Partnerships to Better Understand and Address the Impacts of Offshore Energy Development on Marine Mammals and Ecosystems

Marine Mammal Commission 2014 Meeting

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CetSound: Phase I

2010 multifaceted NOAA commitment:
- Developing tools & soliciting stakeholder input
- To help comprehensively address cumulative impacts of human-induced sound

- **CetMap**: new tools to map cetacean density, distribution & important areas; provide additional context for impact analyses
- **SoundMap**: new tools to predict and map noise contributions from multiple sources

Symposium (May 2012):
- Share products, talk about potential management applications, & solicit input from multi-stakeholder audience

Website: cetsound.noaa.gov
Cetacean Density and Distribution Mapping (CetMap)

1. Cetacean Data Availability Analysis
2. New Density Modeling
3. Biologically Important Areas
4. Mapping & Public Accessibility to Products
Underwater Sound Field Mapping Working Group (SoundMap)

- Chronic, regional to ocean-basin scale sound fields associated with multiple source types
- More comprehensive representations of local sound fields associated with shorter-term exemplar “events”
Phase II: NOAA Ocean Noise Strategy:
Near-term Objectives

1. Secure support within NOAA for next steps toward the 10 year vision – *Fall 2012*
   - Identify staff and leadership within NMFS and NOS responsible for developing and implementing Strategy
   - Brief NOAA leadership (June-Dr. Lubchenco, November-Dr. Titley)

2. Organize cross-NOAA team to identify noise conservation goals to guide: a) science planning and prioritization, and b) management decisions under multiple authorities – *Underway*

3. Create new or utilize existing external forums (Federal agencies, non-governmental stakeholders, international) to maximize synergy with related efforts - *Underway*

4. Maintain and further develop tools that support policy decision making - *Requires further support*

5. Implement outreach and education on ocean noise and NOAA’s goals for reducing its impacts – *Requires further support*
Phase II: NOAA Ocean Noise Strategy 2013-2014 Work

- **Ocean Noise Strategy Framework Drafting**: Creation and leadership for 3 cross-line office writing groups to draft 3 chapters.

- **NOAA Noise Reference Stations**: OAR/NMFS/NOS collaboration to deploy first NOAA-coordinated network of acoustic monitoring sensors throughout US EEZ.

- **Biologically Important Areas**: Submittal to peer-reviewed journal 8 articles identifying important reproductive, feeding, and migratory areas, and resident populations, for cetaceans in US EEZ (March 2014).

- **International Underwater Sound Field Mapping Techniques Workshop**: Initiated and led planning with IWC, IQOE, ONRG, and the Netherlands (April 2014).

- **Joint Subcommittee on Ocean Science and Technology (JSOST) Interagency Task Force on Ocean Noise and Marine Life**: Coordinated with Navy/BOEM/MMC to facilitate across-agency approach to Noise (science and management).

- **Representing Strategy Objectives in Various Forums**: Effects of Noise on Aquatic Life (Hungary, 8/13), Arctic Council PAME (Russia, 9/13), IWC Arctic (Alaska, 3/14).
Additional Partnering: Gulf of Mexico Workshops

- Jointly planned and sponsored workshops (NMFS, BOEM, MMC, API, IAGC, and individual companies).

- Enhance data/information collection, discussion, and stakeholder input in support of analyses needed for regulatory compliance.

**Mitigation and Monitoring Workshop** (late 2012)

- Understanding benefits to species, effectiveness, and practicability of proposed mitigation measures

- Beginning to prioritize data needs and monitoring strategies in the Gulf of Mexico

**Sound Exposure Modeling workshop** (early 2014)

- Approaches to modeling sound fields from airgun arrays and other active acoustic sources, including data requirements and performance in various contexts.

- Approaches for integration of modeled sound fields with biological data to estimate marine mammal sound exposures.

- Assumptions and uncertainties for each approach and resultant effects on exposure estimates.