakout Groups Reports**

#### **[Biology/Ecology Discipline Breakout Group](#)**

Members: Drs. Michael Castellini, Robert Diaz, Michael Fry, Michael Rex, Eugene Shinn, and John Trefry

#### **Marine Minerals Program**

This division and its operations are expanding geographically and in terms of extent of dredging as terrestrial and near-shore sources of sand and gravel become depleted. Growing demand is anticipated.

Proposed FY 2007 Studies

- Synthesize information on the Florida Coast with Respect to Environmental Impacts of Dredging,
- Investigation of Potential Borrow Sites of South and Central California, and
- Long-Term Monitoring of Borrow Sites.
  - Protocols established
  - Methods are field tested

**Recommendation.** Make the long-term monitoring (c) the first priority. The ecology/biology group believes the evaluation and tracking of environmental effects (particularly biological effects) of dredging is a top priority at this stage in the development of the Marine Minerals Program.

Proposed FY 2008 Studies

- Potential Effect of Dredging Off New England,
- Physical effects of Dredging Shore-Face Attached Sand Ridges, and
- Critical Review of Numerical Wave Models Including Field Evaluation.

**Recommendation.** Make Review and Evaluation of the Numerical Wave Model the top priority including climate change and sea level rise. Numerical wave models are the principal predictive tool of potential environmental effects of dredging.

### **Pacific Region**

The emphasis of the Pacific Region changed from decommissioning to enhanced production, time-series monitoring, and roles of platforms in regional ecology.

Proposed FY 2007 Studies

- Environmental Mitigation Monitoring,
- MARINe,
- Update Summary of Knowledge: Areas of Ongoing Production, and
- Fish Assemblages on pipelines (Equivocal).

**Recommendations.** The Group strongly supports MARINe, needs to see a specific proposal on shifting studies from pipelines to rigs including the sampling design, and basically is off the table for now.

### **Proposed FY 2008 Studies**

- Spatial & Temporal Variation in Size and Distribution of Juvenile Fishes on Rigs,
- Investigation of Polychlorinated Biphenyls (PCB's) and Polycyclic Aromatic Hydrocarbons (PAH's) in Archived Samples, and
- Summary of Knowledge on World Wide Decommissioning.

**Recommendations.** Spatial and temporal variation in juvenile fish is an important priority, PCB's and PAH's study is of very limited value, decommissioning study is important for all regions, the Group urged the Pacific Region to begin considering base-line studies for moratorium regions to anticipate future petroleum exploration.

### **Alaska Region**

The region is faced with an unsettled and challenging situation driven by a new leasing schedule and dynamic environmental shifts caused by climate change.

Proposed FY 2007 Studies

- Chukchi Offshore Monitoring in Drilling Area (COMIDA) (Lease Sale 2007) – Post Lease Monitoring/Baselines,
- North Aleutian Basin Synthesis and Research Planning Meeting (Lease Sale Proposed 2010),
- Assessing Offshore Human Activities in Alaskan Arctic,
- Monitoring Marine Birds in E. Chukchi Near-shore area,
- Monitoring Health of Bowhead Whales,
- Pinniped Movements and Foraging, and
- Arctic Fish Ecology.

Proposed FY 2008 Study

- Polar Bear Habitat Use in Beaufort Sea

**Recommendations.** It is hard to evaluate priorities for (c) and (g) (2007) and 2008. Focus on Chukchi and North Aleutian Basin Studies which will determine priorities, encourage MMS to pursue international cooperation in assessing environmental issues at high latitudes – perhaps the Arctic Subcommittee should be the Alaskan Subcommittee and the Regional Office should begin looking at non-moratorium sites to get ahead of the leasing process.

### **Gulf of Mexico Region**

There is a lot of uncertainty about the timing of potential new leasing in the Atlantic (possibly 2011, 2012). The Gulf of Mexico regional office wants to get ahead of leasing by planning and information gathering for the Atlantic Continental Shelf.

#### Proposed FY 2007 Studies

- Workshop on Marine Mammals and Turtles,
- North and Central Atlantic Information Search and Synthesis (Benthic and Physical),
- Workshop on Offshore Information for Virginia,
- Lophelia II, and
- Sperm Whale Acoustic Prey Study

#### Proposed FY 2008 Study

- Deepwater Artificial Reef Effects II

**Recommendations.** The Group strongly approves of the workshops and information gathering for the Atlantic to plan in advance of potential leasing, exploration and production, and urged support for Lophelia II. Deepwater coral studies are a major new advance in deep-sea biological oceanography that has captured the public attention and support.

### **Physical Oceanography Discipline Breakout Group**

Members: Drs. Michael Kosro and Joe Smith

### **Gulf of Mexico Region**

The Group complemented Drs. Alexis Lugo-Fernandez and Tony Sturges on the American Geophysical Union's publication of *Circulation in the Gulf of Mexico: Observations and Models*, edited by Alexis Lugo-Fernandez and Tony Sturges.

#### Proposed FY 2007 Studies

- North and Central Atlantic Information Resources – Data Search and Synthesis
  - ~2 decades since any significant energy-related OCS activity in region
  - Study aimed at synthesis of updated information to support management decisions that may be necessary over next 5-10 years
  - Endorse effort to update information based on large volume of new data
- Workshop on the Information Needs for Offshore Virginia
  - Review environmental and socioeconomic issues for offshore Virginia
  - Develop recommendation for coordinated environmental and socioeconomic research for area
- Joint U.S. – Mexico Physical Oceanography Workshop
  - Provides help in planning next phase of Phys-Oceanography program for Deepwater Gulf of Mexico
  - Actively facilitate participation of Mexican scientists in planning and execution
  - Opportunity to enlist additional resources and participation in the 2008 Loop Current Monitoring Study
  - Ensure participation of circulation modelers, remote sensing and observational scientists to provide feedback on array design for FY 2008 Loop Current Monitoring Study
- Ultra-deepwater Circulation Processes in the Gulf of Mexico
  - Further development of Gulf of Mexico circulation models
  - Develop scope to complete assessment of 2008 loop current monitoring program completed in time to present at U.S./Mexico Workshop



- NASA Aura Satellite Data – Background Ozone in the Gulf of Mexico
  - Will use satellite data to map atmospheric ozone concentrations over offshore Gulf of Mexico
  - Supported by existing meteorological data
  - Recommend including effort to collect ground-truth observations of offshore ozone concentrations to compare with contemporaneous satellite data

#### Proposed FY 2008 Studies

- Dynamics of Loop Current in U.S. Waters
  - Field monitoring of currents in previously unstudied regions of deepwater Gulf of Mexico
  - Aimed at understanding eddy shedding mechanism and coupling between surface and bottom flows
  - Seek Mexican involvement in parallel efforts for Yucatan waters to simultaneously monitor in-flow
  - Consider including a component for data assimilation
  - Field study design to draw on findings of ultra-deepwater workshop
- Meteorological and Wave Measurements for Improving Meteorological and Air Quality Modeling
  - Field program of wind and wave measurements at two offshore platforms
  - Improve capabilities of air quality models to treat processes at the air/water interface and in the atmospheric boundary layer
  - Will take advantage of 5-year update of Gulf of Mexico emissions sources
  - More detail on goals and expected outcomes would be helpful at next meeting

#### Alaska Region

##### Proposed FY 2007 Studies

- North Aleutian Basin Synthesis and Research Planning Meeting
  - Compressed timescale due to imminent lease-sale schedule
  - Anticipate concerns over impacts on
    - ◇ Fisheries
    - ◇ Right whales
    - ◇ Overall productivity of Bering Sea
    - ◇ Adequacy of circulation models for oil spill risk analysis
- Study plan to be elaborated based on results of Phase 1 (Planning meeting)
  - SC should be offered opportunity to review and provide input to Phase 2 plans
  - Potential for SC members to attend meeting and contribute to an accelerated review of plans (by email if face-to-face meetings impractical)
  - Delegate to arctic subcommittee of OCS-SC
- COMIDA
  - Similar in structure to recent Arctic Nearshore Impact Monitoring In Development Area program
  - Envision separate contractors for Phase 1/Phase 2 of effort
  - Recommend conducting Phase I workshops and design and use SC to review monitoring plan for years 2-5, when it's developed

##### Proposed FY 2008 Studies

- Plans in a state of flux due to high level of near term activity
- Proposed program for high resolution bathymetry for Beaufort and Chukchi (deferred from previous year)
- Arctic haze and regional air quality
- Too early to endorse these items as priorities for 2008 program

#### Headquarters

##### Proposed FY 2007 Studies

- Extension of Ocean Model Calculations
  - Test model for predicting spilled oil transport
  - Take advantage of existing model and new drifter data sets and wind data for the 2000-2006 time frame

- A valuable exercise to see how well a model, tuned to historical data, does in predicting data outside of its “training set”
- Satellite Oceanography Study and Oceanic Atlas: North
  - Supporting renewable energy use
  - Collection of existing Atlantic satellite images
  - Use a range of sensors to infer information about currents, heat transport, suspended solids and phytoplankton levels
  - Overall focus of program needs to be tightened up, goal and scope better defined to ensure that it provides best overall support to renewable energy application
  - Atlas should include digital supplement with data for each image
- Plan is to extend to south in 2008 program

### **Socioeconomics Discipline Breakout Group**

Members: Drs. Richard Hildreth; Tyler Priest; and Duane Gill

**General Recommendations.** Appoint an economist to the SC, fill the social scientist vacancy on the Arctic Subcommittee, and encourage a subcommittee member to attend industry technical meetings and report back to the SC.

### **Gulf of Mexico Region**

There are two proposed FY 2007 studies and six proposed FY 2008 studies.

Proposed FY 2007 Study

- State and Local-Level Fiscal Effects of the Offshore Petroleum Industry

**Recommendations:** Start with a Geographic Information Systems with a compatible fiscal structure baseline of the jurisdictions of interest (e.g., municipalities, school districts, counties) for Alaska, Mississippi, Louisiana, and Texas, focus on one state and one community in that state for a pilot study, use a statement of objectives instead of a statement of work that would include a request for assistance with how to deal with post-hurricane effects in executing the project since there are methodological issues still to be resolved, and develop an analytical tool to assess the fiscal effects at a regional level.

- The Oil Services Contract Industry in the Gulf of Mexico Region

**Recommendations:** Strongly recommended by the 2004 Social and Economic Gulf of Mexico Workshop, contract workers make up 60 percent of direct offshore employment in the Gulf of Mexico, there are safety and risk issues associated with this group of workers, narrow sector focus and concentrate on drilling and production, and use a statement of objectives instead of a statement of work since there are methodological issues still to be resolved.

Proposed FY 2008 Studies

- Alternative Energy Project Scenarios for Planning Areas in the Gulf of Mexico and Atlantic Regions
- Energy-Related Infrastructure in the Atlantic Region
- Siting Issues and Resource Availability for Alternative Energy Project Scenarios in the Gulf of Mexico and Atlantic Planning Areas

**Recommendations.** Combine “Atlantic Energy-Related Infrastructure” and “Siting Issues and Resource Availability” into a single study and wait for the results of the Headquarters’ alternative energy studies before beginning the Gulf of Mexico Alternative Energy Project Scenarios study.

- Socioeconomic Effects on Urban Communities

**Recommendations.** Recommended by the 2004 Social and Economic Gulf of Mexico Workshop, use a statement of objectives instead of a statement of work since there are still methodological issues to be resolved, do not begin study until Katrina effects have dissipated. For FY 2008, the two proposed studies, (1) Monitoring of Industry Compliance and National Register of Historic Places Evaluations of Submerged Sites on the Atlantic OCS, and (2) Investigation of Potential Spanish Shipwrecks in Ultra Deepwater, would enhance our understanding of the cultural heritage of the Gulf of Mexico (U.S. and Mexico) and Atlantic regions.

### **Alaska Region**

Proposed FY 2007 Studies

- Chukchi Offshore Monitoring in Drilling Area

**Recommendations:** Workshop should involve social science researchers and SC representatives should be included in the workshop (e.g., Arctic Subcommittee).

- North Aleutian Basin Synthesis and Research Planning Meeting

**Recommendation:** SC representatives should be included in the workshop (e.g., Arctic Subcommittee).

- Assessing the Cumulative Extent of Offshore Human Activities in the Alaskan Arctic

**Recommendations:** Recognizing the difficulties in conducting cumulative impact assessments, the subcommittee supports the proposed study and use methods that improve data coverage.

Proposed FY 2008 Studies

- Environmental Mitigation Monitoring of Oil Industry Operations on Subsistence Activities in the Vicinity of Nudists

**Recommendations:** Group strongly endorses the proposed study; consider renaming the study to reflect cumulative impact issues, and study has the potential to inform cumulative impact studies in other regions.

### **Renewable Energy & Alternate Use**

During a discussion of renewable energy and alternate uses of the OCS, the following points and considers were made:

- Focus on energy production as most important aspect,
- Harvest European/international experience in placing offshore wind projects,
- Physical impacts of placing structures on sea floor,
- Wind farms and Bird Impacts,
- How best to communicate findings to the public,
- What are the potential multiple use conflicts,
- Renewable studies should decide what “activities” are within the RSP scope,
- Port/harbor onshore support requirements and impacts,
- Electric and magnetic fields’ potential impacts on marine biota,
- Use of existing corridors to transmit energy,
- Types/availability of mitigation for environmental impacts for renewable projects,
- Expand the National Renewable Energy Laboratory’s mapping of offshore energy potential,
- Relate to Integrated Ocean Observing System program data/regions,
- Mitigation of social and economic impacts,
- Risk vs. Benefits: locally, regionally, nationally,
- SC should consider a renewable energy subcommittee,
- Potential environmental impacts of generating and transporting H2 versus electricity, and
- Workshop should be structured to avoid contention.

## **Committee Business**

As a result of this year's deliberations, the following recommendations emerged:

- Renewable energy alternate uses should focus on energy related uses of the OCS. Steps should be taken to insure greatest possible public acceptance of renewable energy on the OCS.
- The SC would like to emphasize the importance of archiving MMS supported data in a manner that would keep it accessible. In addition to making data available through the NODC, MMS should keep and manage its own data archive. Data should be viewed as a renewable resource that can be mined as the need arises.
- The DOI and the OMB guideline and procedures for implementation of peer review need to be evaluated for applicability to MMS mission.
- If MMS is directed to open up new areas for exploration and lease sales, it should seek additional funding and not redirect funds programmed for other uses.
- Wider dissemination of Request for Proposals is needed to reach a broader spectrum of scientists and make them aware of funding opportunities.
- MMS should keep up its participation in key ocean related committees, such as the NOPP, etc., but realize these commitments do require substantial effort by MMS personnel.
- Regions should be allowed to develop a broader knowledge base within their regions. This would be consistent with developing ecosystem based management and would provide important baseline data over the entire region.

The following emerging issues were identified:

- Acoustic and seismic effects on marine mammals continue to be an important environmental issue. The OCS Science Committee encourages MMS to continue and expand its cooperation with other agencies to address these issues.
- Developments in the arctic and the Gulf of Mexico relative to how oil and gas operations will be effected by climate change require system wide knowledge and data collection. This opens up the possibility for international cooperation with nations bordering the arctic and the Gulf of Mexico.
- The SC members will be polled to determine the best dates (Spring 2007) to hold the next meeting which may be held in the Gulf of Mexico.

Dr. Diaz adjourned the meeting.

# Minerals Management Service (MMS) Outer Continental Shelf (OCS) OCS Scientific Committee (SC) Meeting Agenda

**MEETING DATES:** May 10-12, 2006  
**LOCATION:** Hotel MarMonte  
Santa Barbara, California

## Wednesday, May 10, 2006

- |                                      |  |   |
|--------------------------------------|--|---|
| 8:00 a.m. – 8:20 a.m.                | Welcome and Introductions  | Dr. Lynda Shapiro, Chair, OCS Scientific Committee<br>Dr. Robert Diaz, Vice-Chair, OCS Scientific Committee<br>Dr. James Kendall, MMS Chief Scientist and Executive Secretary of the OCS SC |
| 8:20 a.m. – 8:45 a.m.                | MMS Director's Welcome, Presentation, and Discussion   | <a href="#">Mr. Greg Gould</a> , Chief, Environmental Division  |
| 8:45 a.m. – 9:15 a.m.                | Pacific OCS Region Update  | <a href="#">Ms. Ellen Aronson</a> , Regional Manager, MMS Pacific OCS Region  |
| 9:15 a.m. – 9:45 a.m.                | The Energy Policy Act of 2005  | <a href="#">Ms. Maureen Bornholdt</a> , Program Manager, Renewable Energy/Alternative Use   |
| 9:45 a.m. – 10:00 a.m.               | Report from the last OCS Policy Committee Meeting  | Dr. Berry H. Tew, Chair, OCS Policy Committee—UNABLE TO ATTEND  |
| <b>10:00 a.m. – 10:15 a.m. Break</b> |  |   |
| 10:15 a.m. – 10:45 a.m.              | MMS' Data Management, Requirements, & Discussions  | <a href="#">Dr. Mary Boatman</a> , Chemical Oceanographer   |
| 10:45 a.m. – 11:30 a.m.              | Impacts of Hurricanes Katrina and Rita to the MMS Gulf of Mexico Region                                | <a href="#">Mr. Joseph Christopher</a> , Regional Supervisor, Leasing and Environment, MMS Gulf of Mexico Region  |
| <b>11:30 a.m. – 1:00 p.m. Lunch</b>  |  |   |
| 1:00 p.m. – 1:20 p.m.                | Some Highlights of the MMS <i>Environmental Studies Program</i> and Our Goal for the Next Day-and-Half | <a href="#">Dr. James Kendall</a> , MMS Chief Scientist and Executive Secretary of the OCS SC   |
| 1:20 p.m. – 1:30 p.m.                | Committee Members' Observations: <i>The National Ocean Research Priorities Plan</i>                    | Dr. Denise Stephenson Hawk and <a href="#">Dr. Duane Gill</a>   |
| 1:30 p.m. – 1:45 p.m.                | Charge to the Discipline Subcommittees   | Dr. Robert Diaz, Vice-Chair, OCS Scientific Committee   |

**Physical Sciences, Biology, and Socioeconomic Disciplines meet separately to discuss national and regional studies plans.**

	<b>Biology/Ecology and Interdisciplinary</b>	<b>Physical Sciences</b>	<b>Social Sciences</b>
1:45 p.m. – 3:30 p.m.	Marine Minerals		Alaska OCS Region
3:30 p.m. – 4:00 p.m. BREAK			
4:00 p.m. – 5:30 p.m.	Renewable Energy/ Alternative Use		
6:00 p.m. – 8:00 p.m.	Informal Evening Session on Interesting Local Topics		

**Minerals Management Service (MMS)  
Outer Continental Shelf (OCS)  
OCS Scientific Committee (SC)  
Meeting Agenda**

**Thursday, May 11, 2006**

This day was spent reviewing regional draft Studies Development Plans. Following a brief charge from the Chair to the Discipline Breakout Groups, the groups went into their sessions (Ecology/Biology, Physical Oceanography, and Social Sciences) to consider proposed regional priorities and information needs. Each Discipline Breakout Group met with staff members from each MMS OCS Region and Headquarters. In each breakout session, a Committee member was designated as a discussion leader and an MMS staff member was assigned to take notes. The Regional MMS Studies Chiefs and staff members were asked to identify, justify, and discuss priorities for future environmental studies. Sessions include sand and gravel and renewable energy study profiles.

**Physical Sciences, Biology, and Socioeconomic Disciplines meet separately to discuss national and regional studies plans.**

	<b>Biology/Ecology and Interdisciplinary</b>	<b>Physical Sciences</b>	<b>Social Sciences</b>
8:00 a.m. – 9:30 a.m.	Pacific	OPEN ROOM	Gulf of Mexico
9:30 p.m. – 10:00 p.m. <b>BREAK</b>			
10:00 a.m. – 12:00 p.m.	Alaska	Gulf of Mexico	GOM (continued)
12:00 p.m. – 1:30 p.m. <b>LUNCH</b>			
1:30 p.m. – 3:30 p.m.	Gulf of Mexico	Alaska	OPEN ROOM
3:30 p.m. – 3:45 p.m. <b>BREAK</b>			
3:45 p.m. – 5:30 p.m.	Biology/Ecology Chairs and MMS Recorder Finalize Recommendations	Physical Sciences Chairs and MMS Recorder Finalize Recommendations	Social Sciences Chairs and MMS Recorder Finalize Recommendations

**Minerals Management Service (MMS)  
Outer Continental Shelf (OCS)  
OCS Scientific Committee (SC)  
Meeting Agenda**

**Friday, May 12, 2006**

8:00 a.m. – 8:15 a.m. Plenary Session  
Opening Comments - Chair, OCS Scientific Committee

8:15 a.m. – 9:45 a.m. Discipline Subcommittee Reports (20 minutes each)

- [Biology and Ecology](#)
- [Physical Oceanography](#)
- [Social Sciences](#)
- [Renewable Energy & Alternate Use](#)
- Open Discussion of Subcommittee Reports

9:45 a.m. – 10:00 a.m. Break

10:00 a.m. – 10:30 a.m. Open Discussion of Subcommittee Reports (continued)

10:30 a.m. – 11:00 a.m. Committee Discussion: Peer-Review and the Environmental Studies Program

11:00 a.m. – 11:30 a.m. Public Comment

11:30 a.m. – 12:30 p.m. [Committee Business](#)

- Election of Officers
- Items for Letter to the Director
- Emerging Issues/Topics of Interest
- Other Business
- Dates and locations for the next meeting

**12:30 p.m.**

**Adjourn the Meeting**



# **MINERALS MANAGEMENT SERVICE**

**OCS Scientific Committee**

# **MEMBERSHIP INFORMATION**



**Santa Barbara, California**  
**May 10-12, 2006**

## Ralph Browning Brown

Dr. Brown is a Professor with the Department of Sociology at Brigham Young University and his interests include Community satisfaction and attachment, Persistent rural poverty and subsistence lifestyles, and effects of consumer economy on rural communities.

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Brigham Young University  
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Discipline: Socioeconomics (Development and Social Change;  
Social Impact Assessment)

Appointed:	April 28, 2006
Eligible for Reappointment:	April 28, 2008; April 28, 2010

## Michael Angelo Castellini

Dr. Castellini is the Associate Dean at the School of Fisheries and Ocean Sciences, University of Alaska Fairbanks. His research focuses on many different aspects of marine mammal biology. Some of these include nutritional physiology of harbor seals and Steller sea lions in Alaska as related to their population declines and to the survival of seal and sea lion pups. Other projects include studies on lipid metabolism in marine mammals, nitrogen and protein requirements, population patterns as seen in blood chemistry profiles and stable isotope patterns in tissues. These programs are both field-based from the Arctic to the Antarctic and conducted in collaboration with marine laboratories throughout North America.

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Discipline: Marine Biology (Marine Mammals)

Appointed:	December 18, 2001
Appointed Under New Charter:	March 30, 2004
Reappointed:	April 28, 2006

## James M. Coleman

James M. Coleman is a Boyd Professor for the Coastal Studies Institute and recently served as Interim Vice-Chancellor for Research and Graduate Studies at Louisiana State University. He started his professional career as a graduate student at Coastal Studies Institute, LSU, and eventually serving as director of CSI, chairman of Geology and Geophysics, head of the School of Geoscience, and interim dean of Basic Sciences before being named Executive Vice-Chancellor in 1989. He has conducted worldwide research on deltaic sedimentation, riverine processes, marine geology, shallow structure of shelf sediments, and muddy coasts. He serves on numerous local, state, and national committees and is presently a member of the Ocean Studies Board, National Research Council, and has recently been appointed to the U.S. Commission on Ocean Policy.

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Louisiana State University  
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phone: (225) 578-6633  
fax: (225) 578-2520  
e-mail: chanjc@lsu.edu

Discipline: Oceanography/Geology (Use of Science in Oil and Gas Decision-Making)

Appointed:	October 1, 1993
Reappointed:	June 7, 1995, October 27, 1997
Appointed Discretionary Member:	October 25, 2000
Reappointed:	January 6, 2003
Appointed Under New Charter:	March 30, 2004
Reappointed:	April 28, 2006
Eligible for Reappointment:	April 28, 2008

## Robert J. Diaz

Dr. Diaz's research interests center around understanding trophic dynamics and the functional importance of production in ecosystems, benthic boundary layer processes, and organism-habitat interactions, and how perturbations of these processes influence energy flow and population dynamics. Recently he has focused on organism-habitat interaction on the inner continental shelf to predict how sand dredging will affect fish and invertebrate communities. He is striving to estimate the relative resource value of various estuarine and marine benthic habitat types for the dual purpose of quantifying energy flow between habitats and for developing environmentally sound management strategies. This research has led him to consider a landscape ecological approach to looking within and between systems around the U.S. for how the physical and biological processes interact. In addition, he is also interested in the application of the statistical and numerical methods to biological data and in the ecology and taxonomy of estuarine and marine invertebrates with specialization in oligochaetes.

Professor, School of Marine Science  
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Discipline: Biological Sciences (Ecology re. Sand Resources)

Appointed:	December 18, 2001
Appointed Under New Charter:	March 30, 2004
Reappointed:	April 28, 2006

## Michael D. Fry

Michael Fry is the Director of the Pesticides and Birds Program and is an avian toxicologist with research interests in the effects of pollutants and pesticides on ecosystems, with a focus on wild birds. He received his doctorate at the University of California-Davis, where he then went on to be a research physiologist in the Department of Avian/Animal Sciences for 23 years before joining Stratus Consulting in 2003. Dr. Fry has been a panel member for the National Academy of Sciences on hormone active chemicals in the environment and has participated in toxicology reviews and international symposia for the Organization for Economic Cooperation and Development (OECD) and for the United Nations University in Japan. He has been a committee member for EPA and OECD in revising avian toxicity test methods and was a member of the EPA Ecological Committee for Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Risk Assessment Methods (ECOFRAM).

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Discipline: Ecology (Avian Biology & Alternative Use)

Appointed:  
Eligible for Reappointment:

April 28, 2006  
April 28, 2008; April 28, 2010

## Richard G. Hildreth

Dr. Hildreth is the author of three casebooks and many other publications on ocean and coastal law. He has consulted frequently with federal and state coastal management agencies in the U.S. and Australia and with Pacific Island governments on environmental legal matters. Dr. Hildreth served as the University of Queensland Law Faculty's 50th Anniversary Visiting Fellow. He has served on the National Research Council's Non-native Oysters and Coastal Ocean Committees, the Pacific Northwest Regional Marine Research Board, and the editorial advisory boards of the journals Coastal Management and Ocean Development and International Law. Dr. Hildreth practiced business law with Steinhart & Falconer in San Francisco before teaching law.

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Discipline: Socioeconomics (Ocean & Coastal Law; Law of the Sea)

Appointed:	January 1, 2003
Appointed Under New Charter:	March 30, 2004
Reappointed:	April 28, 2006
Eligible for Reappointment:	April 28, 2008

## P. Michael Kosro

Dr. Kosro is a coastal physical oceanographer, and an Associate Professor of Oceanography at Oregon State University. His group has installed and operates a large array of HF current mapping systems to continuously measure the time-varying surface circulation over the entire Oregon coast, while also using conventional moored and shipborne tools. Recent studies include interannual variability of the circulation, mesoscale features of the upwelling circulation, California Current and undercurrent, and spatial structure of tidal flows.

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Atmospheric Sciences  
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104 Ocean Admin Building  
Corvallis, Oregon 97331-5503  
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Discipline: Physical Oceanography (Shelf-deep Sea Exchange/Pacific  
Coast)

Appointed:	January 1, 2003
Appointed Under New Charter:	March 30, 2004
Reappointed:	April 28, 2006
Eligible for Reappointment:	April 28, 2008



## Richard "Tyler" Priest

Dr. Priest is Clinical Professor and Director of Global Studies at the C.T. Bauer College of Business, University of Houston, and faculty affiliate of the Public History Program at the University of Houston. He is also a member of the Technology Pioneer Committee for the Offshore Energy Center (OEC) in Houston. He received his Ph.D. in history from the University of Wisconsin-Madison. He specializes in the history of offshore oil and gas in the Gulf of Mexico and is currently working on a study of the evolution of offshore exploration technology and leasing. He has served as chief historian on a Shell Oil corporate history project and chief historian for an MMS project to document the history of the offshore oil industry in the Gulf of Mexico (OCS Study MMS 2004-049). He has authored books on the offshore operations of Shell Oil and Brown & Root.

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Discipline: Socioeconomics (Historian-Social/Economic Effects and the  
Oil and Gas Industry)

Appointed: April 28, 2006  
Eligible for Reappointment: April 28, 2008; April 28, 2010

## Michael A. Rex

Dr. Rex's research is centered on the ecology and evolution of deep-sea benthic communities. It includes analyses of bathymetric and global-scale patterns of biodiversity and their causes. We are using satellite imagery to examine the relationship of surface production to community structure in the deep sea at different temporal and spatial scales. Geographic variation in body size of mollusks is being explored to study adaptation to the deep-sea environment. Multivariate analyses of shell architecture and mitochondrial DNA are being employed to study patterns of population differentiation in deep-sea mollusks. Adaptive radiation and taxon cycles are being investigated by documenting patterns of taxonomic diversity. A major long-term research goal is to synthesize patterns of distribution, geographic variation, taxonomic composition and life histories to formulate a model of evolution in deep-sea invertebrates.

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Discipline: Biology (Deep-Sea Ecology)

Appointed:	December 18, 2001
Appointed Under New Charter:	March 30, 2004
Reappointed:	April 28, 2006

## Peter Paul Schweitzer

Born and raised in Austria, Dr. Schweitzer became fascinated with the mysterious country that no longer exists, the Soviet Union, during the 1980s. A student exchange program enabled him to study in Leningrad for one academic year in 1986/87 and to begin ethnohistoric research about the Chukchi Peninsula in the Russian Far East, which led to Ph.D. degree awarded by the University of Vienna in 1990. Since 1990, he has had several opportunities for longer and shorter field trips to Chukotka and, more recently, to the Republic of Sakha (Yakutia). Since 1992, he has been conducting fieldwork in various communities on the Seward Peninsula in Alaska. He joined the faculty of the Department of Anthropology at UAF in 1991. His topical interests, in addition to the above-mentioned historical inquiries, encompass social organization (kinship, gender, politics), hunter-gatherer studies, the history of anthropology, transnationalism and other forms of interethnic contact, as well as practices and ideologies of colonialism and their local impacts.

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Discipline: Socioeconomics (Anthropology and Subsistence)

Appointed:	April 28, 2006
Eligible for Reappointment:	April 28, 2008; April 28, 2010

## Mary I. Scranton

Dr. Scranton received a BA in Chemistry from Mount Holyoke College and a PhD. in Oceanography from the Woods Hole Oceanographic Institution/MIT Joint Program in Oceanography. Her dissertation was on the marine geochemistry of methane. Following her dissertation work, she spent 2 years as a National Academy of Sciences/National Research Council Postdoctoral Fellow at the Naval Research Lab in Washington, D.C., working on analytical and geochemical aspects of hydrogen gas distributions in the ocean and atmosphere. Since 1979, she has been at the Marine Sciences Research Center of Stony Brook University. In recent years she has been interested in the factors controlling the cycling of organic compounds in sediments and in the water column, primarily as a part of the CARIACO (Carbon Retention in a Colored Ocean) program, a study of carbon cycling in the Cariaco Basin, Venezuela. She also maintained her long-standing interest in methane geochemistry and is investigating the role of seeps and vents, and possibly of destabilizing gas hydrates, in controlling water-column methane concentrations near the US North-East continental shelf.

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Discipline: Chemical Oceanography (Geochemistry/Hydrates)

Appointed:	January 1, 2003
Appointed Under New Charter:	March 30, 2004
Reappointed:	April 28, 2006
Eligible for Reappointment:	April 28, 2008

## Eugene A. Shinn

Dr. Shinn received a BS in Zoology from the University of Miami in 1957. In 1958 he joined the Shell Development Company Field Station in Coral Gables, Florida, as a laboratory/diving technician which specialized in modern carbonate sedimentation and limestone alteration. Dr. Shinn has had an extensive career not only with Shell Development Company, but also with Royal Dutch Shell and the Environmental Affairs Department at Shell's Head Office in Houston where he advised the company on environmental issues. In 1974, Dr. Shinn, as a senior geologist, left Shell to set up the 4-person USGS research field station at Fisher Island, Florida, where he led the field station's research for 15 years where the mission was to do research on sedimentation and alteration of modern carbonates, especially coral reefs of the Florida Keys. With funding from USGS conservation division, which later became MMS, Dr. Shinn supported a Texas A&M doctoral dissertation on the effects of drill mud on corals. In 1989, he transferred to St. Petersburg, Florida, where he worked as part of the USGS Coastal Program and initiated a study of sewage contamination and groundwater movement and seepage in the Florida Keys. After 31 years of service, Dr. Shinn retired as a geologist from the USGS on January 3, 2006, and is now located at the University of South Florida Marine Research Center at St. Petersburg, Florida, where his title is Courtesy Professor.

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Discipline: Zoology/Geology (Fate & Effects; Government & Industry  
Science)

Appointed: April 28, 2006  
Eligible for Reappointment: April 28, 2008; April 28, 2010

## Joseph Patrick Smith

Dr. Smith is group leader for environmental technology research at ExxonMobil Upstream Research Company. He holds a Ph.D. in physical chemistry from the University of California at Berkeley (1978) and a B.S. in chemistry from the University of Rochester (1972). He joined Exxon Production Research Company in 1981 and has been active in research on the environmental aspects of offshore oil and gas operations since 1990. His research interests include numerical modeling of offshore discharges, the environmental fate and effects of drilling and production discharges, and the environmental effects of seawater usage in liquefied natural gas processing. He is the chairman of the Offshore Operators Committee (OOC) Environmental Sciences Subcommittee and has also served on the steering groups for many joint industry environmental studies sponsored by organizations such as OOC, the American Petroleum Institute, and the International Association of Oil and Gas Producers.

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Discipline: Physical Oceanography (Oil and Gas Industry Use of Science)

Appointed:	January 1, 2003
Appointed Under New Charter:	March 30, 2004
Reappointed:	April 28, 2006
Eligible for Reappointment:	April 28, 2008

## Denise M. Stephenson-Hawk

Denise Stephenson Hawk, Ph.D., is Chairman and CEO of The Stephenson Group, LLC, a consulting firm in Atlanta, Georgia. The Stephenson Group, LLC is engaged in a variety of assignments within government, business and academia which provide strategic, operational and tactical planning in areas of the environment and education. She has served as an atmospheric scientist for the National Aeronautics and Space Administration (NASA); ocean systems analyst in areas of underwater acoustics for AT&T Bell Laboratories; and as provost, department chair and professor within academia. Dr. Stephenson Hawk currently serves on the steering committee for the National Weather and Climate Enterprise of the American Meteorological Society; National Academy of Sciences panel to review the oceans priorities plan of the Joint Subcommittee on Ocean Science and Technology; and advisory board for the Southeast Center for Ocean Science Education Excellence. She is a former member of the science advisory boards for the National Oceanic and Atmospheric Administration, NASA, National Science Foundation, and the Ocean Research Advisory Panel for the National Oceanographic Partnership Program. Dr. Stephenson Hawk earned Ph.D. and M.A. degrees in geophysical fluid dynamics from Princeton University; M.S. degree in environmental modeling from The George Washington University; and B.A. degree in mathematics from Spelman College.

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Discipline: Atmospheric and Oceanic Sciences (Education, Decision-Making, IOOS)

Appointed:	December 18, 2001
Appointed Under New Charter:	March 30, 2004
Reappointed:	April 28, 2006

## John H. Trefry

Dr. Trefry is a Professor of Marine & Environmental Sciences at Florida Institute of Technology. He holds a Ph.D. in Chemical Oceanography from Texas A&M University. His research activities focus on the concentrations and cycling of trace metals in rivers, estuaries, oceans and deep-sea hydrothermal vents. Trace metals are studied for their natural value and for their potential as pollutants. Dr. Trefry's research activities are carried out in a wide variety of geographical settings including the Pacific and Atlantic Oceans, the Alaskan Arctic, the Gulf of Mexico and the Indian River Lagoon, Florida. He also has been active in studies of environmental issues related to offshore oil exploration and production in the Gulf of Mexico, the Beaufort Sea, the Sea of Okhotsk and other locations. He presently serves as President of the Florida Academy of Sciences.

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Discipline: Chemical Oceanographer/Biology (Chemical Contaminants)

Appointed:	January 1, 2003
Appointed Under New Charter:	March 30, 2004
Reappointed:	April 28, 2006
Eligible for Reappointment:	April 28, 2008



## Executive Director

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OCS Scientific Committee Staff  
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## Executive Secretary

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## DISCIPLINE BREAKOUT GROUPS

Ecology/Biology	Physical Oceanography	Socioeconomics
Michael Castellini	Jim Coleman	Ralph Brown
Robert Diaz	Denise S-Hawk	Duane Gill
D. Michael Fry	Mike Kosro	Richard Hildreth
Michael Rex	Mary Scranton	Tyler Priest
Lynda Shapiro	Lynda Shapiro	Peter Schweitzer
Gene Shinn	Joe Smith	Edella Schlager
John Trefry		

## SUBCOMMITTEES

### Deepwater Subcommittee Members

Jim Coleman	Will Schroeder
Mike Rex	Joe Smith
Mike Kosro	

### Arctic Subcommittee Members

Michael Castellini	Will Schroeder
Lee Huskey	Lynda Shapiro

### Marine Minerals Subcommittee Members

Jim Coleman	Duane Gill - Chair
Bob Diaz	Livingston Marshall
Richard Hildreth	

### Decommissioning Subcommittee Members

Livingston Marshall	Mary Scranton
Richard Hildreth	Mike Kosro

### GOM Social Economic Research Subcommittee Members

Duane Gill	Richard Hildreth
Lee Huskey	Edella Schlager

# **RETIREEES INFORMATION**

## Duane A. Gill

Dr. Gill is the Associate Director and a Professor of Sociology in the Social Science Research Center and Department of Sociology, Anthropology and Social Work at Mississippi State University. He has conducted research on the *Exxon Valdez* oil spill, Gulf of Mexico fisheries, and various environmental issues in Mississippi. His research interests include the study of technological disasters, natural resource management, and community.

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Environment, and Coordinator of the Societal Risk Unit  
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Discipline: Socioeconomics

Appointed:	October 1, 1999
Reappointed:	December 18, 2001
Appointed Under New Charter:	March 30, 2004

## Edella C. Schlager

Dr. Schlager is an Associate Professor in the School of Public Administration and Policy at the University of Arizona. She holds a Ph.D. in Political Science from Indiana University. Her research centers on local community management of natural resources, such as watersheds in the western United States and coastal fisheries.

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Discipline: Socioeconomics/Public Policy Issues

Appointed:	October 1, 1999
Reappointed:	December 18, 2001
Appointed Under New Charter:	March 30, 2004

## Lynda P. Shapiro

After completing her Ph.D. at Duke University, Dr. Shapiro worked at the Woods Hole Oceanographic Institution, the Bigelow Laboratory for Ocean Sciences, and the University of Oregon. She directed the University's marine laboratory, the Oregon Institute of Marine Biology, from 1990 to 2001, and continues there as a Professor Emerita of Biology. Her research centers on the biology of pelagic marine phytoplankton. In recent years, she has focused on the distributions and abundances of the eukaryotic ultraplankton, on incorporation of these minute cells into the microbial food web, and on the role of associated bacteria on the nutrition of phytoplankton. She also is interested in harmful algal blooms and in the sustainable harvesting of marine macroalgae.

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Discipline: Ecology/Biology

Appointed:	October 1, 1999
Reappointed:	December 18, 2001
Appointed Under New Charter:	March 30, 2004

# ***MINERALS MANAGEMENT SERVICE***



## ***MMS Speakers***

***Santa Barbara, California***

***May 10-12, 2006***

## **Ellen G. Aronson**

Ms. Aronson is Regional Manager of the Pacific OCS Region of MMS. She has worked for the Federal Government since 1976, beginning her career as a planner with the U.S. Nuclear Regulatory Commission. In 1978, Ms. Aronson joined the Federal offshore oil and gas program. She has held both staff and management positions in the Region and in Headquarters. Ms. Aronson holds a Bachelor of Arts in Liberal Arts and a Masters of Urban and Regional Planning.

## **Mary Boatman**

Dr. Boatman is an oceanographer in the Environmental Assessment Branch of the Environmental Division in Herndon, VA. She serves as a Contracting Officer's Technical Representative for a number of Environmental Studies Program contracts related to fates and effects, chemical issues, and methane hydrates in the Gulf. She is currently working on several projects related to the preparation of National Environmental Policy Act documents for the Coastal Impact Assistance Program and the Alternate Energy Related Use program. She has a Ph.D. in chemical Oceanography from Texas A&M University.

## **Maureen A. Bornholdt**

Ms. Bornholdt, Program Manager for the Renewable Energy/Alternate Use Program, is responsible for developing the new program and regulatory regime covering outer continental shelf alternate energy resources for the Minerals Management Service. Prior to this appointment, she served as the Marine Minerals Program Manager. In that capacity, Ms. Bornholdt managed the development of OCS marine minerals resources and oversaw leasing of Federal sand for use in repairing damaged shorelines and protecting critical military installations, National parklands, and billions of dollars of infrastructure. She has extensive experience in environmental regulation and compliance having worked offshore oil and gas issues for the Department of the Interior since 1983. Ms. Bornholdt has served as the MMS's technical expert on Coastal Zone Management and National Environmental Policy Acts and as the program analyst covering offshore environmental and regulatory issues for the Assistant Secretary for Land and Minerals Management.



## **Joseph Christopher**

Mr. Christopher is the Regional Supervisor for the Office of Leasing and Environment in the Gulf of Mexico Outer Continental Shelf (OCS) Region of the Minerals Management Service. He has been involved in various aspects of the OCS Program for over 25 years, and is currently responsible for managing the Region's leasing and adjudication activities, environmental studies program, and pre- and post-lease environmental assessment processes. He holds a B.A. in Geography from the University of New Orleans and a M.A. in Management from Central Michigan University.

## **Gregory Gould**

Mr. Gould was appointed as Chief, Environmental Division for Offshore Minerals Management on June 24, 2004. He has a long and distinguished career with MMS, most recently serving as Chief of the Safety and Enforcement Branch since December 2001. Mr. Gould's offshore career began as a Geologist in the Atlantic OCS Region of the Bureau of Land Management in 1981. Since 1988, he has served in various capacities in the headquarters offices of the OMM program working as a Marine Policy Analyst with the OCS Information Program and as a Physical Scientist in charge of the OCS Civil/ Criminal Penalties Program in the Engineering and Operations Division. In 1992, he implemented the civil penalty provisions of the Oil Pollution Act of 1990, developing a program to assess civil penalties for violations that pose a threat to human life and the environment. Under the new program, OMM has collected over \$35 million in civil penalties. He holds a B.S. degree in Geology from the State University of New York and a Masters in Public Administration from George Mason University.

## **Robert P. LaBelle**

Mr. LaBelle, as the Deputy Associate Director for Offshore Minerals Management, serves as Chief Operating Officer for the management of all facets of the Offshore Program, including policy development, policy implementation, and program planning. He is responsible for directing the implementation of Offshore's Strategic Plan and serves as Executive Secretary for the Offshore Steering Committee, as well as Chairman of the Offshore Information Management Committee. Previously, as Chief of the MMS Environmental Division, Mr. LaBelle was responsible for offshore oil and gas industry compliance with all environmental requirements,

including water and air quality, endangered species, oil spill risk analysis, and archaeology, in all U.S. Federal waters. He oversaw a large environmental research program and the preparation of Environmental Impact Assessments and other decision documents used for both offshore energy and mining activities. In prior positions, Mr. LaBelle was Chief of the MMS Technology Assessment and Research Branch, where he led research on engineering and technical aspects of offshore production and development. Previous positions at MMS and USGS include Chief of the Environmental Operations and Analysis Branch, and Chief of the Branch of Environmental Modeling. Prior to joining Interior, Mr. LaBelle worked for Martin Marietta Corp. as an environmental analyst on the siting of electrical power plants and on assessing the effects of nuclear power stations on aquatic species. Mr. LaBelle is a graduate of the University of Massachusetts (BS), the University of Maryland (MS), and Loyola College (MBA).

# ***MINERALS MANAGEMENT SERVICE***



## ***Other Participants***

## Johnnie Burton

Ms. Burton's appointment as Director, Minerals Management Service became effective on March 15, 2002. Ms. Burton's background provides a solid mix of experience in state government, the oil and gas industry, and education. Since 1995, she served on the governor of Wyoming's cabinet as director of the Department of Revenue. Before that, she served (1989-92) as vice-president of TCF Inc., an oil and gas exploration company based in Casper, Wyoming. Prior to that, she was vice president of Dwights Energydata Inc., an information company specializing in oil and gas databases. Ms. Burton was also president and founder of Hotline Energy Reports Inc., which later merged with Dwights Energydata Inc. Under her leadership, Hotline Energy Reports Inc. built a historical database of all wells drilled for oil and gas in the 11 Rocky Mountain States. Ms. Burton began her career in the oil and gas industry as an oil scout in Casper, Wyoming, for Rinehart Oil News of San Antonio, Texas. From 1982 through 1988, Ms. Burton was a member of the Wyoming State House of Representatives. She served as a member of the Wyoming State Advisory Council of Education Grants (1986-88), and also as director of the First Wyoming Bank in Casper from 1981 through 1984. She served as a member of the Independent Petroleum Association of Mountain States Speaker's Bureau from 1977 through 1979. Her career highlights also include positions as a lecturer and teacher of French at the university and high school levels and as a translator and interpreter for the J. F. Pritchard Company in Paris, France, and Kansas City, Kansas. In 1987, she was honored as a "Friend of Education" by the Wyoming School Boards Association.

Ms. Burton is a member of the National Order of Women Legislators and the American Association of Translators. She is also a member of the National Alcohol Beverage Control Association and served as its president, representing Wyoming from 2000 to 2001. Born in French Algeria, Ms. Burton immigrated to the United States in 1963 and became an American citizen in 1968. In 1958, she completed the Baccalaureate de l'Enseignement Secondaire (option Philosophie) from the Lycee Fromentin in Algiers, Algeria. She completed the Licence-es-Lettres, English, Diplome d'Enseignement from the Universities of Algiers in Algeria and in Paris, France, in 1962. She holds a master's degree (1974) from the University of Wyoming. She studied at the University of Arkansas and has completed management training by The Presidents Association and Duke University.

## Cleveland "Cleve" Cowles

Dr. Cowles is Chief, Environmental Studies Section, Alaska OCS Region. His responsibilities include managing a multi-disciplinary staff to implement the Alaska environmental studies portion of the MMS ESP. Dr. Cowles has been with the Alaska OCS Region since 1979, serving as Chief of the Environmental Studies Unit from 1983-1995, and as Acting Chief of the Social and Economic Studies Unit from 1992-1995.

## **James J. Kendall**

Dr. Kendall coordinates the Environmental Studies Program (ESP) of the U.S. Department of the Interior's Minerals Management Service (MMS) and serves as Executive Secretary to the OCS Scientific Committee. The MMS ESP is tasked with providing the environmental and socioeconomic information necessary for MMS to make informed decisions concerning offshore oil and gas and marine minerals activities. Prior to joining the MMS Headquarters Office, Dr. Kendall served as the ESP Studies Chief for the MMS Gulf of Mexico OCS Regional Office in New Orleans, Louisiana. He received his bachelor's degree in biology from Old Dominion University and his Ph.D. in oceanography from Texas A&M University. Dr. Kendall has conducted marine research in the Gulf of Mexico, Caribbean, and Red Sea.

## **Fred M. Piltz**

Dr. Piltz serves as the Regional Civil Penalty Review Officer, the Regional Representative to the MMS Information Committee, and is the Senior Environmental Scientist, Pacific OCS Region. He is responsible for the planning, implementation, and management of the environmental studies for the Pacific OCS Region. Prior to his current position, he worked in applied environmental impact assessment research as both a taxonomic consultant and field scientist in Southern California and in the Straits of Magellan, Chile. His research experience includes laboratory work on the effects of heavy metals on marine organisms, effects of oil spills on intertidal invertebrates, and effects of municipal sewage outfalls on benthic invertebrate communities.

## **Thomas A. Readinger**

Mr. Readinger is the Associate Director of the Offshore Minerals Management Program. He was appointed to this post in January 2002. He is responsible for managing the MMS Offshore program to (1) help meet the nation's energy needs, (2) protect the ocean environment, and (3) ensure the receipt of fair market value for resources leased. Prior to this new appointment, Mr. Readinger was the Deputy Associate Director of OMM. In that capacity, he also served as the chairman of the OMM Information Management Committee and led the OMM effort to develop the new e-Government Transformation proposal to increase the efficient and effective delivery of services to agency stakeholders. Mr. Readinger has been involved with the OCS program for 28 years. He joined the Federal Government in 1976 as an economist with the Bureau of Land Management where he was responsible for developing bidding systems and bid adequacy procedures to ensure fair market value for OCS resources. From 1987 to 1997, he served as Program Director for the Office of OCS Program Development and Coordination, where he developed and implemented the OCS 5-year Oil and Gas Leasing Program for MMS. In 1995, Mr. Readinger was awarded the Department of the Interior's Meritorious Service Award for career-long contributions to the development of

procedures to ensure fair market value for public resources. Since being promoted to the Senior Executive Service in 1987, he has received numerous performance awards for contributions to program management and information technology advancements. Mr. Readinger received a B.S. degree in Business Management from the Indiana University of Pennsylvania in 1972, and an M.A. degree in Economics from American University in 1974. He received his Senior Executive Certification in Public Administration from George Washington University in 1987.

### **Pasquale "Pat" F. Roscigno**

Dr. Roscigno is the Chief, Environmental Sciences Section, and Gulf of Mexico OCS Region. He is responsible for managing the Gulf of Mexico OCS Regions' ESP. The Gulf studies support OCS management decisions for the Western, Central, and Eastern Planning Areas of the Gulf. Prior to his current position, he served as the Supervisor for the Gulf's Studies Plan Coordination Unit.

### **Lynette L. Vesco**

Ms. Vesco is the Chief, Office of Environmental Evaluation, Pacific OCS Region. She is responsible for the leasing and environmental aspects of Pacific OCS Region programs, including the oil and gas, renewable energy and marine minerals programs. She manages environmental reviews and analyses, ensures compliance with environmental conditions of project approvals, and plans and manages the Regional Environmental Studies Program. She is also responsible for lease management functions including lease adjudication and company financial responsibility, and she manages the Coastal Impact Assistance Program which provides grants to the State and local governments affected by oil and gas activities. Ms. Vesco has an M.A. in marine biology, and conducted research in rocky intertidal communities for many years.

# ATTENDEES

## OCS Scientific Committee Members

Dr. Michael Castellini, University of Alaska Fairbanks  
Dr. Robert Diaz, Virginia Institute of Marine Science  
Dr. Michael Fry, American Bird Conservancy  
Dr. Duane Gill, Mississippi State University\*  
Dr. Richard Hildreth, University of Oregon  
Dr. Michael P. Kosro, Oregon State University  
Dr. Tyler Priest, University of Houston  
Dr. Michael Rex, University of Massachusetts  
Dr. Lynda Shapiro, University of Oregon\*  
Dr. Eugene Shinn, University of Florida  
Dr. Joseph Smith, ExxonMobil Upstream Research  
Dr. John Trefry, Florida Institute of Technology

## Minerals Management Service

Dr. Tom Ahlfeld, Environmental Sciences Branch  
Ms. Ellen Aronson, Regional Manager, Pacific OCS Region  
Ms. Carolyn Beamer, Offshore Minerals Management  
Dr. Mary Boatman, Environmental Studies Section, Gulf of Mexico OCS Region  
Ms. Maureen Bornholdt, Alternative Energy & Marine Minerals Branch  
Dr. Ann Bull, Environmental Analysis Section, Pacific OCS Region  
Ms. Terrie Callahan, Procurement Division  
Mr. Joe Christopher, Leasing and Environment, Gulf of Mexico OCS Region  
Mr. James Cimato, Environmental Sciences Branch  
Ms. Phyllis Clark, Environmental Sciences Branch  
Dr. Cleve Cowles, Environmental Studies Section, Alaska OCS Region  
Mr. Barry Drucker, Alternative Energy & Marine Minerals Branch  
Dr. Deborah Epperson, Environmental Studies Section, Gulf of Mexico OCS Region  
Ms. Mary Elaine Dunaway, Office of Environmental Evaluation, Pacific OCS Region  
Dr. Jeffrey Gleason, Environmental Studies Section, Alaska OCS Region  
Mr. Greg Gould, Environmental Division  
Mr. Maurice Hill, Alternative Energy & Alternate Use Program, Pacific OCS Region  
Dr. Jim Kendall, Environmental Sciences Branch  
Mr. Robert LaBelle, Offshore Minerals Management  
Dr. Ron Lai, Environmental Sciences Branch  
Mr. John Lane, Environmental Studies Section, Pacific OCS Region  
Dr. Alexis Lugo-Fernandez, Environmental Studies Section, Gulf of Mexico Region  
Dr. Asha Luthra, Environmental Studies Section, Gulf of Mexico OCS Region  
Dr. Fred Piltz, Office of Environmental Evaluation, Pacific OCS Region  
Dr. Dick Prentki, Environmental Studies Section, Alaska OCS Region  
Dr. John Romero, Office of Public Affairs, Pacific OCS Region  
Dr. Pat Roscigno, Environmental Studies Section, Gulf of Mexico OCS Region  
Ms. Celeste Rueffert, Procurement Division  
Dr. Greg Sanders, Environmental Studies Section, Pacific OCS Region  
Mr. John Smith, Regional CIAP Representative, Pacific OCS Region  
Mr. Paul Stang, Leasing and Environment, Alaska OCS Region  
Ms. Barbara Wallace, Environmental Sciences Division  
Mr. Will Waske, Alternative Energy & Marine Minerals Branch  
Mr. Dee Williams, Environmental Studies Section, Alaska OCS Region

Ms. Lynette Vesco, Office of Environmental Evaluation, Pacific OCS Region  
Ms. Terra Zvara, Alternative Energy & Marine Minerals Branch

### **Others**

Dr. Jenny Dugan, American Bird Conservancy  
Mr. Greg Helms, Surf Rider Foundation, Santa Barbara Chapter  
Ms. Gail Osherenko, Marine Science Institute, University of California Santa Barbara



**OUTLINE OF TRANSCRIPTS**  
**May 10, 2006**

	Page
<b>Welcome and Introductions</b>	7
<b>MMS Director's Welcome, Presentation, and Discussion</b>	
Presentation by Mr. Greg Gould	15
Open Discussion	26
<b>Pacific OCS Region Update</b>	
Presentation by Ms. Ellen Aronson	29
Open Discussion	42
<b>The Energy Policy Act of 2005</b>	
Presentation by Ms. Maureen Bornholdt	55
Open Discussion	76
<b>MMS' Data Management, Requirements, &amp; Discussions</b>	
Presentation by Dr. Mary Boatman	108
Open Discussion	118
<b>Impacts of Hurricanes Katrina and Rita to the MMS Gulf of Mexico Region</b>	
Presentation by Mr. Joe Christopher	140
Open Discussion	162
<b>Some Highlights of the MMS Environmental Studies Program and our goal for the next day-and-half</b>	
Presentation by Mr. James Cimato	187
<b>Committee Members' Observations: <i>The National Ocean Research Priorities Plan</i></b>	
Presentation by Dr. Duane Gill	204
Open Discussion	215
<b>Charge to the Discipline Subcommittees</b>	
Presentation by Dr. Bob Diaz	215
Open Discussion	217

**OUTLINE OF TRANSCRIPTS**  
**May 12, 2006**

	Page
<b>Plenary Session</b>	
Opening Comments	272
<b>Discipline Subcommittee Reports</b>	
Biology – Dr. Michael Rex	221
Open Discussion	233
Physical Oceanography – Dr. Joe Smith	234
Open Discussion	240
Socioeconomics – Dr. Dick Hildreth	253
Open Discussion	262
General Discussion	268
<b>Committee Discussion: Peer-Review and the Environmental Studies Program</b>	301
<b>Public Comment</b>	361
<b>Committee Business</b>	
Election of Officers	276
Items for Letter to the Director	350
Emerging Issues Topics of Interest	370
Other Business	379
Dates and Locations for the Next meeting	379
<b>Meeting Adjourned</b>	386

# ACRONYMS

BLM	Bureau of Land Management
Bbbl	Billion barrels
CIAP	Coastal Impact Assistant Program
COMIDA	Chukchi Offshore Monitoring in Drilling Area
DOE	Department of Energy
DOI	Department of the Interior
EIS	Environmental Impact Statement
ESP	Environmental Studies Program
EPAct	Environmental Policy Act
FACA	Federal Advisory Committee Act
FY	Fiscal Year
HESS	High Energy Seismic Survey
ICOSRMI	Interagency Committee on Ocean Science and Resource Management Integration
JSOST	Joint Subcommittee on Ocean Science and Technology
LNG	Liquefied Natural Gas
LSU	Louisiana State University
MARINe	Multi-Agency Rocky Intertidal Network
MMS	Minerals Management Service
MODU	Mobile Offshore Drilling Units
NGO	Non-Government Organizations
NOAA	National Oceanic and Atmospheric Administration
NODC	National Oceanographic Data Center
NOPP	National Oceanographic Partnership Program
NREL	Natural Resource Ecology Laboratory

OCS	Outer Continental Shelf
OCSLA	OCS Lands Act
OMB	Office of Management and Budget
ORPPIS	Ocean Research Priorities Plan and Implementation Strategy
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Investigation of Polychlorinated Biphenyls
RFP	Request for Proposal
SC	Scientific Committee
STD	Studies Development Plan
SIMOR	Subcommittee on Integrated Management in Ocean Resources
USOAP	U.S. Ocean Action Plan
SOW	Statement of Work
Tcf	Trillion cubic feet
U.S.	United States
USGS	U.S. Geological Survey

# Summary

## **Welcome and Instructions**

Dr. Lynda Shapiro, the SC's outgoing Chair, called the meeting to order at 8:30 a.m. and welcomed everyone to the meeting. Introductions were made and three newly-elected members were recognized: Drs. Tyler Priest, Eugene Shinn, and Michael Fry.

Dr. Robert Diaz was elected Chair, Dr. Richard Hildreth was elected Vice Chair, and Dr. Michael Castellini was elected Parliamentarian.

Drs. Shapiro and Duane Gill were presented with plaques by the Executive Secretary of the SC, Dr. James Kendall, for their outstanding contribution and commitment to the SC. Also recognized was Dr. Edella Schlager who was unable to attend the meeting.

## **MS Director's Presentation and Discussion with the Committee**

Mr. Greg Gould, Chief, Environmental Division, represented the MMS Director, Ms. Johnnie Burton, and reported to the SC the status of MMS oversight and associated issues. As advisor to the MMS Director, the SC appreciates the opportunity to have a dialogue with the Director on ongoing and future issues, policies, and activities of the Bureau. This exchange not only keeps the SC apprised of MMS's direction but also offers an opportunity for the SC to provide direct advice and guidance on matters as they relate to the Environmental Studies Program (ESP).

Below is Mr. Gould's verbatim presentation to the SC:

As some of you know, our Director, Johnnie Burton, is wearing two hats: one as the Director of MMS and the other as the Assistant Secretary for Land and Minerals Management. As you might image, she's double-booked most of the time and unfortunately, this is one of those times. Also, our Associate Director for Offshore Minerals Management, Tom Readinger, will be retiring in June and is wrapping up a number of loose ends.

Since Tom and Johnnie were unavailable, Jim asked me to open the meeting. As Chief of the Environmental Division, it is an honor to meet with all of you today. The work that you do is critical to the success of the ESP and MMS.

So, it is my pleasure to welcome you to beautiful Santa Barbara. As you may know, MMS has a little bit of history in Santa Barbara. Unfortunately, that piece of history refers to the oil blowout of 1969. MMS, Santa Barbara, and the oil and gas industry have come a long way since then. Later today our Pacific Regional Director, Ellen Aronson, will talk about what's going on in the MMS Pacific OCS Region.

The last hurricane season brought MMS many professional and personal challenges. During the 2005 hurricane season, there were 27 named storms – 15 of which became hurricanes. Last year was the first time there were three category-5 hurricanes in the Gulf of Mexico. In addition, the 2005 season was the first time four major hurricanes hit the U.S. in one season. As a result, over 30,000 offshore workers in the Gulf of Mexico were evacuated and the 4,000 structures in the Gulf prepared for hurricanes multiple times. I am very happy to report that there was no loss of life or injuries to offshore workers at any OCS facilities, and there were no fires or major pollution events caused by process equipment failure during the storm.

Our Gulf of Mexico Regional Office is home to nearly 600 MMS employees. In the aftermath of Hurricane Katrina, we were all relieved that every single person working in our Gulf of Mexico Regional office was found safely. However, many people had extensive damage to their homes, or no homes at all. And in the face of personal hardships, our staff has shown great dedication and perseverance as they have assisted each other and came back to work to help our Nation recover.

Our office in Metairie, while not destroyed, suffered enough damage to close the building for several months. While the Gulf Coast and many of our employees were reeling from personal loss, the Nation needed MMS to get its energy production up and running again. So the decision was made to temporarily move some essential managers and staff from our Gulf of Mexico Regional office in New Orleans to Houston, Texas. This move took place in September. In late October, all employees originally in the Elmwood office building reported to three locations: two in the New Orleans area and one in Houston. On April 3<sup>rd</sup> the MMS staff that moved to Houston relocated back to the New Orleans area.

Both Hurricane Katrina and Rita led to a peak shut-in of 100% of Gulf oil production. Hurricane Katrina had the peak shut-in of 94% of gas production. As of today, 78% of the oil and 87% of the natural gas has been restored. Joe Christopher, the Gulf of Mexico Regional Supervisor for Leasing and Environment, will discuss the effects of Hurricanes Katrina and Rita on production, infrastructure, leasing, and our studies program in more detail during his presentation.

In addition to MMS's continued responsibilities pertaining to OCS oil and gas and marine minerals, we will now be looking to the Committee for guidance on studies regarding renewable energy and alternate uses of the OCS. As many of you know, the Energy Policy Act was enacted in August of last year. The Act gave the Secretary of the Interior the authority to grant access for renewable energy-related uses on Federal OCS lands. The Secretary named MMS as the lead agency for coordinating the permitting process with other Federal agencies, and monitor and regulate those facilities used for renewable energy production.

The Act also directed MMS to complete a comprehensive inventory of the undiscovered recoverable oil and gas resources on the OCS. MMS has completed this comprehensive inventory and estimates that there are 115.4 billion barrels of oil and 633.7 trillion cubic feet of gas to be discovered on the OCS.

The largest task, Section 388 of the Energy Policy Act, gave MMS responsibility for regulating renewable energy and alternate uses of the OCS. MMS has begun the process of writing these regulations in addition to working on two wind farm proposals that were grandfathered into the MMS implementation of the Act. Maureen Bornholdt, the program manager for the renewable energy and alternate use team, will discuss the Act and the current status of the regulations, proposals, and environmental studies in her presentation.

Recognizing the importance of the oceans, coasts, and Great Lakes to the United States, Congress enacted the Oceans Act of 2000, which created the U.S. Commission on Ocean Policy. On September 20, 2004, the Commission fulfilled its mandate to submit recommendations for a coordinated and comprehensive national ocean policy to the President and Congress. The Commission's final report, [An Ocean Blueprint for the 21st Century](#), contains 212 recommendations addressing all aspects of ocean and coastal policy, including: resource protection, transportation, ocean resource use, science, education, mapping, and other topics.

To meet the challenges raised by the Commission, on December 17, 2004, the President issued an Executive Order creating the Cabinet-level Committee on Ocean Policy to coordinate the activities of executive branch departments and agencies regarding ocean-related matters in an integrated and effective manner. Simultaneously with this Executive Order, the President submitted to Congress his formal response to the Commission, the *U.S. Ocean Action Plan*.

To implement the President's *U.S. Ocean Action Plan*, the Administration created an ocean governance structure that coordinates through several new, as well as existing, ocean related committees and subcommittees. Within this structure, both the Department and the MMS are represented at various levels. For example, the Secretary of the Interior is a member of the Committee on Ocean Policy and is also represented by the Assistant Deputy Secretary on the Interagency Committee on Ocean Science and Resource Management Integration, or the ICOSRMI for those of you who have heard Dr. Kendall talk about the Ocean Commission, but is now commonly referred to as the "Aqua" Box. MMS and USGS [U.S. Geological Survey] are members of the Joint Subcommittee on Ocean Science and Technology (JSOST) and the Subcommittee on Integrated Management of Ocean Resources (SIMOR); Interior also serves as a co-chair of SIMOR. In addition, MMS management and staff are directly involved in a number of Interagency Working Groups and Task Forces related to these Committees.

One of MMS's current responsibilities includes working on the development of an Ocean Research Priorities Plan and Implementation Strategy and ensuring that the ocean sciences and technology needs of coastal and resources managers are adequately addressed. I'm sure Dr. Kendall will have a lot more to say about this during the meeting. Finally, the current 5-Year leasing program expires on June 30, 2007. Beginning in August of last year, MMS began developing the 5-Year Leasing Program for 2007-2012. It is a lengthy, multi-step process of consultation with interested and affected parties. MMS conducts an analysis of all 26 planning areas before the Secretary of Interior can approve a new leasing program.

The first document issued in the process is the Draft Proposed Plan. Due to the public comments received from state and local representatives, MMS decided to include areas for leasing that have not been offered in many years. These areas include an area offshore of Virginia and the North Aleutian Basin in the Bering Sea off the coast of Alaska. As you can imagine, this has stirred up a lot of interest in our leasing program.

For the first time, the 5-year EIS [Environmental Impact Statement] will address the issue of climate change. MMS staff will use available research to assess potential results of climate change on our cumulative analyses. For example, the impacts of climate change are already being observed in Alaska and our analyses will consider potential impacts on marine mammals and subsistence live-styles. We are also examining the impacts of rising global temperatures on coastal habitats in the Gulf of Mexico that would be flooded by rising sea levels in response to ice melting.

We are also introducing a regional ecosystem-based management approach for describing and analyzing the environment in our EIS as suggested by the Ocean Commission and supported under the U.S. Ocean Action Plan. This is being done at the scales appropriate for a national, programmatic EIS. For example, the Gulf of Mexico OCS spans a subtropical/tropical environment unbroken by any continental barriers so analyses and descriptions are for the entire region. The Alaska OCS, however, can be divided into three areas based on ecological-climatic zones and by the natural divisions created by the Alaska land mass: the Arctic, the Bering, and the South Alaska Sub areas.

I want each of you to know how much MMS as a whole appreciates your time, insights and advice, especially me!! Because of the hard work and dedication of this Committee working to fine tune our Studies Plans, MMS is able to make better decisions about our current and future research, which allows us to make informed decisions regarding oil and gas activities on the OCS. I hope that you all enjoy the meeting, enjoy Santa Barbara, and the field trip to the oil seeps on Friday. Thank you!

### **Pacific OCS Region Update**

Ms. Ellen Aronson, Pacific Regional Manager, provided an overview of the activities in the Region. She stated that oil and natural gas production from the Region's 43 active leases continues at relatively stable rates. The ESP continues to include studies that support decisions enabling wise management of these activities, including a long-term intertidal biology monitoring program at areas adjacent to active oil and gas facilities and investigations concerning the ecological role that oil and gas platforms play in the regional marine ecology in light of severe depletions of commercial and sports fish. She reported that recently the prospect of using offshore sand resources has prompted the Region to explore information needs related to these resources, particularly offshore San Francisco Bay.

### **The Energy Policy Act**

Ms. Maureen Bornholdt, Program Manager, Renewable Energy/Alternative Use, stated that this Administration recognized the Nation's need for a comprehensive energy policy as early as 2001 with the Report of the National Energy Policy Development Group. When President Bush signed the Energy Policy Act into law on August 8, 2005, he committed his Administration to implementing the tools for "dependable, affordable, and environmentally sound production and distribution of energy." As manager of many of the onshore and offshore resources encompassed in the Energy Policy Act, the Department of the Interior plays a major role in implementing this legislation.

## **MMS' Data Management, Requirements, and Discussion**

Dr. Mary Boatman, Oceanographer in the Environmental Assessment Branch, presented a brief background of the Environmental Studies Program information needs, describe how these needs are met through contractual requirements, and discussed internal data management issues.

## **Impacts of Hurricanes Katrina and Rita to the MMS Gulf of Mexico Region**

Dr. Joe Christopher, Regional Supervisor for the Office of Leasing and Environment in the Gulf of Mexico OCS Region, described effects of Hurricanes Katrina and Rita on OCS oil and gas activities in the Gulf and provided a synopsis of environmental studies developed to address information needs resulting from the storms. He also provided brief updates on oil and gas activities and environmental studies in ultra-deepwater, and the status of offshore Liquefied Natural Gas ports in the Gulf of Mexico.

In the afternoon, the Regions met separately to discuss national and regional studies plans.

The SC met with the Regions and Headquarters in Discipline Breakout Groups which are devoted to discipline-based breakout sessions (ecology/biology, physical oceanography, and socioeconomics) to discuss studies plans.

## **Discipline Breakout Groups Reports**

### **Biology/Ecology Discipline Breakout Group**

Members: Michael Castellini, Robert Diaz, Michael Fry, Michael Rex, Eugene Shinn, and John Trefry

### **Marine Minerals Program**

This division and its operations are expanding geographically and in terms of extent of dredging as terrestrial and near-shore sources of sand and gravel become depleted. Growing demand is anticipated.

1. Proposed FY2007 Studies
  - (a) Synthesize information on the Florida Coast with Respect to Environmental Impacts of Dredging,
  - (b) Investigation of Potential Borrow Sites of South and Central California, and
  - (c) Long-Term Monitoring of Borrow Sites.
    - Protocols established
    - Methods are field tested

**Recommendation.** Make the long-term monitoring (c) the first priority. The ecology/biology group believes the evaluation and tracking of environmental effects (particularly biological effects) of dredging is a top priority at this stage in the development of the Marine Minerals Program.

2. Proposed FY2008 Studies
  - (a) Potential Effect of Dredging Off New England,
  - (b) Physical effects of Dredging Shore-Face Attached Sand Ridges, and
  - (c) Critical Review of Numerical Wave Models Including Field Evaluation.

**Recommendation.** Make Review and Evaluation of the Numerical Wave Model the top priority including climate change and sea level rise. Numerical wave models are the principal predictive tool of potential environmental effects of dredging.

### **Pacific Region**

The emphasis of the Pacific Region changed from decommissioning to enhanced production, time-series monitoring, and roles of platforms in regional ecology.

1. Proposed FY2007 Studies
  - (a) Environmental Mitigation Monitoring,
  - (b) Multi-Agency Rocky Intertidal Network (MARINE),



- (c) Update Summary of Knowledge: Areas of Ongoing Production, and
- (d) Fish Assemblages on pipelines (Equivocal).

**Recommendations:** (a) and (c) are regulatory requirements that should be met; the Group strongly supports MARINe, and the Group needs to see a specific proposal on shifting studies from pipelines to rigs including the sampling design. (d) basically is off the table for now.

2. Proposed FY2008 Studies

- (a) Spatial & Temporal Variation in Size and Distribution of Juvenile Fishes on Rigs,
- (b) Investigation of Polychlorinated Biphenyls (PCB's) and Polycyclic Aromatic Hydrocarbons (PAH's) in Archived Samples, and
- (c) Summary of Knowledge on World Wide Decommissioning.

**Recommendations.** Spatial and temporal variation in juvenile fish is an important priority, PCB's and PAH's study is of very limited value, decommissioning study is important for all regions, the Group urged the Pacific Region to begin considering base-line studies for moratorium regions to anticipate future petroleum exploration.

**Alaska Region**

The region is faced with an unsettled and challenging situation driven by a new leasing schedule and dynamic environmental shifts caused by climate change.

1. Proposed FY2007 Studies

- (a) Chukchi Offshore Monitoring in Drilling Area (COMIDA) (Lease Sale 2007) – Post Lease Monitoring/Baselines,
- (b) North Aleutian Basin Synthesis and Research Planning Meeting (Lease Sale Proposed 2010),
- (c) Assessing Offshore Human Activities in Alaskan Arctic,
- (d) Monitoring Marine Birds in E. Chukchi Near-shore area,
- (e) Monitoring Health of Bowhead Whales,
- (f) Pinniped Movements and Foraging, and
- (g) Arctic Fish Ecology.

2. Proposed FY2008 Studies

Polar Bear Habitat Use in Beaufort Sea

**Recommendations.** It is hard to evaluate priorities for (c) and (g) (2007) and 2008. Focus on Chukchi and North Aleutian Basin Studies which will determine priorities, encourage MMS to pursue international cooperation in assessing environmental issues at high latitudes – perhaps the Arctic Subcommittee should be the Alaskan Subcommittee and the Regional Office should begin looking at non-moratorium sites to get ahead of the leasing process.

**Gulf of Mexico Region**

There is a lot of uncertainty about the timing of potential new leasing in the Atlantic (possibly 2011, 2012). The Gulf of Mexico regional office wants to get ahead of leasing by planning and information gathering for the Atlantic Continental Shelf.

1. Proposed FY2007 Studies

- (a) Workshop on Marine Mammals and Turtles,
- (b) North and Central Atlantic Information Search and Synthesis (Benthic and Physical),
- (c) Workshop on Offshore Information for Virginia,
- (d) Lophelia II, and
- (e) Sperm Whale Acoustic Prey Study

2. Proposed FY2008 Studies

Deepwater Artificial Reef Effects II

**Recommendations.** The Group strongly approves of the workshops and information gathering for the Atlantic to plan in advance of potential leasing, exploration and production, and urged support for Lophelia II. Deepwater coral studies are a major new advance in deep-sea biological oceanography that has captured the public attention and support.

**Physical Oceanography Discipline Breakout Group**

Members: Michael Kosro and Joe Smith

**Gulf of Mexico Region**

The Group complemented Drs. Alexis Lugo-Fernandez and Tony Sturges on the American Geophysical Union's publication of *Circulation in the Gulf of Mexico: Observations and Models*, edited by Alexis Lugo-Fernandez and Tony Sturges.

1. Proposed FY2007 Studies

- (a) North and Central Atlantic Information Resources – Data Search and Synthesis
  - ~2 decades since any significant energy-related OCS activity in region
  - Study aimed at synthesis of updated information to support management decisions that may be necessary over next 5-10 years
  - Endorse effort to update information based on large volume of new data
- (b) Workshop on the Information Needs for Offshore Virginia
  - Review environmental and socioeconomic issues for offshore Virginia
  - Develop recommendation for coordinated environmental and socioeconomic research for area
- (c) Joint U.S. – Mexico Physical Oceanography Workshop
  - Provides help in planning next phase of Phys-Oceanography program for Deepwater Gulf of Mexico
  - Actively facilitate participation of Mexican scientists in planning and execution
  - Opportunity to enlist additional resources and participation in the 2008 Loop Current Monitoring Study
  - Ensure participation of circulation modelers, remote sensing and observational scientists to provide feedback on array design for FY08 Loop Current Monitoring Study
- (d) Ultra-deepwater Circulation Processes in the Gulf of Mexico
  - Further development of Gulf of Mexico circulation models
  - Develop scope to complete assessment of 2008 loop current monitoring program completed in time to present at U.S./Mexico Workshop
- (e) NASA Aura Satellite Data – Background Ozone in the Gulf of Mexico
  - Will use satellite data to map atmospheric ozone concentrations over offshore Gulf of Mexico
  - Supported by existing meteorological data
  - Recommend including effort to collect ground-truth observations of offshore ozone concentrations to compare with contemporaneous satellite data

. Proposed FY2008 Studies

- (a) Dynamics of Loop Current in U.S. Waters
  - Field monitoring of currents in previously unstudied regions of deepwater Gulf of Mexico
  - Aimed at understanding eddy shedding mechanism and coupling between surface and bottom flows
  - Seek Mexican involvement in parallel efforts for Yucatan waters to simultaneously monitor in-flow
  - Consider including a component for data assimilation
  - Field study design to draw on findings of ultra-deepwater workshop
- (b) Meteorological and Wave Measurements for Improving Meteorological and Air Quality Modeling
  - Field program of wind and wave measurements at two offshore platforms
  - Improve capabilities of air quality models to treat processes at the air/water interface and in the atmospheric boundary layer
  - Will take advantage of 5-year update of Gulf of Mexico emissions sources
  - More detail on goals and expected outcomes would be helpful at next meeting

## Alaska Region

### 1. Proposed FY2007 Studies

- (a) North Aleutian Basin Synthesis and Research Planning Meeting
  - Compressed timescale due to imminent lease-sale schedule
  - Anticipate concerns over impacts on
    - ◇ Fisheries
    - ◇ Right whales
    - ◇ Overall productivity of Bering Sea
    - ◇ Adequacy of circulation models for oil spill risk analysis
- (b) Study plan to be elaborated based on results of Phase 1(Planning meeting)
  - SC should be offered opportunity to review and provide input to Phase 2 plans
  - Potential for SC members to attend meeting and contribute to an accelerated review of plans (by email if face-to-face meetings impractical)
  - Delegate to Arctic Subcommittee of OCS-SC?
- (c) Chukchi Offshore Monitoring (COMIDA)
  - Similar in structure to recent Arctic Nearshore Impact Monitoring in Development Area (ANIMIDA) program
  - Envision separate contractors for Phase 1/Phase 2 of effort
  - Recommend conducting Phase I workshops and design and use SC to review monitoring plan for years 2-5, when it's developed

### 2. Proposed FY2008 Studies

- Plans in a state of flux due to high level of near term activity
- Proposed program for high resolution bathymetry for Beaufort and Chukchi (deferred from previous year)
- Arctic haze and regional air quality
- Too early to endorse these items as priorities for 2008 program

## Headquarters

### 1. Proposed FY2007 Studies

- (a) Extension of Ocean Model Calculations
  - Test model for predicting spilled oil transport
  - Take advantage of existing model and new drifter data sets and wind data for the 2000-2006 time frame
  - A valuable exercise to see how well a model, tuned to historical data, does in predicting data outside of its "training set"
- (b) Satellite Oceanography Study and Oceanic Atlas: North
  - Supporting renewable energy use
  - Collection of existing Atlantic satellite images
  - Use a range of sensors to infer information about currents, heat transport, suspended solids and phytoplankton levels
  - Overall focus of program needs to be tightened up, goal and scope better defined to ensure that it provides best overall support to renewable energy application
  - Atlas should include digital supplement with data for each image
- (c) Plan is to extend to south in 2008 program

### Socioeconomics Discipline Breakout Group

Members: Richard Hildreth; Tyler Priest; and Duane Gill

**General Recommendations.** Appoint an economist to the SC, fill the social scientist vacancy on the Arctic Subcommittee, and encourage a subcommittee member to attend industry technical meetings and report back to the SC.

## **Gulf of Mexico Region**

There are two proposed FY2007 studies and six proposed FY2008 studies.

### (a) State and Local-Level Fiscal Effects of the Offshore Petroleum Industry

**Recommendations.** Start with a Geographic Information Systems with a compatible fiscal structure baseline of the jurisdictions of interest (e.g., municipalities, school districts, counties) for Alaska, Mississippi, Louisiana, and Texas, focus on one state and one community in that state for a pilot study, use a statement of objectives instead of a statement of work that would include a request for assistance with how to deal with post-hurricane effects in executing the project since there are methodological issues still to be resolved, and develop an analytical tool to assess the fiscal effects at a regional level.

### (b) The Oil Services Contract Industry in the Gulf of Mexico Region

**Recommendations.** Strongly recommended by the 2004 Social and Economic Gulf of Mexico Workshop, contract workers make up 60 percent of direct offshore employment in the Gulf of Mexico, there are safety and risk issues associated with this group of workers, narrow sector focus and concentrate on drilling and production, and use a statement of objectives instead of a statement of work since there are methodological issues still to be resolved.

#### 1. Proposed FY2008 Studies

- (a) Alternative Energy Project Scenarios for Planning Areas in the Gulf of Mexico and Atlantic Regions
- (b) Energy-Related Infrastructure in the Atlantic Region
- (c) Siting Issues and Resource Availability for Alternative Energy Project Scenarios in the Gulf of Mexico and Atlantic Planning Areas

**Recommendations.** Combine “Atlantic Energy-Related Infrastructure” and “Siting Issues and Resource Availability” into a single study and wait for the results of the Headquarters’ alternative energy studies before beginning the Gulf of Mexico Alternative Energy Project Scenarios study.

### (d) Socioeconomic Effects on Urban Communities

**Recommendations.** Recommended by the 2004 Social and Economic Gulf of Mexico Workshop, use a statement of objectives instead of a statement of work since there are still methodological issues to be resolved, do not begin study until Katrina effects have dissipated. For FY 2008, the two proposed studies, (1) Monitoring of Industry Compliance and National Register of Historic Places Evaluations of Submerged Sites on the Atlantic OCS, and (2) Investigation of Potential Spanish Shipwrecks in Ultra Deepwater, would enhance our understanding of the cultural heritage of the Gulf of Mexico (U.S. and Mexico) and Atlantic regions.

## **Alaska Region**

#### 1. Proposed FY2007 Studies

### (a) Chukchi Offshore Monitoring in Drilling Area

**Recommendations.** Workshop should involve social science researchers and SC representatives should be included in the workshop (e.g., Arctic Subcommittee?).

### (b) North Aleutian Basin Synthesis and Research Planning Meeting

**Recommendation.** SC representatives should be included in the workshop (e.g., Arctic Subcommittee?).

### (c) Assessing the Cumulative Extent of Offshore Human Activities in the Alaskan Arctic

**Recommendations.** Recognizing the difficulties in conducting cumulative impact assessments, the subcommittee supports the proposed study and use methods that improve data coverage.

## 2. Proposed FY2008 Studies

Environmental Mitigation Monitoring of Oil Industry Operations on Subsistence Activities in the Vicinity of Nuiqsut

**Recommendations.** Group strongly endorses the proposed study; however, consider renaming the study to reflect cumulative impact issues, and study has the potential to inform cumulative impact studies in other regions.

### **Renewable Energy & Alternate Use**

During a discussion of renewable energy and alternate uses of the OCS, the following points and considers were made:

- Focus on energy production as most important aspect,
- Harvest European/international experience in placing offshore wind projects,
- Physical impacts of placing structures on sea floor,
- Wind farms and Bird Impacts,
- How best to communicate findings to the public,
- What are the potential multiple use conflicts,
- Renewable studies should decide what “activities” are within the RSP scope,
- Port/harbor onshore support requirements and impacts,
- Electric and magnetic fields’ potential impacts on marine biota,
- Use of existing corridors to transmit energy,
- Types/availability of mitigation for environmental impacts for renewable projects,
- Expand the National Renewable Energy Laboratory’s mapping of offshore energy potential,
- Relate to Integrated Ocean Observing System program data/regions,
- Mitigation of social and economic impacts,
- Risk vs. Benefits: locally, regionally, nationally,
- SC should consider a renewable energy subcommittee,
- Potential environmental impacts of generating and transporting H2 versus electricity, and
- Workshop should be structured to avoid contention.

### **Committee Business**

As a result of this year’s deliberations, the following recommendations emerged:

1. Renewable energy alternate uses should focus on energy related uses of the OCS. Steps should be taken to insure greatest possible public acceptance of renewable energy on the OCS.
2. The SC would like to emphasize the importance of archiving MMS supported data in a manner that would keep it accessible. In addition to making data available through the National Oceanographic Data Center, MMS should keep and manage its own data archive. Data should be viewed as a renewable resource that can be mined as the need arises.
3. The Department of the Interior and the Office of Management and Budget guideline and procedures for implementation of peer review need to be evaluated for applicability to MMS mission.
4. If MMS is directed to open up new areas for exploration and lease sales, it should seek additional funding and not redirect funds programmed for other uses.
5. Wider dissemination of Request for Proposals is needed to reach a broader spectrum of scientists and make them aware of funding opportunities.
6. MMS should keep up its participation in key ocean related committees, such as the National Ocean Partnership Program, etc., but realize these commitments do require substantial effort by MMS personnel.

7. Regions should be allowed to develop a broader knowledge base within their regions. This would be consistent with developing ecosystem based management and would provide important baseline data over the entire region.

The following emerging issues were identified:

1. Acoustic and seismic effects on marine mammals continue to be an important environmental issue. The OCS Science Committee encourages MMS to continue and expand its cooperation with other agencies to address these issues.

2. Developments in the arctic and GOM relative to how oil and gas operations will be effected by climate change require system wide knowledge and data collection. This opens up the possibility for international cooperation with nations bordering the arctic and GOM.

The SC members will be polled to determine the best dates (Spring 2007) to hold the next meeting which may be held in the Gulf of Mexico.

The meeting was adjourned.

[Federal Register: April 17, 2006 (Volume 71, Number 73)]  
[Notices]  
[Page 19747-19748]  
From the Federal Register Online via GPO Access [wais.access.gpo.gov]  
[DOCID:fr17ap06-82]

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DEPARTMENT OF THE INTERIOR

Minerals Management Service

Outer Continental Shelf (OCS) Scientific Committee (SC);  
Announcement of **Plenary Session**

AGENCY: Minerals Management Service (MMS), Interior.

ACTION: Notice of meeting.

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SUMMARY: The OCS Scientific Committee will meet at the Hotel Mar Monte in Santa Barbara, California.

DATES: Wednesday, May 10, 2006, from 8 a.m. to 5:30 p.m.; Thursday, May 11, 2006, from 8 a.m. to 5:30 p.m.; and Friday, May 12, 2006, 8:30 a.m. to 12:30 p.m.

[[Page 19748]]

ADDRESSES: Hotel Mar Monte, 1111 East Cabrillo Blvd., Santa Barbara, California 93103, telephone (805) 963-0744.

FOR FURTHER INFORMATION CONTACT: A copy of the agenda may be requested from MMS by calling Ms. Carolyn Beamer at (703) 787-1211. Other inquiries concerning the OCS SC meeting should be addressed to Dr. James Kendall, Executive Secretary to the OCS SC, Minerals Management Service, 381 Elden Street, Mail Stop 4043, Herndon, Virginia 20170-4817 or by calling (703) 787-1656.

SUPPLEMENTARY INFORMATION: The OCS SC will provide advice on the feasibility, appropriateness, and scientific value of the OCS Environmental Studies Program to the Secretary of the Interior through the Director of the MMS. The SC will review the relevance of the research and data being produced to meet MMS scientific information needs for decision making and may recommend changes in scope, direction, and emphasis.

The Committee will meet in **plenary session** on Wednesday, May 10. The Director will address the Committee on the general status of the MMS and its activities. There will be an update on OCS activities in the Pacific OCS Region, a briefing on the impacts of Hurricanes Katrina and Rita on the Gulf of Mexico OCS program, and MMS's new responsibilities under the Energy Policy Act of 2005.

On Thursday, May 11, the Committee will meet in discipline breakout sessions (i.e., biology/ecology, physical sciences, and social sciences) to review the specific research plans of the MMS regional

offices for Fiscal Years 2008 and 2009.

On Friday, May 12, the Committee will meet in **plenary session** for reports of the individual discipline breakout sessions of the previous day and to continue with Committee business.

The meetings are open to the public. Approximately 30 visitors can be accommodated on a first-come-first-served basis at the **plenary session**.

Authority: Federal Advisory Committee Act, P.L. 92-463, 5 U.S.C., Appendix I, and the Office of Management and Budget's Circular A-63, Revised.

Dated: April 11, 2006.

Thomas A. Readinger,  
Associate Director for Offshore Minerals Management.  
[FR Doc. E6-5636 Filed 4-14-06; 8:45 am]



# **Outer Continental Shelf Scientific Committee**

## **Charter**

### **Official Designation**

Outer Continental Shelf (OCS) Scientific Committee.

### **Scope and Objectives**

The OCS Scientific Committee will provide advice on the feasibility, appropriateness, and scientific value of the Outer Continental Shelf Environmental Studies Program to the Secretary of the Interior through the Director of the Minerals Management Service (MMS). The Committee will review the relevance of the research and data being produced to meet MMS scientific information needs for decision making and may recommend changes in scope, direction, and emphasis.

### **Duration and Termination**

The Committee will terminate 2 years from the date this charter is filed, unless renewed prior to that date to comply with section 14(a) (2) of the Federal Advisory Committee Act. The Committee charter may be renewed by the Secretary as long as the Offshore Minerals Management Program of the Minerals Management Service requires advice and expertise of the Committee.

### **Official to Whom the Committee Reports**

The Director, Minerals Management Service.

### **Bureau Responsible for Providing Necessary Support**

The Department of the Interior, Minerals Management Service.

### **Estimated Operating Costs**

Annual activities of the Committee will require approximately 544,000 and 1-year of Federal employee support.

### **Description of Duties**

The duties of the Committee are solely advisory and are stated in Scope and Objectives above.

## **Estimated Number and Frequency of Meetings**

The Committee will meet at the request of the Director, but not less than once a year. Subcommittees will meet as necessary to accomplish their assignments, subject to approval by the Committee Chair.

## **Travel Expenses**

Each voting non-Federal member will be reimbursed for travel expenses incurred when attending Committee and subcommittee meetings in accordance with Federal travel regulations as implemented by the Department of the Interior.

## **Membership**

The Secretary will appoint non-Federal members to the Committee to serve a 2-year term. Non-Federal members may not serve more than three consecutive terms. There will be no alternates. The Secretary may revoke an appointment to the Committee if a member fails to attend two consecutive meetings. Previous service on the Minerals Management Advisory Board OCS Scientific Committee will count as service on this Committee for purposes of determining eligibility. After a 2-year break in service, that member will again be eligible for appointment.

Appointments will be made to balance the Committee in terms of technical skills and geographic representation. Members will be appointed to the Committee based on the following criteria:

- Scientific competence,
- Reputation within their field of expertise, and
- Ability to represent important elements of the MMS's research and science information efforts.

## **Federal Members**

The Director, Minerals Management Service, or designee, is a nonvoting, ex officio member of the Committee.

## **Subcommittees**

The Committee may establish subcommittees to study issues in-depth and to develop recommendations for consideration by the full Committee. Membership will be balanced in terms of perspective, subcommittee function, and expertise required by the subcommittee. Subcommittees may include people who are not members of the Committee. The Committee Chair will appoint subcommittee members. Subcommittee members will be reimbursed for travel expenses incurred when attending subcommittee or committee meetings to present subcommittee deliberations to the full Committee, Subcommittee members will be reimbursed in accordance with Federal travel regulations as implemented by the Department of the Interior.

## **Officers**

The Committee will elect from its membership a Chair, Vice Chair, and Parliamentarian to serve a 2-year term. The Associate Director for the Offshore Minerals Management Program, or designee, will serve as the Designated Federal Officer. The MMS Chief Scientist is the Executive Secretary and MMS Science Liaison to the Committee and will attend all meetings.

## **Meeting Minutes**

Detailed minutes of each Committee meeting, recommendations made, and copies of all studies and reports received, issued, or approved in conjunction with the activities of the Committee will be available for public review at the following location:

Minerals Management Service  
381 Elden Street, Mail Stop 4001  
Herndon, Virginia 20170-4817

## **Ethics Responsibilities of Members**

The OCS Scientific Committee members are designated special government employees and will comply with applicable ethics rules and regulations. The Department of the Interior will provide materials to members who are appointed as special government employees, which will explain their ethical obligations- Consistent with the ethics requirements, members will endeavor to avoid any actions that would cause the public to question the integrity of the Committee's operations, activities, or advice. The provisions of this paragraph do not affect any other statutory or regulatory ethical obligations to which a member may be subject.

## Internet Homepage

Information on the Committee may be found on MMS's Internet site, [www.mms.gov](http://www.mms.gov).

## Authority

We have determined that the Committee is in **the public interest in connection** with duties of the Department of the Interior. We have authority for these duties under the OCS Lands Act, as amended (43 U.S.C. 1331 *et seq.*)

The Committee activities will be governed by the Federal Advisory Committee Act (S U.S.C. Appendix 2), as amended, and implementing regulations.

                  /S/                    
Gale Norton  
Secretary of the Interior

          2/17/2006            
Date Signed

          2/21/2006            
Date Filed