Birds and Bats Breakout Session

Wednesday July 13, 2011

Session Objective

- To present information on current and planned research efforts and immediate information needs – follow up to recent FWS workshop
- Presentation/panel and facilitated discussion

Presentation Summary

- Summary of Marine Bird Science and Offshore Wind Workshop – Melanie Steinkamp (FWS)
  - Summary of current knowledge on distribution and abundance of marine birds in the North Atlantic
  - Identify and prioritize future scientific research and monitoring

Presentation Summary

- Current Research Efforts
  - Dr. Caleb Gordon (Normandeau)
    - Endangered Bird Species Risk Assessment - potential for interactions between endangered and candidate bird species and wind facility operations on the Atlantic OCS
    - Acoustic/Thermographic Offshore Monitoring System - monitoring of spatiotemporal abundance of marine birds on the AOCS
    - Aerial High-definition Imaging Pilot Study - pilot study of aerial high-definition surveys for birds, marine mammals and sea turtles on the AOCS

Presentation Summary

- Current Research Efforts (cont'd)
  - Dr. Allan O'Connell (USGS)
    - Summary of historic seabird database and modeling efforts
  - Dr. Richard Veit (CSI/SUNY)
    - Results from ships of opportunity cruises and examples of persistent aggregations or 'hotspots'
  - Dr. James Woehr (BOEMRE)
    - Ongoing BOEMRE funded studies and future activities
  - Steve Pelletier (CWB Stantec)
    - Ongoing offshore bat research in Gulf of Maine and data needs

Presentation Summary

- Research Needs
  - David Bigger (BOEMRE)
    - Maps showing species spatial and temporal abundance and distribution
      - Hot spots and cold spots
      - Persistent aggregations
      - Migration routes
      - What environmental or oceanographic features drive distributions?
    - Guideline development for avian surveys
    - Identify priority species
    - Species risk – how are they vulnerable?

Bats – Data Needs

- What species are offshore and when are they there?
- Regional use
- Annual variability
- Species at risk
- Flight characterization (foraging, migration, breeding)
- Distance to shore gradient
- Turnover rates
- Influence of white nose syndrome on behavior and populations
- Standardization of data collection
  - What are the metrics/answers needed to make decisions?
  - **Also needed for birds**

Birds – Decision Support Tool

- Risk Model/Flavored Bird Distribution and Abundance Map – **BEST BIRD MAP**
  - Where are the birds?
  - What birds are there?
  - How many are there?
  - What is the passage rate?
  - Vulnerability/exposure (including behavioral factors e.g., flight altitude, attraction, etc.)
  - What are dive times?
  - Need to link habitat information to species distribution and abundance

Birds – Data Needs for Best Bird Map

- Distribution and Abundance Data
  - Use existing information
  - Fill survey gaps (South Atlantic Bight, Gulf Stream, T&E species)
  - Study nocturnal movement patterns
  - Study migration patterns for little known species
  - Develop predictive models - where we expect to find birds given a set of variables or characteristics
    - Develop modeled distribution to encompass data deficient areas
    - Includes covariables affecting distribution and abundance (e.g., physical environmental features, behavior, prey distribution, etc.)

Birds – Data Needs for Best Bird Map

- Sensitivity Analysis
  - Identify species vulnerabilities to offshore wind development
    - behavior
    - environmental
    - conservation status
  - Prioritize species based on vulnerability

Developing the Best Bird Map – Next Steps

- Get the most out of existing data
  - metadata
  - remove artifacts
  - develop data quality estimates
- Structured Decision Making (SDM) workshop for sensitivity analysis (identify species vulnerabilities, risks, and priority species)
- Predicted distribution and abundance
- Weight distribution and abundance by risk (model output e.g., color coded map)

Birds - Other Needs

- Pre-development monitoring at colonies (e.g., meal delivery rates) - pre- vs. post-construction monitoring
- Post-breeding birds (juveniles)
  - Where are they congregating post fledging/pre-migration?
- Effects of turbines/structures on environmental conditions that influence bird distribution and abundance (attraction, eddies)
- Permanent FTE - data manager for seabird database
- Improved data sharing