

Monthly Highlights

March - April, 2011



NOAA FISHERIES SERVICE

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NORTHEAST REGION, HABITAT CONSERVATION DIVISION

GLOUCESTER FIELD OFFICE, GLOUCESTER, MA

TIDAL ENERGY IN MAINE

Over the past several years, NMFS' Habitat Conservation Division (HCD) has been consulting with the Federal Energy Regulatory Commission (FERC) on several tidal energy projects in Maine. To date, HCD has reviewed three distinct types of proposed tidal energy projects: 1) tidal stream generation using helical-design, turbines; 2) barrage-type dam across a tidal embayment; and 3) pumped storage tidal energy generation. The tidal stream generation project includes three separate, helical-design turbine projects proposed in Cobscook Bay and Western Passage by the Ocean Renewable Power Company's (ORPC) in Eastport and Lubec, Maine. Under the FERC's Pilot Project licensing process, ORPC is currently testing a 1-megawatt turbine unit in Cobscook Bay, and intends to add additional generation units over the next few years. Like all tidal energy generation technologies, there are a number of potential adverse impacts on NMFS trust resources, including marine and diadromous fish, marine mammals, and benthic resources located in the proposed project vicinity. However, NMFS' HCD and Protected Resources Division (PRD) are actively engaged with ORPC and the FERC on developing testing and monitoring plans to evaluate the potential impacts on all trust resources.

The second type of tidal energy technology, barrage-type dam across tidal embayments, is also being proposed in Cobscook Bay, Maine. Two proposed projects, Tidewalker Associates located in Half-Moon Cove and the Pennamaquan Tidal Plant Project at the intersection of

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the Pennamaquan River and Cobscook Bay, have received preliminary permits by the FERC in December 2010 and March 2011, respectively, to investigate the feasibility of generating electricity from barrage dam facilities at these locations. Tidewalker Associates proposes to construct a 1,200 foot-long barrage dam across an opening of Half Moon Cove, an 850-acre embayment, and generate approximately 45,000 megawatt-hours of electricity per year with four turbine generating units with a total capacity of 9.0 megawatts. The Pennamaquan Tidal Power Plant Project involves a 692-acre tidal area of the Pennamaquan River and Cobscook Bay, where two rock embankments (one 689-foot-long and another 164-foot-long) and a 505-foot-long concrete modular wall panel would be constructed across the Pennamaquan River with four generating units with a total capacity of 21.1 megawatts. The project would produce an estimated average annual generation of about 66,400 megawatt-hours. According to information provided in the permit applications for both projects, under normal operation the proposed projects would delay the tidal cycle about 3 hours. Changes in the tidal cycle between the Cobscook Bay and these embayments could result in substantial impacts to aquatic organisms and their ability to migrate, as well as the physical, chemical, and biological systems of this area.

The third type of tidal energy project, pumped storage generation, Riverbank Wiscasset Energy Center (RWEC) would be located along Montsweag Bay and the Back River within Wiscasset, Maine. The RWEC was

granted a preliminary permit by the FERC in March 2009 to investigate the feasibility of developing a pumped storage electricity generating facility. The proposed project would consist of a 1,000-megawatt pumped storage hydroelectric facility which would involve the construction of a 264 foot-wide water intake structure located at the Back River, a 3.7 mile-long underground access ramp, and a 1,878 foot-deep unlined, underground reservoir with a water volume capacity of 1.23 billion gallons. During the generation phase, approximately 7,600 cubic feet per second of water would be extracted from the Back River and enter the intake structures of the RWEC, which is equivalent to between one-quarter and one-third of the average tidal flow of the Montsweag Bay system. The annual production would be approximately 2,190 gigawatt hours (GWh). As a result of the need to pump water from the reservoir to the Back River after each generating cycle, the RWEC project, as proposed, would be a net consumer of about 610 GWh of electricity per year. HCD has concerns with significant direct, indirect and cumulative impacts on NMFS trust resources due to the construction and operation of the proposed project, including likely impingement and entrainment of aquatic life. A number of important fishery habitats exist in the vicinity of all of these proposed projects, including eelgrass and intertidal shellfish beds, emergent vegetation, and mudflats. HCD will continue to assess potential project impacts and provide comments, as necessary, on these proposed tidal energy development facilities. (Mike.R.Johnson@noaa.gov, 978/ 281-9130)

MULTIPURPOSE MARINE CADASTRE TO SUPPORT OFFSHORE WIND ENERGY PLANNING

NOAA's National Marine Fisheries Service (NMFS) met recently with staff from the NOAA Coastal Services Center to provide input and recommendations for continued development of the Multipurpose Marine Cadastre (MMC). The MMC was developed in partnership between NOAA and the Department of Interior's Bureau of Ocean Energy Management, Regulation, and Enforcement, as an integrated marine information system that provides legal, physical, ecological, and cultural information for coastal and marine waters. The MMC will be useful for coastal and marine spatial planning efforts, and in particular, offshore wind energy siting initiatives off the Atlantic Coast, in order to identify important NMFS trust resources and concerns in relation to the broad range of activities occurring in offshore waters. The MMC can be accessed at <http://www.marinecadastre.gov/default.aspx>. (Christopher.boelke@noaa.gov, 978/ 281-9131 or Susan.tuxbury@noaa.gov, 978/ 281-9176)

MUSKEGET CHANNEL TIDAL ENERGY PROJECT

The Town of Edgartown on Martha's Vineyard filed a Draft Pilot License Application (DPLA) with the Federal Energy Regulatory Commission (FERC) on January 31, 2011 for the Muskeget Channel Tidal Energy Project (FERC No. 13015). FERC and the Town of Edgartown held a public meeting on Martha's Vineyard on March 7, 2011 to go over the project and provide the opportunity for public comments and questions regarding the DPLA. The proposed tidal energy project is located in the Muskeget Channel between Martha's Vineyard and Nantucket, Massachusetts. The proposed project would consist of: (1) 13 commercially operated OCGen™ horizontal hydrokinetic cross flow turbine generation units with a total installed capacity of five megawatts (MW), and one experimental turbine unit that would be used to test various tidal energy technologies; (2) a mooring and anchoring system attached to each unit consisting of four mooring lines, an anchor, and a clump weight; (3) two alternative submarine cable routes connecting the turbine generation units to an onshore substation located either in the Chappaquiddick or Katama sections of Edgartown. Immediately following the meeting, resource agencies and the public were provided the opportunity for a site visit to each of the alternative sites where the cable would be brought to shore. NMFS' Habitat Conservation Division (HCD) staff participated in the meeting and site visit. Based on information provided through the DPLA and the March 7th meeting, HCD staff submitted comments to

FERC on the DPLA and proposed study plans on March 16, 2011. The DPLA and agency comments are available for review on the FERC website under docket number P-13015. NMFS will continue to work with FERC and the Town of Edgartown through the pilot license process to ensure protection of NOAA trust resources. (Susan.Tuxbury@noaa.gov, 978/ 281-9176)

WISCASSET TIDAL RESOURCES PROJECT FISHERIES AND WILDLIFE CONSULTATION MEETING

The Town of Wiscasset is proposing development of tidal energy in the Sheepscot River, Maine called the Wiscasset Tidal Resources Project (FERC No. 13329). On April 7th, the Town held an informational meeting to continue consultation with the resource agencies and interested stakeholders. The meeting was an opportunity for the project proponent to discuss the project objectives, site history, completed studies and existing data, and a proposed timeline. The proposed project will be developed utilizing the FERC's pilot license process which allows for approximately five years to evaluate the proposed technology and potential environmental effects. NMFS staff provided technical assistance pertaining to the Endangered Species Act, essential fish habitat and other relevant mandates. (Sean.Mcdermott@noaa.gov, 978/ 281-9113)

WORKSHOP ON EEL PASSAGE TECHNOLOGIES

The US Geological Survey, in partnership with the MA Division of Marine Fisheries, CT Department of Environmental Protection and ME Department of Marine Fisheries, hosted a two-day workshop on eel passage technologies. Held at the NMFS Regional Office in Gloucester, the workshop provided an opportunity to exchange information and share experiences pertaining to eel passage design and operation. Representatives from across the eastern seaboard provided presentations and posters of on-going research, as well as example eel passage technologies. Guest presenters, Dr. Jacques Boubée of the National Institute of Water and Atmospheric Research in New Zealand and Antoine Legault of Fish-Pass S.A.R.L. in France, provided insight to the international experience in eel passage programs, design and evaluation. The workshop will provide the basis for an Atlantic States Marine Fisheries Commission special report summarizing the workshop agenda and to provide a venue to propose general guidelines for eel passage design, siting and construction. (Sean.Mcdermott@noaa.gov, 978/ 281-9113; Susan.Tuxbury@noaa.gov, 978/ 281-9176; or William.Mcdavitt@noaa.gov, 978/ 675-2156)

FISH PASSAGE STUDY RESULTS ON THE KENNEBEC RIVER

NMFS received two fish passage studies that were conducted at hydroelectric facilities on the Kennebec River. The first study that NMFS reviewed was NextEra Energy's "Diadromous Fish Passage Report for the Lower Kennebec River Watershed during the 2010 Migration Season." This report provided information on river herring, American shad, and Atlantic salmon at three different power projects on the Lower Kennebec River that NextEra operates: 1) Lockwood, 2) Shawmut, and 3) Weston. The Lockwood project is the lowermost dam on the river and it is equipped with a fish lift that allows for migrating fish to be counted. At the Lockwood project, in 2010, there were 76,745 adult herring, 39 American shad, and five Atlantic salmon. NMFS provided technical comments to NextEra and sought additional information in order to better understand some of the lessons learned during the upstream migration season with respect to project operations.

The second study reviewed was the "2010 Interim Downstream Bypass Eel Passage Effectiveness Study". Madison Paper Industries, which operates the Anson and Abenaki hydropower projects on the Upper Kennebec River, hired Kleinschmidt Energy and Water Consultants to conduct the fish passage study. For the study, 39 adult eels were released upstream of the Anson project. Each eel had a pit tag inserted into its body so that the animal could be tracked by antennae as they moved downstream. The study indicated 24 eels passed the

project through the turbines which are located within the power plant and that 16 of these 24 fish (~67%) were able to survive. At the next downstream project, Abenaki, 12 out of 25 fish passed the project via the turbines and only seven of these twelve fish were able to survive the passage. Both the Anson and Abenaki projects have downstream fish bypass facilities that allow the eels to pass through without being subjected to the spinning turbine blades within the powerhouse. Because of the number of eels not using the bypass facilities and the high mortality rates, NMFS is working with Madison Paper Industries, Kleinschmidt, and the US Fish and Wildlife Service (USFWS) to improve the downstream eel passage operations at these two projects. (William.McDavitt@noaa.gov, 978/ 675-2156)

ANNUAL EELGRASS MEETING

HCD staff attended the annual regional eelgrass meeting in Concord, Massachusetts in March. The one day workshop, organized by USEPA, brought together eelgrass experts, scientists, and resource managers representing state and federal agencies, academic institutions, private companies and non-profit organizations. Speakers discussed site selection for eelgrass restoration, mitigation successes and failures, nutrient management to support eelgrass habitat, and remote sensing research and development to observe eelgrass distribution. The day ended with a discussion on limiting factors for eelgrass success and how to focus efforts to minimize the threats having the greatest impact on eelgrass decline. The meeting successfully provided an open forum for discussion of ongoing research, restoration, and policy efforts aimed at protecting eelgrass habitats in the northeast region. (Jenna.Flynn@noaa.gov, 978/ 675-2176; Christopher.Boelke@noaa.gov, 978/ 281-9131; Susan.Tuxbury@noaa.gov, 978/ 281-9176; Sean.McDermott@noaa.gov, 978/ 281-9113)

REPLACEMENT OF THE WILLIAM H. DALTON MEMORIAL BRIDGE

HCD staff reviewed and commented on the United States Coast Guard's public notice for the replacement of the William H. Dalton Memorial Bridge over the Cohasset Narrows between Bourne and Wareham, Massachusetts. The public notice included the construction of a three-span, two-pier bridge which would replace the existing, structurally deficient five-span, four-pier bridge. Many species of finfish and shellfish are present within the project site and since it is located in a narrow area, NMFS had concerns with the potential impacts from the construction due to sedimentation in the water column and decreased fish passage from the constriction of the narrow channel. To minimize those impacts, NMFS recommended

that the applicants pursue less environmentally damaging alternatives, including that no in-water silt-producing work be permitted from January 1 through June 30 of any year to protect sensitive life stages of winter flounder and anadromous species and that turbidity and erosion control measures be implemented to minimize impacts on shellfish spawning and juvenile development; however, once the proposed cofferdams and turbidity screens have been installed, work may occur inside the cofferdams at any time. In addition, NMFS recommended that during anadromous species migration, from April 1 through June 30, no more than 50% of the channel width be restricted. Jenna.Flynn@noaa.gov, 978/ 675-2176

SANDY HOOK FIELD OFFICE, HIGHLANDS, NJ

PASSAIC RIVER EXECUTIVE INTERAGENCY MEETING

The New York Army Corps of Engineers' (ACOE) District Engineer Colonel John Boulé hosted a senior executive interagency meeting to discuss the remedial activities in the lower Passaic River. Attendees included the Regional Administrator for EPA Region II, the Commissioner of the New Jersey Department of Environmental Protection, the Deputy Regional Administrator of USFWS's Northeast Region, Director of NOAA NOS's Office of Response and Restoration and representatives of the Port Authority of New York and New Jersey. The purpose of the meeting was for the higher management levels of the agencies to discuss the Lower

Passaic River superfund remediation. The lower Passaic River is a 17-mile operable unit of the Diamond Alkali Superfund Site extending from the Dundee Dam to the mouth of Newark Bay. Diamond Alkali was a pesticide manufacturer located in Newark, NJ and was a source of dioxin (2,3,7,8-TCDD). The lower Passaic River contains a variety of contaminants including dioxins, furans, pesticides, PCBs, PAHs and metals. Topics discussed included common goals, remedy and restoration opportunities and challenges, current status, and next steps. (Karen.Greene@noaa.gov, 732/ 872-3023)

HUDSON-RARITAN ESTUARY EXECUTIVE INTERAGENCY MEETING

New York ACOE District Engineer Colonel John Boulé also hosted a senior executive interagency briefing on the ACOE's Hudson-Raritan Estuary Restoration Plan (HRERP), the on-going Harbor deepening and the development of a new dredged material management plan. In attendance were representatives from EPA, USFWS, NMFS and the Port Authority of New York and New Jersey. ACOE staff presented an overview of the HRERP, their vision of a world class estuary, target ecosystem characteristics, and plan goals from the Harbor Estuary Program. ACOE staff also provided an update on the deepening which will be completed in 2013. Once the deepening is completed, the amounts and character of the dredged material removed from the harbor will change dramatically. To address this, the ACOE will begin to develop a new dredged material management plan (DMMP). Input from HCD staff will be requested for the new DMMP as well as during the next steps of the restoration plan development. (Karen.Greene@noaa.gov, 732/ 872-3023)

NATIONWIDE PERMITS

The ACOE has issued a federal notice announcing their proposal to reissue and modify 48 of the 49 existing nationwide permits. The ACOE is also proposing to issue two new nationwide permits. One permit would authorize the construction of land-based renewable energy facilities in non-tidal waters. The other one would authorize water-based renewable energy generation pilot projects. HCD staff is coordinating with the Philadelphia and New York Districts of the ACOE on the review of the nationwide permits and the regional conditions for New Jersey, New York and Delaware. A meeting with the ACOE is planned for May. (Karen.Greene@noaa.gov, 732/ 872-3023; or Diane.Rusanowsky@noaa.gov, 203/ 882-6504)

DELAWARE RIVER BASIN FISH AND WILDLIFE MANAGEMENT COOPERATIVE (Co-op) FISHERIES TECHNICAL COMMITTEE (Tech Committee)

As ongoing coordination under the Magnuson-Stevens Fishery Conservation and Management Act (MSA) mandated consultation process with the Philadelphia District ACOE, the HCD staff in cooperation with the Co-op is updating their 1992 Policy Document, “*Dredging, Blasting and Overboard Disposal in the Delaware River Basin*” which was the key foundation and source document for the imposition of seasonal restrictions for in-water port improvement and navigation channel maintenance. A meeting of the Tech committee was held on March 29 to discuss revisions to the document so that it can be completed and transmitted to the ACOE for review and commentary. An inter-agency conference with the ACOE and Co-op/Tech Committee members is expected in the next quarter. (Brian.C.May@noaa.gov, 732/ 872-3116; Stanley.W.Gorski@noaa.gov, 732/ 872-3037; or Karen.Greene@noaa.gov, 732/ 872-3023)

WIND ENERGY UPDATE

NMFS staff attended the Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) Delaware Task Force Meeting held in Lewes, Delaware in March. At the meeting, BOEMRE announced their determination of no competitive interest in the Delaware proposed lease area. Also discussed were the public comments received in

response to the Delaware Request for Competitive Interest. The New Jersey Call for Information and Nominations – Commercial Leasing for Wind Power on the Outer Continental Shelf Offshore New Jersey was published in the Federal Register on April, 20, 2011 under Docket ID: BOEM-2011-0005. HCD and the Protected Resource Division (PRD) are working to develop comments on the call for information. (Stanley.W.Gorski@noaa.gov, 732/ 872-3037; Karen.Greene@noaa.gov, 732/ 872-3023; or Julie.Crocker@noaa.gov, 978/ 281-8480 for PRD)

ATLANTIC WIND CONNECTION

HCD and PRD staff participated in a conference call with representatives of Atlantic Wind Connection to discuss the potential alignment of the proposed electric transmission line along the mid-Atlantic coast from New Jersey to Virginia. The call was a follow-up from an introductory meeting/teleconference held late last year. The company is in the process of identifying a suitable alignment for the transmission cable and locations for the hubs. Traffic areas, commercial and sport fishing areas, marine protected areas, areas of bird concentrations or marine mammals, visibility, obstructions and the proposed lease areas for wind farms are all considerations in the selection of the alignment. An application to the Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) is forthcoming. (Karen.Greene@noaa.gov, 732/ 872-3023; and Julie.Crocker@noaa.gov, 978/ 281-8480 for PRD)

INFORMATION REQUESTS AND FEDERAL INTER-AGENCY COORDINATION

Ongoing technical support and integrated coordination was provided to both federal and non-federal applicants on more than 24 separate and distinct projects within the Region requiring site-specific technical information pertaining to NMFS-managed fishery resources. Conservation recommendations and seasonal time-of-year restrictions were given in each case. (Brian.C.May@noaa.gov, 732/ 872-3116)

GLOUCESTER POINT FIELD OFFICE, GLOUCESTER POINT, VA

JAMES RIVER PARTNERSHIP, VIRGINIA BEACH, VA

The Operations Branch of the Norfolk District ACOE convened their annual James River Partnership meeting on April 25, 2011, in Virginia Beach, VA. The partnership is comprised of numerous federal, state and local agencies and non-governmental organizations such as the Virginia Pilots Association and the James River Keeper involved in the commercial utilization, maintenance and environmental oversight of the James River. The James River federal

navigation channel connects Hampton Roads to several commercial industries along the James and the Port of Richmond. The federal channel is maintained on a regular basis by the ACOE to its authorized depth of -25 ft. MLLW. Though river usage by the shipping industry has fallen markedly in recent years, the ACOE maintains the federal channel in an attempt to avoid draft restrictions on commercial vessel traffic. Topics of discussion this year included historic and projected dredging cycles of the river's various shoals, federal funding outlook for maintenance dredging operations, projected commercial usage of the river, and the proposed listing of Atlantic sturgeon by NMFS as endangered for the Chesapeake Bay distinct population segment (DPS) under the Endangered Species Act (ESA). HCD has participated as a federal member of the partnership for years and will continue working with the ACOE Operations Branch and the commercial shipping industry to help protect essential fish habitat (EFH), anadromous and listed species.

(David.L.O'Brien@noaa.gov, 804/

684-7828; or Lynn.Lankshear@noaa.gov, 978/ 282-8473 for PRD)

GAMESA ENERGY USA, LLC, CAPE CHARLES, VA

A renewable energy company has proposed to conduct preliminary site investigations to support future construction of two wind turbines at the southern end of Virginia's eastern shore. Gamesa Energy has received approval from the Virginia Marine Resources Commission (VMRC) and is awaiting ACOE authorization to conduct preliminary geological borings, vibracores, and the temporary deployment of acoustic doppler current profile (ADCP) instrumentation in the lower Chesapeake Bay, west of the Town of Cape Charles. Although only preliminary site investigations are proposed at this time, Gamesa Energy intends to ultimately construct two (2) 5-megawatt (MW) wind turbines at Cape Charles. The proposed study will help document site conditions to support future turbine foundation design associated with the operation of an offshore wind turbine. A second shore-based turbine will be constructed for comparative study purposes. The 1.2 square mile study area includes deep bathymetry and strong currents, both are of interest to Gamesa Energy in their design of foundation systems and turbines for applications on the Atlantic's outer continental shelf (OCS). Any proposed foundation and turbine will be reviewed and authorized under a separate permit application in the future by the permitting and resource agencies. NMFS has been working with the Norfolk District ACOE in review of the preliminary site assessment and will review any application for foundation and turbine construction when submitted in the future.

(David.L.O'Brien@noaa.gov, 804/ 684-7828; or Julie.Crocker@noaa.gov, 978/ 282-8480 for PRD)