

OCEAN SAMP

Stakeholder Group Meeting

Hazard Rooms A and B
June 30, 2009, 5:30– 8:00 pm

Agenda

Purpose of the meeting:

- 1) Present information on Marine Mammals and Sea Turtles related to the Ocean SAMP.
- 2) Discuss Next Steps for Ocean SAMP project

Meeting Chair and Facilitator: Ken Payne

- 6:00 **Welcome and Recap of the Ocean SAMP process** – Ken Payne, URI
- 6:10 **New Ocean SAMP Developments** – Grover Fugate, CRMC
- 6:20 **Ocean SAMP plans for the Summer and Fall** – Jen McCann, URI
- 6:30 **Marine Mammals and Sea Turtles.** – Dr. Robert Kenney, URI
- 7:45 **Next meetings – September 10 and October 6th, 2009**
- 8:00 **Adjourn**

OCEAN SAMP MEETINGS AND EVENTS

July 1 – December 31st

SAVE THE DATES

SUMMER EVENTS

July 16th: Vessel Traffic, Safety, and Offshore Wind Farms: Navigating the Coast Guard's Review Process. *Edward G. LeBlanc, Coast Guard*

August 6th: Rhode Island Ocean Zoning: Where NOT to put a Wind Farm in Rhode Island Waters. *Dr. Malcolm Spaulding, URI Ocean Engineering*

Aug. 12/13th?: Everything and Anything you wanted to know about Alternative Energy but were afraid to ask. *Walt Musial, U.S. Department of Energy, National Renewable Energy Laboratory*

Sept. 10th: Farming the Deep Blue: Opportunities for Increasing Sustainable Seafood Production in New England, *Dr. Richard Langan, Atlantic Marine Aquaculture Center, University of New Hampshire*

October 2009 – July 2010 Stakeholder Involvement

Stakeholder Group Meetings: Monthly stakeholder group meetings will focus on reviewing the draft chapters as well as presenting additional information on Ocean SAMP issues.

Public Informational events: Additional public events/presentations will be organized to provide the public with necessary information to more effectively engage in the Ocean SAMP process.

OCEAN SAMP STAKEHOLDER MEETING DATES

- September x, 2009 (Block Island)
- October 6th, 2009
- November 4, 2009
- December 1, 2010
- January 5, 2010
- February 2nd, 2010
- March 2nd, 2010
- April 6th, 2010
- May 4th, 2010
- June 1st, 2010

Ocean SAMP document timeline
Submittal of Draft Chapters to Public
Timeline is a guide and subject to change

	Draft Chapters	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
0	Executive Summary											X			
100	Introduction				X										
200	Ecology of the SAMP Region									X					
300	Physical Environment of the SAMP								X						
400	Wildlife and Habitats								X						
500	Cultural and Historic									X					
600	Fisheries Resources and Uses								X						
700	Recreation and Tourism							X							
800	Marine Transportation					X									
900	Infrastructure				X										
1000	Renewable Energy									X					
1100	Other Future Uses							X							
1200	New Policies, Procedures, and Regulations										X				
1300	Future Research										X				
1400	Future fed process and fed consistency									X					

Notes:

- 1) Federal and State regulations and requirements, and stakeholder recommendations will be incorporated into all chapters.
- 2) RWU Legal Program will provide existing policies, procedures and regulatory standards for all chapters.
- 3) CRC staff will provide global climate change information for all chapters.

Ocean SAMP Supplemental Research

July 1, 2009 – June 31, 2010

1. High Resolution Modeling of Meteorological, Hydrodynamic, Wave, and Sediment Processes in the SAMP Study Area

Stephan Grilli, URI Ocean Engineering

J. Harris, URI Ocean Engineering

D. Steube, ASA

Researchers will use high-resolution meteorological, hydrodynamic, wave and sediment suspension, and numerical models to the SAMP study area to accurately characterize and map wind fields, hydrodynamic fields, and potential for sediment suspension from bottom velocity of combined waves and current. These maps will provide information that is key to the development of the offshore wind farms proposed in the Ocean SAMP area.

2. High Resolution Screening Analysis for Block Island Site

Malcolm Spaulding, URI Ocean Engineering

Annette Grilli, URI Ocean Engineering

This study will apply the screening tools developed during the first year of the SAMP to the area south and southeast of Block Island in order to determine the appropriate sites for a wind farm in this area. This high-resolution screening analysis includes data from the high-resolution meteorological model providing a revised wind field and seabed data from geophysical surveys. It includes improved engineering-based values for the Technology Type within the TDI analysis and PCCA framework. The Ecosystem Services Value Index will be applied to the site to assist in screening.

3. Buoy-Based Oceanographic and Meteorological Observations: Block Island and Deep Water Sites

Malcolm Spaulding, URI Ocean Engineering

Dan Codiga, URI Graduate School of Oceanography

David Ullman, URI Graduate School of Oceanography

Neal Pettigrew, University of Maine

Researchers will deploy two fully instrumented buoys, one off the southern coast of Block Island and the second near Cox's Ledge. The buoys will collect data for one year, and the data will be analyzed for additional insight into the circulation, waves, and meteorology of both sites. The data will also be used to validate the model in a related study to predict hydrodynamics, wind, and waves.

4. Mooring Deployments and Vessel-Based Surveys to Characterize Currents and Hydrography

Dan Codiga, URI Graduate School of Oceanography
David Ullman, URI Graduate School of Oceanography

This project is designed to enhance understanding of the physical oceanography of the SAMP area by building on buoy-based sampling with fieldwork including mooring deployments and vessel-based surveys examining the horizontal and vertical structure of currents and hydrography.

Researchers are deploying buoys and conducting surveys focused on key portions of the seasonal cycle – from late summer to early fall and from late winter to early spring. Researchers are analyzing currents, salinity, temperature, and surface-wave conditions. This information is important to the planning process for offshore energy production structures.

5. Spatial and Seasonal Distribution of Phytoplankton, Primary Production, and Flux of Organic Matter to Benthic Habitats in Rhode Island and Block Island Sounds

Scott Nixon, URI Graduate School of Oceanography
Stephen Granger, URI Graduate School of Oceanography
Candace Oviatt, URI Graduate School of Oceanography

Researchers are obtaining the first measurements of the biological energy supporting the food chains of the Rhode Island and Block Island Sounds ecosystem. This information is critical to assessing the carrying capacity and fisheries productivity of this habitat. Researchers are working with lobstermen and fishermen in the area to obtain samples of surface water throughout the sounds as well as vertical profiles of light attenuation. This data will be analyzed to estimate phytoplankton chlorophyll throughout the sounds on an almost daily basis. Researchers will also measure phytoplankton productivity and light relationships to estimate organic matter production in surface waters throughout the ecosystem. The flux or deposition of this organic matter to the bottom communities will be measured to quantify the coupling between autotrophic production on the surface water and benthic biomass and metabolism.

6. Regional Subsurface Geology, Surficial Sediment, Benthic Habitat Distribution, and Cultural Resources

John King, URI Graduate School of Oceanography
Rob Pockalny, Sheldon Pratt, and Sam DeBow, URI Graduate School of Oceanography
Jon Boothroyd, URI Geosciences Department
Rod Mather, URI History Department

This study is divided into two major components: (1) seabed and sub-seabed characterization in state waters adjacent to Block Island; and (2) seabed and sub-seabed characterization in federal waters at a site that will be determined by the SAMP management team.

The study objectives for the site in state waters are to determine the deep sub-bottom stratigraphy (analysis of rock strata) using a powerful sub-bottom profiler, to complete detailed archaeology studies, and to ground-truth studies that were done near proposed wind turbine sites. GIS maps are being developed showing the data for sub-bottom geology, archaeological sites and their interpretation, and a detailed analysis of proposed turbine sites.

For the federal water site, researchers are determining bottom and sub-bottom characteristics of an area or areas approximately 50 to 60 square miles in size within federal waters identified by the SAMP screening process. Researchers are identifying archaeology targets using literature and survey data for future detailed studies, and will determine habitat types in the study area. GIS maps are being developed showing bathymetry, sediment type, biological habitat, sub-bottom geology, and archaeology targets for future detailed studies.

7. Spatial Distribution and Abundance of Birds in Offshore Waters, Including Detailed Studies of Roseate Tern Use of Offshore Waters

Peter Paton, URI Department of Natural Resources Science

Scott McWilliams, URI Department of Natural Resources Science

This study is designed to assess the spatial distribution, abundance, and movement ecology (flight elevation of birds above water surface, movement dynamics of birds in offshore habitats) of water and land birds using the Ocean SAMP study area. The originally funded project includes conducting land-based point counts, systematic offshore transects, and a series of systematic surveys designed to sample nearshore habitats for roseate terns, an endangered species, from May through September.

Researchers have also contracted with New Jersey Audubon Society to use radars to assess avian movement from Block Island. This additional funding will allow researchers to increase sampling efforts in offshore waters with boat-based surveys focusing on water birds.

8. Acoustic Noise and Electromagnetic Effects

James H. Miller and Gopu Potty, Department of Ocean Engineering

Kathleen Vigness Raposa, URI Department of Natural Resources Science

Researchers are accelerating efforts to quantify the underwater acoustic noise environment in the state waters southwest of Block Island in the summer. They are also conducting a set of year-long noise measurements using the Passive Acoustic Listener (PAL) systems in the site east of Block Island in federal waters in conjunction with the two GOMOOS meteorological stations being deployed in Block Island Sound. The data from these two acoustic systems will be complementary to the measurements already collected in October and November 2008 south and southeast of Block Island. Automated Information System (AIS) data will be collected during the acoustic data collection efforts providing ship identification, location, course, and speed. In addition, researchers are building and deploying an underwater magnetometer to address the fishermen's concern about underwater electromagnetic effects on fish and lobsters. The feedback received at the Ocean SAMP stakeholders meeting made clear the importance of these measurements. That system is being towed across the Jamestown power cables and that data is being compared to the ambient measurements at the Ocean SAMP sites.

9. Mapping and Characterizing Fish Habitat in Rhode Island's Transitional Seas

Jeremy Collie, John King, and Sheldon Pratt, URI Graduate School of Oceanography

This project is designed to develop a better understanding of the fishery ecosystem dynamics of Rhode Island's transitional seas (Rhode Island and Block Island Sounds). In addition to the traditional fisheries and existing dredge-disposal sites, there is interest in developing artificial reefs, aquaculture sites, and

offshore wind turbines. These multiple uses require integrated spatial management planning that is undertaken with site-specific and current scientific data.

Since little is known about fish habitat use and feeding relationships in the transitional seas, this project will supplement existing data with new field studies that expand a new cooperative trawl survey ([NEAMAP](#)) within the SAMP area.

10. Impacts of Offshore Wind Turbines on Fish and Fisheries of Different Gear Types: The European Experience

Jennifer McCann URI Coastal Resources Center/RI Sea Grant

Tiffany Smythe, URI Coastal Resources Center/RI Sea Grant

Frank Thomsen, Center for Fisheries, Environment and Aquaculture Science (Cefas)

This study will review and apply to the Ocean SAMP what European scientists and managers have learned about the effects of offshore wind farms on fish and fisheries of different gear types. The project team will conduct an extensive literature review and consult with experts to provide insight into the potential impacts on fish and fisheries of wind turbine construction and associated underwater noise emissions; cable laying; various turbine foundations; and wind farm operation. The team will also review methods for mitigating the potential impacts of offshore wind farm construction and operation on fish and fisheries. European protocols for fisheries monitoring at offshore wind farms as well as the outcomes of such monitoring programs will also be reviewed. This information will then be incorporated into the Ocean SAMP fisheries chapter, and will shape the development of SAMP policies and recommendations with regard to fisheries and offshore wind.

11. Marine Recreation Use and Impact Study

Jennifer McCann, URI Coastal Resources Center/RI Sea Grant

Tiffany Smythe, URI Coastal Resources Center/RI Sea Grant

Chris Damon, URI Environmental Data Center

This study will analyze and map all marine recreational uses within the SAMP area. Recreational uses included in the analysis are recreational boating, yacht racing, diving, and wildlife tours. Baseline data will be collected from charter boat captains, regatta organizers, dive boat captains and groups, and whale watching vessel captains on the location, timing and relative frequency of each type of activity. Data collected will then be synthesized into the SAMP recreation and tourism chapter. In addition, multiple GIS data layers will be created showing the distribution of each type of recreational use throughout the SAMP area. These maps and the related data will be used to identify and address potential challenges in managing SAMP area recreational uses and development.

12. Inventory of Significant Historic Properties, Archaeological Sites, Tribal Areas of Traditional Cultural and Religious Importance, and Recreational Areas

Jennifer McCann, URI Coastal Resources Center/Rhode Island Sea Grant

Teresa Crean, URI Coastal Resources Center/Rhode Island Sea Grant

Researchers will document significant historic properties, archaeological sites, tribal areas of traditional cultural and religious importance, and recreational areas that are within or adjacent to the SAMP study area. They will identify relevant properties using existing data from the R.I. Geographic Information System, will verify these sites with the R.I. State Historical Preservation and Heritage Commission, and

will produce a map and listing of properties that are listed in the National Register of Historic Places or are eligible for inclusion. Researchers will also document available definitions or evaluation criteria related to potential adverse visual impacts as defined in federal regulations.

13. Ecological Service Value Index (ESVI) for the RI Ocean Special Area Management Plan: Model Development and Mapping

Annette Grilli, URI Ocean Engineering

The goal of the preliminary site screening analysis of the RI Ocean SAMP is to establish areas that are suitable for renewable energy development within Rhode Island coastal waters. Tier I of the analysis assessed the physical constraints of various areas including energy resource availability, exclusions, and technology type. The outcome of Tier I is the “Technical Development Index” (TDI) reflecting these issues. Tier II of the analysis assesses use conflicts and collaborations, as well as natural resource uses and values. An “Ecological Services Value Index” (ESVI) analogous to the TDI is to be developed, which will be a composite measure of ecological service values, such that it can be used to compare the impact of potential wind farm sites on natural resources. The ESVI will be a relative index, based on combinations of individual indices of usage by and of the various natural resources of concern in the area. The ecological analysis will include mapping of habitat values, as well as usage by birds, bats, marine mammals, sea turtles, and fisheries resources. To quantify distributions and relative densities of specific species groups of concern in Rhode Island waters, researchers will develop a wildlife movement (migration and behavior) model (based on life history information and available observational data. The model will be supported and ground-truthed by presence/absence, abundance, frequency and spatial observational data, such as that being developed by other researchers involved in the SAMP. For fisheries utilization and other human uses, spatial and statistical data will be incorporated into the overall ESVI.