

**OUTER CONTINENTAL SHELF
SCIENTIFIC COMMITTEE
Plenary Session
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Proceedings**

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.

1. Proposed FY 2007 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 FY 2008 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 FY 2007 Studies
 - (a) Environmental Mitigation Monitoring,
 - (b) 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 FY 2008 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 FY 2007 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 FY 2008 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 FY 2007 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 FY 2008 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 have 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.

1. Proposed FY 2007 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 FY 2008 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

2. Proposed FY 2008 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 FY 2007 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) 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

2. 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

1. Proposed FY 2007 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: 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.

1. Proposed FY 2007 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.

2. Proposed FY 2008 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 FY 2007 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 FY 2008 Studies

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

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 considerations 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 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.
3. The DOI and the OMB 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 NOPP, 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 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.