

APPENDIX B:
AGENCY CORRESPONDENCE



Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

February 2, 2011

Ms. Mary A. Colligan
Assistant Regional Administrator for Protected Resources
National Marine Fisheries Service, Northeast Region
55 Great Republic Drive
Gloucester, MA 01930

Dear Ms. Colligan:

Subject: ESA Consultation Initiation - University of Maine Deepwater Offshore Wind Test Site, Gulf of Maine

In response to a 2010 Congressional Directive, the U.S. Department of Energy (DOE) has awarded Federal funding to the University of Maine and is proposing to authorize expenditure of that funding by the University to perform research on and development of floating offshore wind turbine platforms. The University would use that funding to design, fabricate, deploy, test, and retrieve one or two approximately 1:3 commercial scale wind turbines on floating platforms within the University's Deepwater Offshore Wind Test Site (test site) in the Gulf of Maine, located approximately 2 to 3 miles south of Monhegan Island (see attached map). The turbines would measure approximately 100 feet from waterline to the hub, the rotor diameter would measure approximately 70 feet, and the total turbine height would be approximately 135 feet. The floating offshore wind turbines would be temporarily moored and operated at the project site during some or all of July through November 2012 and possibly again during the same period in 2013.

The focus of the University's demonstration and testing would be to validate numerical models that predict how the turbine platforms would perform under various conditions of combined wind and wave loading. The wind turbine platforms would carry sensors and telemetry systems that would provide data to evaluate motion and structural performance. Environmental monitoring would occur during the deployments, including monitoring of bats and birds, marine life, and noise at the project site.

On September 20, 2010, DOE sent scoping letters to potentially interested local, state, and federal agencies, including the National Marine Fisheries Service (NMFS) to announce preparation of an environmental assessment (EA) as required by the National Environmental Policy Act. In response to the scoping announcement, NMFS sent DOE scoping comments in a letter dated October 1, 2010.



As noted in the October 1, 2010 letter, NMFS has federal statutory responsibility for protection, mitigation, and enhancement of marine and anadromous fish resources and marine mammals that may be affected by the proposed project. Those authorities include protection of threatened and endangered species under the Endangered Species Act (ESA), marine and anadromous fish and their habitat under the Magnuson-Stevens Fishery Conservation Act, diadromous species under the Fish and Wildlife Coordination Act, and marine mammals under the Marine Mammal Protection Act. DOE asks NMFS to provide any information relevant to these federal obligations that relates to the referenced project.

In the October 1, 2010 letter, NMFS states that the following species listed under the ESA may occur in the project area: Gulf of Maine Distinct Population Segment Atlantic salmon; Atlantic sturgeon; North Atlantic right, humpback, and fin whales; and leatherback and loggerhead sea turtles. DOE requests that NMFS confirm that this list of species protected under the ESA and that may occur in the project area is current and correct.

Additionally, DOE requests that NMFS confirm the list of 15 federally-managed fish species and respective life stages for which Essential Fish Habitat occurs in waters off of Monhegan Island, as presented in Table 1.

Table 1 – Marine Species and Life Stages for which Essential Fish Habitat Occurs in Waters off of Monhegan Island

Species	Eggs	Larvae	Juveniles	Adults
Atlantic cod (<i>Gadus morhua</i>)	X	X	X	X
haddock (<i>Melanogrammus aeglefinus</i>)				X
whiting (<i>Merluccius bilinearis</i>)			X	X
red hake (<i>Urophycis chuss</i>)	X	X	X	X
white hake (<i>Urophycis tenuis</i>)	X	X	X	X
redfish (<i>Sebastes fasciatus</i>)	n/a	X	X	X
witch flounder (<i>Glyptocephalus cynoglossus</i>)			X	X
winter flounder (<i>Pleuronectes americanus</i>)	X	X	X	X
windowpane flounder (<i>Scophthalmus aquosus</i>)			X	
American plaice (<i>Hippoglossoides platessoides</i>)			X	X
Atlantic halibut (<i>Hippoglossus hippoglossus</i>)	X	X	X	X
Atlantic sea herring (<i>Clupea harengus</i>)				X
monkfish (<i>Lophius americanus</i>)			X	
spiny dogfish (<i>Squalus acanthias</i>)	n/a	n/a		X
bluefin tuna (<i>Thunnus thynnus</i>)				X

Source: NOAA 2010. Guide to Essential Fish Habitat Designations in the Northeastern United States. [Online] URL: <http://www.nero.noaa.gov/hcd/index2a.htm>. (Accessed December 2010).

As recommended by NMFS in its October 1, 2010 letter, DOE will coordinate with the NMFS Office of Protected Resources' Permits, Conservation and Education Division regarding the Marine Mammal Protection Act.

We anticipate releasing a draft of the EA for public review and comment within the next two months and will send you a notice of its availability. The DOE looks forward to working collaboratively with NMFS regarding trust resources as they relate to this project. If you have any questions, please contact me at 720-356-1322 or via my email at Laura.Margason@go.doe.gov.

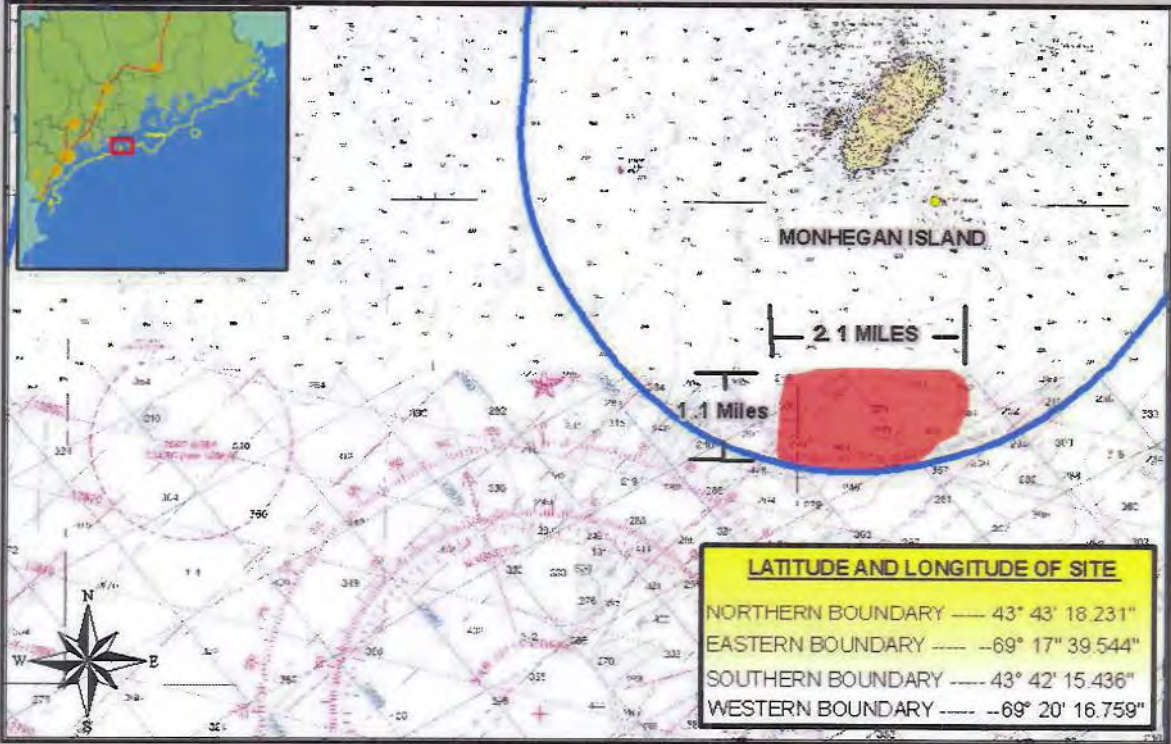
Sincerely,

A handwritten signature in blue ink that reads "Laura Margason". The signature is written in a cursive style with a large, looping flourish at the end.

Laura Margason
NEPA Document Manager

Attachment (map)

MAP C



— State Marine Boundary
■ Demonstration Site

MONHEGAN ISLAND OCEAN ENERGY DEMONSTRATION SITE



Map by Matthew Weiss
Maine State Planning Office
Sources: ME SPO, ME DMR,
ME DES, ME FWS, ME DCR,
NOAA, US FWS, BING





Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

February 2, 2011

Ms. Laury Zicari
Field Supervisor
U.S. Fish & Wildlife Service
Maine Field Office
17 Godfrey Drive, Suite #2
Orono, ME 04473

Dear Ms. Zicarti:

Subject: University of Maine Deepwater Offshore Wind Test Site, Gulf of Maine

In response to a 2010 Congressional Directive, the U.S. Department of Energy (DOE) has awarded Federal funding to the University of Maine and is proposing to authorize expenditure of that funding by the University to perform research on and development of floating offshore wind turbine platforms. The University would use that funding to design, fabricate, deploy, test, and retrieve one or two approximately 1:3 commercial scale wind turbines on floating platforms within the University's Deepwater Offshore Wind Test Site (test site) in the Gulf of Maine, located approximately 2 to 3 miles south of Monhegan Island (see attached map). The turbines would measure approximately 100 feet from waterline to the hub, the rotor diameter would measure approximately 70 feet, and the total turbine height would be approximately 135 feet. The floating offshore wind turbines would be temporarily moored and operated at the project site during some or all of July through November 2012 and possibly again during the same period in 2013.

The focus of the University's demonstration and testing would be to validate numerical models that predict how the turbine platforms would perform under various conditions of combined wind and wave loading. The wind turbine platforms would carry sensors and telemetry systems that would provide data to evaluate motion and structural performance. Environmental monitoring would occur during all deployments, including monitoring of bats and birds, marine life, and noise at the project site.

To initiate our required obligations under Section 7 of the Endangered Species Act for this project, DOE is requesting a list of any threatened, endangered, or proposed species or designated or proposed critical habitat that may occur within or near the test site. As necessary, we will contact your office to further discuss impacts of the



University's proposed project on protected species and to complete our consultation obligations.

DOE also will be contacting the National Marine Fisheries Service to discuss our consultation obligations for marine species protected under the Endangered Species Act and to discuss other trust resources managed by that agency.

An environmental assessment is being prepared for the proposed project by DOE's Golden Field Office to meet the requirements of the National Environmental Policy Act. We anticipate releasing a draft of that environmental assessment for public review and comment within the next two months and will send you a notice of its availability.

If you have any questions, please contact me at 720-356-1322 or via my email at Laura.Margason@go.doe.gov.

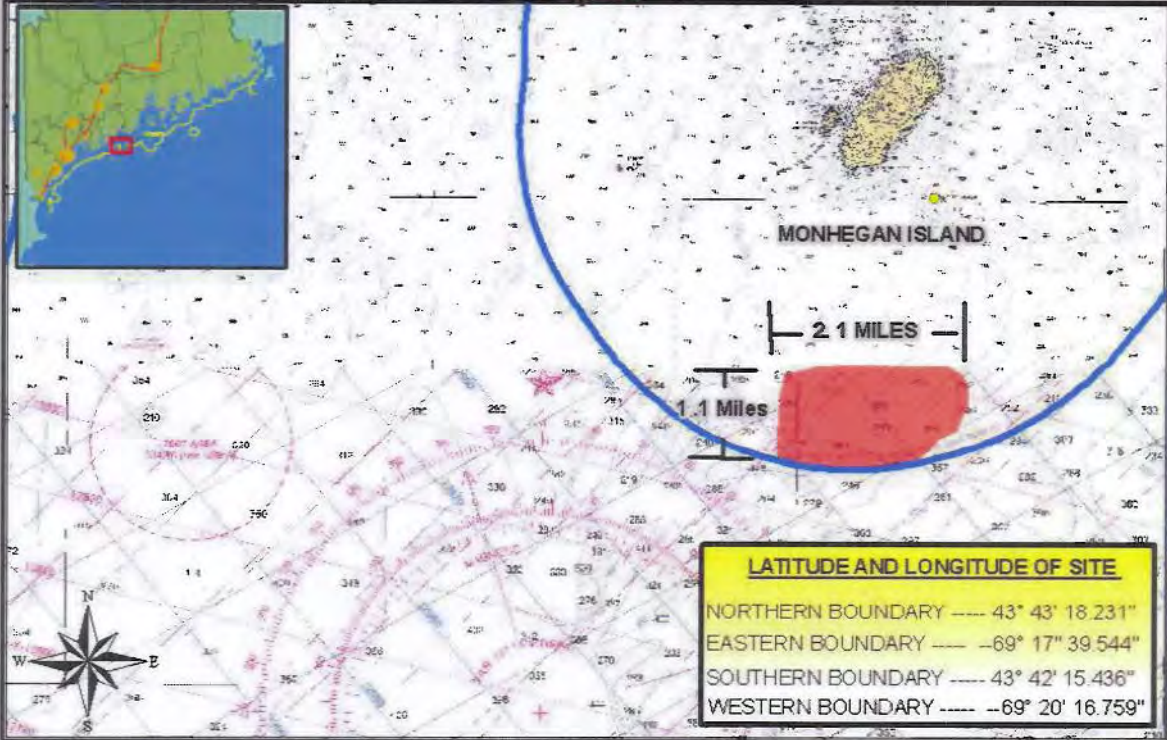
Sincerely,



Laura Margason
NEPA Document Manager

Attachment (map)

MAP C



— State Marine Boundary
— Demonstration Site

MONHEGAN ISLAND OCEAN ENERGY DEMONSTRATION SITE

0 0.1 0.5 1.2 1.8 2.4 Miles

Map by Nantux NEDS
8224 028 P Box 107 OCEX
504 EX 2, BE SPO, BE DNR,
BE DEPAR FOR REGS,
NOVA, USFWS, BMS



Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

February 3, 2010

Earle G. Shettleworth, Jr., Director,
Maine Historic Preservation Commission
55 Capitol Street, 65 State House Station
Augusta, ME, 04333-0065

Dear Mr. Shettleworth:

Subject: University of Maine Deepwater Offshore Wind Test Site, Gulf of Maine

In response to a 2010 Congressional Directive, the U.S. Department of Energy (DOE) has awarded Federal funding to the University of Maine and is proposing to authorize expenditure of that funding by the University to perform research on and development of floating offshore wind turbine platforms. The University would use that funding to design, fabricate, deploy, test, and retrieve one or two approximately 1:3 commercial scale wind turbines on floating platforms within the University's Deepwater Offshore Wind Test Site (test site) in the Gulf of Maine, located approximately 2 to 3 miles south of Monhegan Island (see attached map). The turbines would measure approximately 100 feet from waterline to the hub, the rotor diameter would measure approximately 70 feet, and the total turbine height would be approximately 135 feet. The floating offshore wind turbines would be temporarily moored and operated at the test site during some or all of July through November 2012 and possibly again during the same period in 2013.

Section 106 of the National Historic Preservation Act requires that every federal agency "take into account" how each of its undertakings could affect historic properties. This letter summarizes DOE's actions to comply with Section 106 and requests concurrence from your agency with our conclusion that the University's project would not adversely affect historic properties.

As part of DOE's actions to comply with Section 106, on October 28, 2010, we sent letters to six separate Indian Tribes or Tribal Organizations that may have historic ties to the Gulf of Maine. In those letters, DOE requested information on properties of traditional religious and cultural significance in the vicinity of the project and any concerns the Tribes may have about how the project may affect those properties. At this time, DOE has not received responses to those letters.



DOE proposes that the Area of Potential Effect (APE) for the proposed project should include two components, the direct disturbance from the project footprint, and the area of potential visual and acoustic impacts from the above-water structures. The APE for the project footprint would depend on the final design selected for the floating offshore turbine platforms and number and design of the mooring anchors. It is estimated that the radius of maximum area of the seabed around which the anchors would be placed would be 1,000 feet. Therefore, DOE proposes that the APE for direct disturbance would consist of the area of the seabed under the center point of each turbine having a radius of 1,000 feet. The APE from potential indirect visual and noise impacts is an area with a radius of 5 miles, which is being proposed so as to include all of Monhegan Island¹.

All areas with water depths greater than about 200 feet within the test site have no potential for pre-Columbian cultural resources, as these areas were not subaerially exposed and not available for occupation by pre-Columbian inhabitants, even during the brief sea-level lowstand that occurred since the last glaciation of the region approximately 12,000 years ago (Kelley 2010²). The only region in the test site that may have been subaerially exposed at the maximum of the sea-level lowstand is located in the northeastern portion of the test site. This region has been excluded from turbine deployment on the basis of extensive rock outcrops with limited sediment accumulations (Kelley 2010).

To identify potential cultural resources, including shipwrecks, in the APE from the project footprint, multibeam bathymetry, seismic reflection, and side scan sonar survey data acquired by the University of Maine were analyzed. While this type of geophysical data cannot be used to identify individual artifacts or pre-Columbian archaeological sites, it is possible to identify geomorphic settings that have a high potential for preservation of cultural resources based on terrestrial settlement/preservation models (Kelley 2010). This process was approved by the Maine SHPO during discussions with the University in 2010. To ensure that no adverse effects on historic resources occur from the project, at the request of the Maine SHPO, the University will examine all areas of planned bottom and sub-bottom disturbance in more detail using a marine magnetometer survey to identify the presence of potential shipwrecks. Using these results, the University will avoid any areas of detected shipwrecks, thereby eliminating the potential for direct adverse effects to cultural resources. The Maine SHPO has

¹ There are three properties on Monhegan Island that are registered with the National Register of Historic Places: the Monhegan Island Lighthouse and Quarters, the Influence Building, and the Rockwell Kent Cottage and Studio (National Register of Historic Places 2010).

² Kelley, A. 2010. Cultural Resource Management Assessment for the UMaine Deepwater Offshore Wind Test Site: Pre-Columbian Cultural Resource Evaluation. Prepared for DeepCwind Consortium November 19, 2010. Department of Earth Sciences, Climate Change Institute, and Department of Anthropology, University of Maine.

stated that this survey could be done post state-permitting, and that the University should discuss the results with SHPO (Alice Kelley, University of Maine, personal communication with A. Spiess, Maine SHPO, November 1, 2010).

Given the small footprint and temporary nature of the proposed project; the depths at the site, which preclude the presence of archaeological resources; and the planned pre-construction magnetometer survey to confirm that no shipwrecks occur at the installation sites, DOE concludes that the installation and operation of the project would not directly adversely affect cultural or historic resources.

DOE also considered the potential indirect visual and noise impacts of the project on listed and eligible historic properties on Monhegan Island. The two 1:3 scale wind turbines would be visible from Monhegan Island during clear days and nights, but would not be visible from the mainland. From the nearest point on the southern shore of Monhegan island, the top of the turbines would be less than one degree above the horizon. Due to the temporary nature of the turbine deployments (a maximum of two five-month deployments), the distance of the turbines from shore, and the small scale of the turbines, the project would create a very small visual intrusion when viewed from the listed historic properties or anywhere else on the island.

A study of the propagation of noise generated during operation of the wind turbines determined that under the worst case scenario conditions the received sound level at the nearest potential point on Monhegan Island would be 30 dBA under the most conservative model (Aker et al. 2010³). For reference, a whisper has a sound intensity of 30 dBA. The most conservative noise standards for wind turbine applications generally limits the average sound pressure level at the point of interest to 40 dBA; therefore, even under the worst-case calculation, the maximum estimated received noise level on Monhegan Island is far less than that level. When winds are not blowing directly onshore, noise levels on the island would be substantially reduced. Based on this information and the temporary nature of the project, DOE concludes that there would be no indirect adverse effects from noise or visual intrusion on any eligible and listed historic properties on Monhegan Island.

An environmental assessment (EA) is being prepared for the proposed project by the Department's Golden Field Office to meet the requirements of the National Environmental Policy Act. We anticipate releasing a draft of that environmental

³ Aker P., A. M. Jones, and A. E. Copping. 2010. Offshore wind turbines estimated noise from offshore wind turbine, Monhegan Island, Maine. Environmental effects of offshore wind energy development. Pacific Northwest National Laboratory. November 2010.

assessment for public review and comment within the next two months and will send you a notice of its availability.

In summary, DOE concludes that the temporary deployment of two 1:3 scale wind turbine test platforms in the Gulf of Maine would not adversely affect historic properties, and we request your input and/or concurrence with this conclusion. If you have any questions or require additional information, please contact me at 720-356-1322 or via my email at Laura.Margason@go.doe.gov.

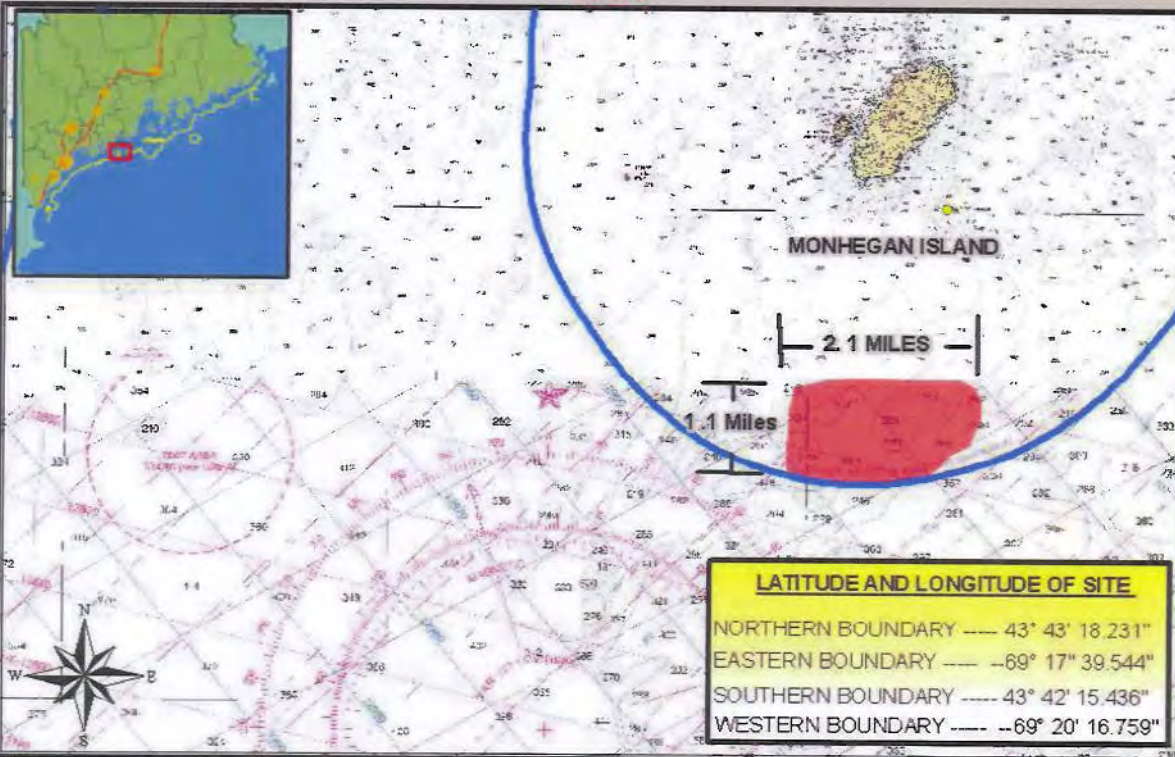
Sincerely,



Laura Margason
NEPA Document Manager

Attachment (map)

MAP C



— State Marine Boundary
■ Demonstration Site

MONHEGAN ISLAND OCEAN ENERGY DEMONSTRATION SITE

0 0.3 0.6 1.2 1.8 2.4 Miles

Map by Matthew Alton
Maine State Planning Office
Site Des. by E. SPO, M.E. DWR,
M.E. DEP, M.E. PWR, M.E. O.S.,
NOAA, US FWS, MMS



-----Original Message-----

From: Spiess, Arthur [<mailto:Arthur.Spiess@maine.gov>]

Sent: Wednesday, February 09, 2011 11:22 AM

To: Margason, Laura [<mailto:laura.margason@go.doe.gov>]

Subject: U Maine Deepwater offshore wind test site, archaeology

Hello Ms. Margason:

In reading over your letter of February 3rd to the SHPO, I note that one step in the review of archaeological information for shipwrecks has been skipped. At the end of the paragraph about shipwrecks (pp 2-3) you indicate that the last step in the shipwreck review will be a discussion of the magnetometer survey results between Dr. Alice Kelley and myself. In the next paragraph you jump to the conclusion that no shipwrecks will be found.

The process needs some sort of formal "sign-off" from the SHPO, and in addition a contingency (delaying or moving deployment of an anchor, for example) if a potentially significant shipwreck is detected by the magnetometer survey.

As it stands, your conclusion of "no adverse effect" on historic resources is not supported by the process as it has been outlined.

Additionally, we have not received a copy of the Kelley 2010 (Nov 19, 2010) assessment for Pre-Columbian cultural resource evaluation for our review. We should have a copy of that report for our files. (Undoubtedly it is accurate, since Alice and I worked through the relevant issues by telephone several times. But we have not received the document.)

Sincerely, Arthur Spiess

Dr. Arthur Spiess

Senior Archaeologist, MHPC

State House Station 65

Augusta, ME 04333

207-287-2132



MAINE HISTORIC PRESERVATION COMMISSION
 55 CAPITOL STREET
 65 STATE HOUSE STATION
 AUGUSTA, MAINE
 04333

PAUL R. LEPAGE
 GOVERNOR

EARLE G. SHETTLEWORTH, JR.
 DIRECTOR

February 15, 2011

Ms. Laura Margason
 NEPA Document Manager
 U.S. Department of Energy
 Golden Field Office
 1617 Cole Boulevard
 Golden, CO 80401-3393

Project: MHPC# 1904-10 – University of Maine Deepwater Offshore Wind Test Site
 Town: Lincoln County, Gulf of Maine, ME

Dear Ms. Margason:

In response to your recent request, I have reviewed the information received February 4, 2011 to continue consultation on the above referenced undertaking pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended.

Regarding our concerns about historic archaeological resources, please find a copy of the email which was sent to you on February 9, 2011 from Dr. Arthur Spiess of our office.

Regarding architectural resources, as you may know, three properties (Monhegan Lighthouse and Quarters, The Influence, and the Rockwell Kent Cottage and Studio) on Monhegan Island and one property on Manana Island (Manana Island Fog Signal Station) are presently listed in the National Register of Historic Places. However, in the opinion of the Maine Historic Preservation Commission, Monhegan Island in its entirety merits listing in the Register under Criteria A, C, D and possibly B in the areas of Architecture, Archaeology, Art, Community Planning and Development, Exploration/Settlement, Maritime History, and Transportation. This is a new opinion of eligibility.

Monhegan Island's history stretches back at least as early as the first quarter of the 17th century when it was visited by such explorers as George Weymouth, Samuel de Champlain, and John Smith. Its early use as a fishing station established the industry that would dominate the economy until the late 19th century when the local tourism trade developed. By then, Monhegan's landscape was already attracting major American artists who came to visit and in some cases establish residence on the island. The characteristics of Monhegan Island that attracted artists and tourists also fostered the development of a summer colony whose architecture both contrasted with and drew inspiration from the vernacular forms of the island's 18th and 19th century buildings. These early structures include the highest concentration of historic fish houses in Maine, the oldest of which can be traced to the 1780s. In addition to its fishery, Monhegan's importance in maritime history is underscored by the fact that a light station was established on the island by the federal government in 1824. A companion fog signal station was erected on nearby Manana Island in 1855. In the area of archaeology, there are seven known prehistoric sites, and four known historic sites on the island.

Monhegan Island possesses most if not all of the seven aspects of integrity that are necessary for listing a property in the National Register. Of the seven aspects, integrity of location, setting, feeling, and association are particularly significant for this place. Consequently, we believe that the proposed

MHPC# 1904-10
February 15, 2011

Deepwater Offshore Wind Test Site has the potential to adversely affect Monhegan Island. Based on the information that was provided in your letter of February 3, 2010 [11] we cannot, at this time, concur with your finding that the proposed undertaking will “not adversely affect historic properties....” In order to continue consultation, we request that the Department of Energy provide documentation pursuant to 36 CFR 800.11(e) to show how it applied the criteria of adverse effect on the historic properties noted above, particularly in relation to the examples of adverse effects described in 36 CFR 800.5(2)(iv) and (v). Visual simulations of existing and proposed conditions from various locations on the island and the principal approaches to it should be included in this documentation.

In addition to the information requested above, we also require the following items for review:

1. Explain how this particular site was chosen, alternatives to this site that were considered, and why this is the preferred location for this particular undertaking.
2. Clearly identify the five mile APE that is described in your February 3, 2011 letter on a USGS topographical map. Please include the demonstration site on the map and confirm that there are no other islands other than Monhegan Island Plantation (includes Manana) that lie within the APE for this undertaking.
3. Submit drawings, cut sheets and/or photographs which indicate what the “1:3 commercial scale wind turbines on floating platforms” will look like.
4. Identify any other federal involvement (funding, permitting or licensing) with this project that may require coordination for the Section 106 process.
5. Identify Maine state permits which may be necessary for this undertaking.
6. Submit copies or summaries of comments by the public or other agencies concerning historic properties that have been received to date.

We look forward to continuing consultation with you on this project. Please contact Robin Stancampiano of my staff if we can be of further assistance in this matter.

Sincerely,



Kirk F. Mohney
Deputy State Historic Preservation Officer

enc.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
NORTHEAST REGION
55 Great Republic Drive
Gloucester, MA 01930-2276

FEB 22 2011

Laura Margason
Department of Energy
Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

RE: University of Maine Deepwater Offshore Wind Test Site

Dear Ms. Margason:

This letter responds to the U.S. Department of Energy's (DOE) request for an updated list of federally managed fish species for which Essential Fish Habitat (EFH) has been designated under the Magnuson-Stevens Fishery Conservation Act (MSA) in the vicinity of the University of Maine's proposed deepwater offshore wind test site off Monhegan Island in Maine. The DOE also requests an updated list of threatened or endangered species listed under the Endangered Species Act (ESA) as well as any marine mammals listed under the Marine Mammal Protection Act (MMPA) that could occur near Monhegan Island. NOAA's National Marine Fisheries Service (NMFS) previously provided DOE with this information in a letter dated October 1, 2010.

The list of EFH, ESA, and MMPA species identified in our October 1, 2010 letter to DOE as potentially occurring in the vicinity of Monhegan Island remains accurate. We can also confirm that your list of EFH species contained in Table 1 of your letter is accurate. However, upon further review, we have identified several highly migratory species of fish listed under the MSA that could potentially occur off the waters of Monhegan Island. These highly migratory species include: white shark (*Carcharodon carcharias*); bluefin tuna (*Thunnus thynnus*); basking shark (*Cetorhinus maximus*); common thresher shark (*Alopias vulpinus*); and porbeagle shark (*Lamna nasus*). Please update your list of species for the University of Maine's offshore wind test site project to include these highly migratory species.

Sincerely,

Mary A. Colligan
Assistant Regional Administrator
For Protected Resources

Cc: Murphy, F/NER3





Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

February 23, 2011

Dr. Arthur Spiess, Senior Archaeologist
Maine Historic Preservation Commission
State House Station 65
Augusta, ME 04333

Subject: University of Maine Deepwater Offshore Wind Test Site, Gulf of Maine

Dr. Speiss:

This letter is in response to your email of February 9, 2011, and clarifies the process that the University of Maine will follow to avoid impacting shipwrecks as part of the subject project.

In my letter to the Maine Historic Preservation Commission (MHPC) of February 3, I stated that the University will conduct a marine magnetometer survey to identify the presence of potential shipwrecks, and will avoid locating their test platforms in any areas where potential shipwrecks are detected. In addition to the process described in the letter, the University will share the results of that survey with the MHCP, inform you of the locations they have selected for deployment of the two test beds, and obtain the concurrence of the MHCP prior to deployment.

In addition, as you requested, Melissa Maynard of the University of Maine is sending to you a copy of the *Cultural Resource Management Assessment for the UMaine Deepwater Offshore Wind Test Site: Pre-Columbian Cultural Resource Evaluation* (Kelley 2010). That report includes an analysis of the results of the side scan sonar survey.

DOE will respond separately to the letter from the Maine Historic Preservation Commission dated February 15, 2011 requesting additional information about the potential for adverse impacts to historic properties on Monhegan Island.

Please contact me at 720-356-1322 or via my email at Laura.Margason@go.doe.gov if you have any additional questions or require additional information.

Sincerely,

A handwritten signature in cursive script that reads "Laura Margason".

Laura Margason
NEPA Document Manager





Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

March 23, 2011

Mr. Kirk Mohney
Deputy State Historic Preservation Officer
Maine Historic Preservation Commission
55 Capitol Street, 65 State House Station
Augusta, ME, 04333-0065

Subject: MHCP #1904-10-U—University of Maine Deepwater Offshore Wind Test Site, Lincoln County, Gulf of Maine

Dear Mr. Mohney:

As you requested in a letter of February 15, 2011, the U.S. Department of Energy (DOE) is providing additional information for your use in evaluating the potential effects of the subject project on historic properties. We have reviewed this information, and the information you provided in your February 15 letter, and DOE has again concluded that the temporary deployment of one-third scale test platforms more than two miles off of the shore of Monhegan Island would not adversely affect historic properties on that island or elsewhere.

The following information is attached for your review.

1. A summary of the process that has been followed by the State of Maine to select ocean energy test areas, including the Monhegan Island test site to be used by the subject project. It is the understanding that the Maine State Planning Office and Department of Conservation have recently provided additional information about the site selection process to your office in response to your request.
2. A map of the five-mile-radius Area of Potential Effects.
3. A diagram showing the preliminary design of the one-third scale floating platforms/wind turbine configurations to be deployed by the University of Maine.
4. A list of the Federal and State of Maine permits and approvals that must be obtained before the University can deploy and test the floating platforms in the Gulf of Maine.
5. The visual simulation report prepared for this project.
6. Visual simulations of a one-third scale platform and wind turbine from the mainland and five closest locations on Monhegan Island. Also included is one

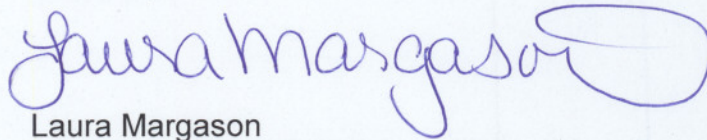


simulation of the view of a test platform at night from the southern end of Monhegan Island.

You also requested copies or summaries of any comments made by the public or other agencies concerning historic properties. DOE did not receive any comments concerning historic properties during the scoping process for the Environmental Assessment we are preparing for this project.

If you have any questions or require additional information, please contact me at 720-356-1322 or via my email at Laura.Margason@go.doe.gov.

Sincerely,

A handwritten signature in blue ink that reads "Laura Margason". The signature is fluid and cursive, with a large loop at the end of the word "Margason".

Laura Margason
NEPA Document Manager

Attachments



PAUL R. LEPAGE
GOVERNOR

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

EARLE G. SHETTLEWORTH, JR.
DIRECTOR

April 29, 2011

Ms. Laura Margason
NEPA Document Manager
U.S. Department of Energy
Golden Field Office
1617 Cole Boulevard
Golden, CO 80401-3393

Project: MHPC# 1904-10 – Univ. of Maine deepwater offshore wind test site: Monhegan
Town: Monhegan Island Plantation, Lincoln County-Gulf of Maine, ME

Dear Ms. Margason:

In response to your recent request, I have reviewed the information received February 28, March 3, 9, 22, and 28, 2011 to continue consultation on the above referenced project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA).

Based on the information submitted, I concur with your finding that the proposed undertaking will have **no adverse effect** on historic properties, as defined by Section 106 of the National Historic Preservation Act.

However, our concurrence is conditional upon the following understanding: This deployment of one-third scale test platforms more than two miles off of the shore of Monhegan Island will be a temporary installation only. The University of Maine's process for avoiding shipwrecks as described in your February 23, 2011 letter is acceptable to our office.

Please contact Robin Stancampiano of my staff if we can be of further assistance in this matter.

Sincerely,

Kirk F. Mohney
Deputy State Historic Preservation Officer

cc. Todd Burrowes, Maine State Planning Office
Matthew Nixon, Maine State Planning Office
Dan Prichard, Maine Department of Conservation
Patrick N. Graham, James W. Sewall Company
Andy Qua, Kleinschmidt Associates
Jake Ward, University of Maine



Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

May 4, 2011

Ms. Mary A. Colligan
Assistant Regional Administrator for Protected Resources
National Marine Fisheries Service, Northeast Region
55 Great Republic Drive
Gloucester, MA 01930

Subject: Section 7 Endangered Species, Magnuson-Stevens Fishery Conservation Act and Marine Mammal Protection Act Consultation for the University of Maine Deepwater Offshore Wind Test Site, Gulf of Maine

Dear Ms. Colligan:

We are requesting concurrence from the National Marine Fisheries Service that the proposed University of Maine Deepwater Offshore Wind Test Site (test site) in the Gulf of Maine *may affect, but is not likely to adversely affect* species of ESA-listed fish, mammals, and turtles. These include two fish species: Atlantic salmon and Atlantic sturgeon; six species of whales: North Atlantic right, fin, humpback, sei, blue, and sperm whales; and three species of sea turtles: Atlantic ridley, loggerhead, and leatherback.

Essential Fish Habitat (EFH) has been designated in the test site for 15 federally-managed fish and their various life stages under the Magnuson-Stevens Fishery Conservation Act (MSA). In addition, NMFS identified four additional highly migratory fish listed under the MSA that might occur in the test site. We are requesting a concurrence that the Offshore Wind Test Site *is not likely to adversely affect* EFH for these species (Table 1).

In addition to the six species of whales listed under the ESA, a number of other marine mammals are likely to occur in the test site or the region surrounding the test site (Table 2). Marine mammals are protected under the Marine Mammal Protection Act (MMPA) of 1972 which restricts the taking, possession, transportation, selling, offering for sale, and importing of marine mammals. We are requesting a concurrence with the DOE finding that incidental take of marine mammals is unlikely to occur.

Background

In response to a 2010 Congressional Directive, the U.S. Department of Energy (DOE) has awarded federal funding to the University of Maine and is proposing to authorize expenditure of that funding to perform research on and development of floating offshore wind turbine platforms. The University is proposing to use DOE and cost-share funding to design, fabricate, deploy, test, and retrieve one to two approximately one-third scale commercial wind turbines on floating platforms within the University's Deepwater Offshore Wind Test Site in the Gulf of Maine, located approximately 2 to 3 miles south of Monhegan Island (Figure 1).

The focus of the University's tests is to validate numerical models that predict how the turbine platforms would perform under various conditions of combined wind and wave loading. The



wind turbine platforms would carry sensors and telemetry systems that would provide data to evaluate motion and structural performance. The University also has committed to a program of monitoring for bats and birds, marine life, and noise at the test site during deployment to gather additional information on potential impacts.

The floating offshore wind turbines would measure approximately 100 feet from waterline to the hub, the rotor diameter would measure 88.6 feet, and the total turbine height would be approximately 144 feet with a rotor swept-area of 6165 square feet. The wind turbine platforms would be fabricated at a shipyard, or similar existing coastal facility, and towed to and temporarily moored at the test site from July 2012 through November 2012 and during July 2013 through November 2013. Retrieval of the platforms would occur following the deployment periods in 2012 and 2013. There would be no utilities or services connected to the turbines while deployed at the test site. The floating platforms would be moored in place using 1.2 to 2 inch diameter cables attached to seabed anchors. It is anticipated that the mooring system would be arranged in a triangular pattern. Vessel traffic for deployment and maintenance would be small and insignificant. It is estimated that one day would be required for the placement of each of six anchors and 1-2 days for towing and placement of each tower and the same for retrieval. These operations would require three to four vessels (e.g., tugs, crane barge, and personnel transportation). Post deployment, during operation and testing, the towers would be periodically accessed for scheduled and unscheduled inspections, maintenance, and repair.

During scoping for the DOE Environmental Assessment (EA), your office provided information (letter dated October 1, 2010) on threatened, endangered, or proposed species and Essential Fish Habitat. DOE then initiated informal ESA consultation (letter dated February 2, 2011) by requesting confirmation that the previously provided information was up to date and accurate. Your office (letter dated February 22, 2011) confirmed that information remained accurate. However, NMFS identified four highly migratory fish species that could potentially occur in the test area that should be added to the MSA species list. These included the white shark, basking shark, common thresher shark, and porbeagle shark.

Threatened and Endangered Species

Fish - Two ESA-listed fish species, both anadromous, could potentially occur in the test site area. The Atlantic salmon is listed as federally endangered and the Atlantic sturgeon is proposed as threatened. The proposed project area is not located within any currently designated critical habitat for any ESA-listed fish species. Both Atlantic salmon and Atlantic sturgeon have been tagged in the region with acoustic tags since 2005. In July 2010 the University of Maine deployed Buoy E02 at the offshore wind test site. Two acoustic receivers were mounted on Buoy E02 and would contribute to observations of both species by the existing network of acoustic tag receivers already deployed as part of the Gulf of Maine Ocean Observing System.

Atlantic salmon are a highly mobile, pelagic species (NOAA 2010b) and would likely avoid the immediate test site during the short deployment periods. Because salmon are migratory pelagic species, it is unlikely that they would be attracted to any new temporary underwater structures (e.g., tower platform, mooring cables, seabed anchors). Atlantic salmon smolts migrate to Labrador and Greenland in the spring each year, generally between late April and early June, where they mature and return after two to three years to spawn in their natal streams. Atlantic salmon could be expected to pass through the test site, but their exposure to the project would be short term given their migratory behavior and because the project is temporary.

The Atlantic sturgeon in Maine typically has been found near estuaries (Dunton et al. 2010). The sturgeon also is highly mobile and would likely avoid the test site during the short deployment period. Because the Atlantic sturgeon is typically found in bays and estuaries, it is unlikely to be attracted to any new temporary underwater structure 12 miles from the coast.

Due to the small size of the research project relative to the surrounding waters, the temporary nature of the deployment, and the potential low exposure of either species to the project site, DOE concludes that any change in habitat or exposure to human activity represents a discountable and insignificant effect to Atlantic salmon and Atlantic sturgeon and the project may affect, but is not likely to adversely affect these two species or their habitat.

Marine Mammals - Six ESA-listed whales that have the potential to occur in the project area are North Atlantic right, fin, humpback, sei, blue, and sperm whales. While large species of whales have been observed in the vicinity of the Monhegan Island test site, the area does not appear to be commonly used (UMaine 2011). In fact, the State of Maine selected the Monhegan Island site, in part, because it was determined that testing of wind turbines at this site would have minimal effects on whales. The likelihood of exposure of ESA-listed whales to the proposed project is very small, given that ESA-listed whales are uncommon in the project area, the small size of the project relative to surrounding open ocean area to the south of Monhegan Island, and the fact that the platforms would be temporarily deployed for five months or less in each of two consecutive years. The test site is not located within any marine mammal critical habitat.

The potential impacts on whales are underwater entanglement, collisions, and noise. However, the heavy mooring lines (1.2 or 2 inch cable) and the taut tension on the lines would prevent formation of loops and render the potential for entanglement negligible (Wursig and Gailey 2002). Collisions are unlikely as the floating platforms are expected to be perceived by approaching whales. In addition, the platforms would be deployed temporarily. The vessel traffic associated with the project for installation and maintenance would be small and negligible for this temporary project. However, if any whale species or other marine mammal is encountered during any project operation, the University of Maine would implement NMFS marine mammal avoidance procedures. Masking of whale acoustical communication mechanisms by project generated noise is a possible impact. Potential noise impacts could occur from three sources: operation of vessels during deployment and maintenance, transmission of turbine noise to the ocean, and vibrations transmitted through the tower and platforms. Noise from vessels would be short-term and temporary and would not represent a significant increase over existing levels. Transmission of turbine noise from the air through the sea surface is expected to be minimal due to the reflective nature of the sea surface (Jones et al. 2010). Underwater acoustical emissions from vibrations of the turbine and platform are expected to be low frequency and low amplitude (Jones et al. 2010). Because the platforms are floating, the turbines lack a rigid underwater structure (such as seabed mounted turbines) from which to efficiently transmit vibrations. An underwater acoustic monitoring program would be implemented to characterize the noise produced.

Due to the low exposure of ESA-listed whales to the project, the mooring cables would not pose an entanglement risk, whales are expected to be able to detect and avoid the turbine platforms, and NMFS marine mammal avoidance procedures would be implemented in the event that a marine mammal is encountered by a construction or maintenance vessel, DOE concludes that the proposed project may affect, but is not likely to adversely affect ESA-listed whales.

Turtles - There are three ESA-listed sea turtles with the potential to occur in the project vicinity: Atlantic Ridley, loggerhead, and leatherback sea turtles. The leatherback is the most frequently sighted sea turtle. The presence of sea turtles in the area is limited to the summer months. The proposed project is not located within any critical habitat for sea turtles. Sea turtle sightings in the Gulf of Maine are exceedingly rare. As discussed for other species, ESA-listed sea turtles would not become entangled in the project mooring lines because the mass/buoyancy of the platforms and mass of the anchors is expected to create substantial tension in the 1.2 to 2 inch diameter mooring lines.

Due to the small size of the research project relative to the surrounding waters, the temporary nature of the deployment and the potential low exposure of sea turtles to the project site, DOE concludes the test site represents a discountable and insignificant effect to any of the three species of sea turtles and the project may affect, but is not likely to adversely affect these three species.

Magnuson-Stevens Fisheries Conservation Act

Essential Fish Habitat - Under the *Magnuson-Stevens Fishery Conservation Act* of 1998 (MSA) the waters off Monhegan Island have been designated as essential fish habitat (EFH) for 15 federally managed fish species (Table 1). However, your office (letter dated February 22, 2010) stated that five additional species of highly migratory fish listed under the MSA could potentially occur in the waters off of Monhegan Island and should be added to the list of species. One, the bluefin tuna, was already on the list. The other four include the white shark, basking shark, common thresher shark, and porbeagle shark.

EFH for the species listed in Table 1 varies by species and life stage, and includes the water column and different substrate types (i.e., soft or hard bottom). The impacts to benthic habitats would be minimal and would occur during placement of anchors prior to tower deployment. Although a specific anchor type has not been selected, the skirted mat anchor has the largest footprint (256 feet²). Assuming three anchors per tower, the total maximum disturbed area would be 1536 square feet or 0.04 acres. Benthic organisms are expected to rapidly recolonize the small disturbances. Mobile fish species that feed on or near the bottom or shelter on the bottom would likely move away during anchor emplacement which is a very short time period (one day per anchor). Because the anchors would have very limited surface area above the seafloor (some types would be completely buried) and with generally slow currents at depths of 300+ feet, scour and alteration of depositional patterns near the anchors would be very limited.

The primary change in the marine habitat would be the addition of habitat structure by the anchors, mooring lines, and below-water portion of the turbine platforms. This additional habitat structure may create several effects including artificial reef and fish aggregation device (FAD) effects. The underwater structure may provide habitat for biofouling organisms and structure-oriented fish. Fish also are known to aggregate around floating objects. However, either the reef effect or FAD effect is expected to be small because the two towers and mooring lines have a relatively small surface area below water. In addition, the tower deployment would be temporary and short-term. Therefore, DOE concludes that project effects on EFH are expected to be negligible and would not adversely affect.

Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) of 1972 restricts the taking, possession, transportation, selling, offering for sale, and importing of marine mammals. The MMPA is

implemented through CFR 50 Part 216. Subpart I (Section 216.101) specifically addresses small takes of marine mammals incidental to specified activities.

Analysis of sightings of whale species collected through the Right Whale Consortium indicate that although large whales have been observed in the vicinity of the Monhegan Island test site, this area does not appear to be commonly used compared to other areas within the Gulf of Maine. Within the western Gulf of Maine, specific regions such as Jeffreys Ledge and Mt. Desert Rock are areas where whales are commonly sighted (UMaine 2011).

Smaller whales such as minke whales, pilot whales, harbor porpoise, and white-sided dolphin are common marine mammals in the Gulf of Maine. Additionally, harbor seal, gray seal, and harp seal occur in the Gulf of Maine. Harbor seal is the most common seal, with approximately 30,000 individuals spending all, or part, of the year in the Gulf of Maine (GoMOOS 2010a). Other marine mammal species that have been occasionally sighted in the region are offshore bottlenose dolphin, killer whales, white-beaked dolphin, and beluga whales (UMaine 2011).

During 2010, UMaine researchers conducted two marine mammal surveys along dedicated transects that traversed the test site. On-water time for each survey was approximately four hours. Eight harbor porpoise and no large whales were observed during the two marine mammal surveys. UMaine researchers also recorded opportunistic sightings of marine mammals during other survey efforts, by researchers that had training in marine mammal visual identification. Ten marine mammals (2 harbor porpoise and 8 white-sided dolphins) were observed during an eight-hour benthic invertebrate survey on July 7, 2010, and the one large whale, a fin whale, was observed during a 30-hour geophysical survey on June 17 and 18, 2010 (UMaine 2011).

As previously discussed for ESA-listed whale species, the project is expected to have minimal direct impacts (collisions and entanglement) or indirect impacts through alteration of habitat by introduction of structures (anchors, mooring lines, and floating platforms). The UMaine would implement NMFS marine mammal avoidance procedures if marine mammals are encountered during deployment or routine maintenance operations. These operations are short-term and are unlikely to result in the taking of any marine mammals. Collisions with mooring cables and the floating platforms are extremely unlikely because of the low probability of a marine mammal encountering one and most marine mammals have well-developed sensory abilities (echolocation or vision) that allow them to avoid structures. Entanglement in mooring cables is unlikely because of the cable thickness and tension would prevent looping (Wursig and Gailey 2002).

The introduction of structures (mooring cables, anchors, and floating platforms) may attract structure-oriented fish species which may in turn attract predatory marine mammals. However, because of the temporary deployment this effect is likely to be minimal. The floating turbines platforms may be used for resting by seals (haul out). While not a negative impact, the platforms would be designed to prevent seal haul out (minimize horizontal surfaces or raise the deck) more to protect the equipment and as a safety precaution for workers that would periodically access the platforms for scheduled and unscheduled maintenance.

As part of the applicant committed mitigation measures, the University of Maine would develop a post-construction fish and wildlife monitoring plan in order to evaluate how fish and marine mammals interact with the floating platforms.

Based on the minimal potential for interaction with marine mammals and any negative impact from those interactions, DOE finds that incidental take of marine mammals is unlikely to occur

during the deployment, operation, and retrieval of the wind turbines at the University of Maine's Deepwater Offshore Wind Test Site.

DOE anticipates publically posting the draft Environmental Assessment being prepared under the National Environmental Policy Act for this project in the next week or two. Additional background information and analysis can be found in this document, electronically available on the DOE Golden Field Office's Public Reading Room web site:

http://www.eere.energy.gov/golden/NEPA_DEA.aspx

If you have any questions, please contact me at 720-356-1322 or via my email at Laura.Margason@go.doe.gov.

Sincerely,

A handwritten signature in blue ink that reads "Laura Margason" with a stylized flourish at the end.

Laura Margason
NEPA Document Manager

References

- Dunton, K.; Jordaan, A.; McKown, K.; Conover, D.; and Frisk, M. 2010. "Abundance and distribution of Atlantic sturgeon (*Acipenser oxyrinchus*) within the northwest Atlantic Ocean, determined from five fishery-independent surveys." *Fishery Bulletin*. 108 (4).
- Jones, M.; Ramuhalli, P.; and Watkins, M. 2010. *Characterization of acoustic noise propagation from offshore wind turbines – white paper*. Pacific Northwest National Laboratory, Richland, WA. Unpublished.
- GoMOOS (Gulf of Maine Ocean Observing System) 2010a. "About the Gulf of Maine." Available online at: <http://www.gomoos.org/aboutgulfme/> (accessed October 2010).
- NOAA (National Oceanic and Atmospheric Administration) 2010b. "NOAA Fisheries, Office of Protected Resources – Atlantic salmon (*Salmo salar*)." Available online at: <http://www.nmfs.noaa.gov/pr/species/fish/atlanticsalmon.htm> (accessed June 2009).
- NOAA (National Oceanic and Atmospheric Administration) 2010d. "Guide to Essential Fish Habitat Designations in the Northeastern United States." Available online at: <http://www.nero.noaa.gov/hcd/index2a.htm> (accessed December 2010).
- UMaine (University of Maine) 2011. *Draft Report on Existing Marine Resources and Draft Fish and Wildlife Monitoring Plan*. University of Maine Deepwater Offshore Wind Test Site. Unpublished. March 2011.
- Wursig, B. and Gailey, G.A. 2002. "Marine mammals and aquaculture: conflicts and potential resolutions." In Stickney, R.R. and J.P. McVay (Eds.) *Responsible Marine Aquaculture*. CAP International Press, New York, pp. 45-59.

Table 1. Marine Species and Life Stages for which Essential Fish Habitat Occurs in Waters off of Monhegan Island

Species	Eggs	Larvae	Juveniles	Adults
Atlantic cod (<i>Gadus morhua</i>)	X	X	X	X
Haddock (<i>Melanogrammus aeglefinus</i>)				X
Whiting (<i>Merluccius bilinearis</i>)			X	X
Red hake (<i>Urophycis chuss</i>)	X	X	X	X
White hake (<i>Urophycis tenuis</i>)	X	X	X	X
Redfish (<i>Sebastes fasciatus</i>)	N/A	X	X	X
Witch flounder (<i>Glyptocephalus cynoglossus</i>)			X	X
Winter flounder (<i>Pleuronectes americanus</i>)	X	X	X	X
Windowpane flounder (<i>Scopthalmus aquosus</i>)			X	
American plaice (<i>Hippoglossoides platessoides</i>)			X	X
Atlantic halibut (<i>Hippoglossus hippoglossus</i>)	X	X	X	X
Atlantic sea herring (<i>Clupea harengus</i>)				X
Monkfish (<i>Lophius americanus</i>)			X	
Spiny dogfish (<i>Squalus acanthias</i>)	N/A	N/A		X
Bluefin tuna (<i>Thunnus thynnus</i>)				X
White shark (<i>Carcharodon carcharias</i>) ¹	N/A	N/A	N/A	X
Basking shark (<i>Cetorhinus maximus</i>) ¹	N/A	N/A	N/A	X
Common thresher shark (<i>Alopias vulpinus</i>) ¹	N/A	N/A	N/A	X
Porbeagle shark (<i>Lamna nasus</i>) ¹	N/A	N/A	N/A	X

Source: NOAA 2010d; N/A = not available.

¹Added based on NMFS letter to DOE dated February 22, 2011(M. Colligan to L. Margason)

Table 2. Marine Mammal Species Known to Occur in the Gulf of Maine

Species	Federal Listing Status	ESA Management Plans
Baleen Whales		
North Atlantic right whale (<i>Eubalaena glacialis</i>)	Endangered	NMFS 2005; NMFS 2006a
Fin whale (<i>Balaenoptera physalus</i>)	Endangered	NMFS 2006b
Humpback whale (<i>Megaptera novaeangliae</i>)	Endangered	NMFS 1991
Minke whale (<i>Balaenoptera acutorostrata</i>)	NA	NA
Sei whale (<i>Balaenoptera borealis</i>)	Endangered	No
Blue whale (<i>Balaenoptera musculus</i>)	Endangered	NMFS 1998
Toothed Whales		
Harbor porpoise (<i>Phocoena phocoena</i>)	NA	NA
Atlantic white-sided dolphin (<i>Lagenorhynchus acutus</i>)	NA	NA
Pilot whale (<i>Globicephala</i> sp.)	NA	NA
Common dolphin (<i>Delphinus delphis</i>)	NA	NA
Killer whale (<i>Orcinus orca</i>)	NA	NA
Risso's dolphin (<i>Grampus griseus</i>)	NA	NA
White-beaked dolphin (<i>Lagenorhynchus albirostris</i>)	NA	NA
Bottlenose dolphin (<i>Tursiops truncatus</i>)	NA	NA
Sperm whale (<i>Physeter macrocephalus</i>)	Endangered	NMFS 2006c
Beluga whale (<i>Delphinapterus leucas</i>)	NA	NA
False killer whale (<i>Pseudorca crassidens</i>)	NA	NA
Seals		
Harbor seal (<i>Phoca vitulina</i>)	NA	NA
Gray seal (<i>Halichoerus grypus</i>)	NA	NA
Harp seal (<i>Phoca groenlandica</i>)	NA	NA

Note: The species are grouped by order and are organized from the most to least common based on number of sightings in the Right Whale Consortium database. The survey effort in the Gulf of Maine is strongly biased towards areas and seasons when right whales are likely to be found.

Source: UMaine 2011; NA = not applicable.

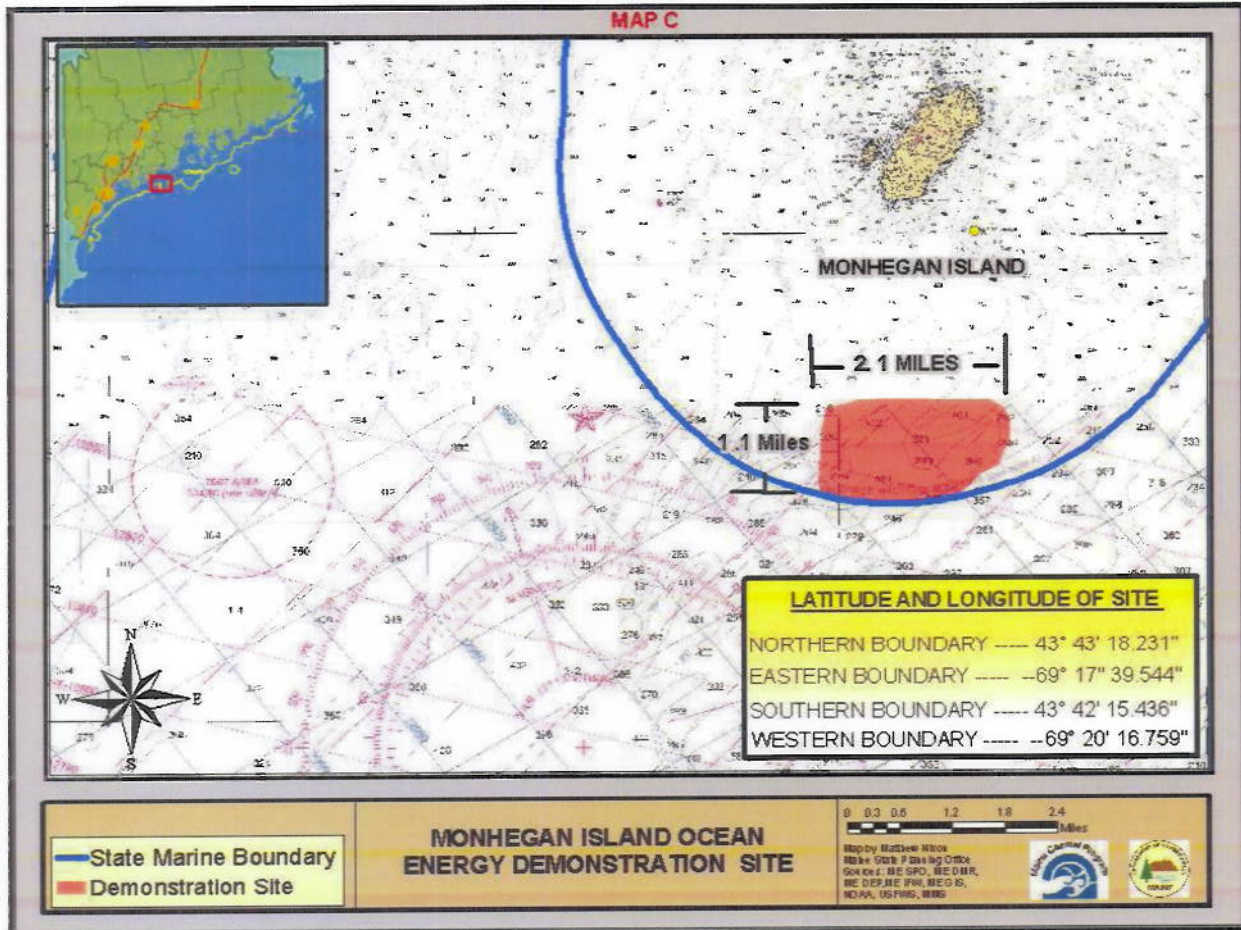


Figure 1. Location of the University of Maine Deepwater Offshore Wind Test Site.



Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

May 4, 2011

Ms. Laury Zicari
Field Supervisor
U.S. Fish & Wildlife Service
Maine Field Office
17 Godfrey Drive, Suite #2
Orono, ME 04473

**Subject: Section 7 Endangered Species Consultation
University of Maine Deepwater Offshore Wind Test Site, Gulf of Maine**

Dear Ms. Zicari:

We are requesting concurrence from the U.S. Fish and Wildlife Service that the proposed University of Maine Deepwater Offshore Wind Test Site in the Gulf of Maine *may affect, but is not likely to adversely affect* either the ESA-listed roseate tern or piping plover.

In response to a 2010 Congressional Directive, the U.S. Department of Energy (DOE) has awarded federal funding to the University of Maine and is proposing to authorize expenditure of that funding to perform research on and development of floating offshore wind turbine platforms. The University would use DOE and cost-share funding to design, fabricate, deploy, test, and retrieve one to two approximately one-third scale commercial wind turbines on floating platforms within the University's Deepwater Offshore Wind Test Site (test site) in the Gulf of Maine, located approximately 2 to 3 miles south of Monhegan Island (see attached map).

The focus of the University's tests is to validate numerical models that predict how the turbine platforms would perform under various conditions of combined wind and wave loading. The wind turbine platforms would carry sensors and telemetry systems that would provide data to evaluate motion and structural performance. The University also has committed to a program of monitoring for bats and birds, marine life, and noise at the project site during deployment to gather additional information on potential impacts.

The floating offshore wind turbines would measure approximately 100 feet from waterline to the hub, the rotor diameter would measure 88.6 feet, and the total turbine height would be approximately 144 feet with a rotor swept-area of 6165 square feet. The wind turbine platforms would be fabricated at a shipyard, or similar existing coastal facility, and towed to and temporarily moored at the test site from July 2012 through November 2012 and during July 2013 through November 2013. Retrieval of the platforms would occur following the deployment periods in 2012 and 2013. There would be no utilities or services connected to the turbines while deployed at the test site.

In a letter dated February 2, 2011, DOE requested from your agency a list of threatened, endangered, proposed specie, and/or designated or proposed critical habitat under your jurisdiction that "may be present" within the project area. It was determined that two species may be present: roseate tern and piping plover. The test site does not contain critical habitat for either species. DOE is also consulting with the National Marine Fisheries Service regarding



marine species protected under the Endangered Species Act and other trust resources managed by that agency.

Roseate terns usually forage over shallow bays, tidal inlets and channels. The roseate tern does not breed on Monhegan Island but does use the island for rest and feeding and is regularly observed (Welch 2010). The piping plover breeds and forages on coastal beaches from Newfoundland to North Carolina and winters along the southern Atlantic coast and southward. Because the test site is approximately 12 miles from the coastal beaches and 2 to 3 miles from Monhegan Island, the primary threat to either the roseate tern or piping plover would be interaction with turbine blades during migration. Marine radar surveys conducted by the New Jersey Audubon Society indicated that 93 and 95% of the detected targets during the day and night, respectively, were at heights of 246 feet or greater, above the maximum height of the turbines (NJAS 2010). It is unknown how flight patterns and altitude of roseate terns and piping plovers would relate to these observed data.

As the vast majority of avian species have been detected flying above the turbine-swept area, and the proposed project would be small scale and have a short operational duration, the likelihood of these two species interacting with the turbine rotors is minor and affects to the species would be negligible. For these reasons, DOE concludes that the project *may affect, but is not likely to adversely* affect the ESA-listed roseate tern or piping plover.

DOE anticipates publically posting the draft Environmental Assessment being prepared under the National Environmental Policy Act for this project in the next week or two. Additional background information and analysis can be found in this document, electronically available on the DOE Golden Field Office's Public Reading Room web site:

http://www.eere.energy.gov/golden/NEPA_DEA.aspx

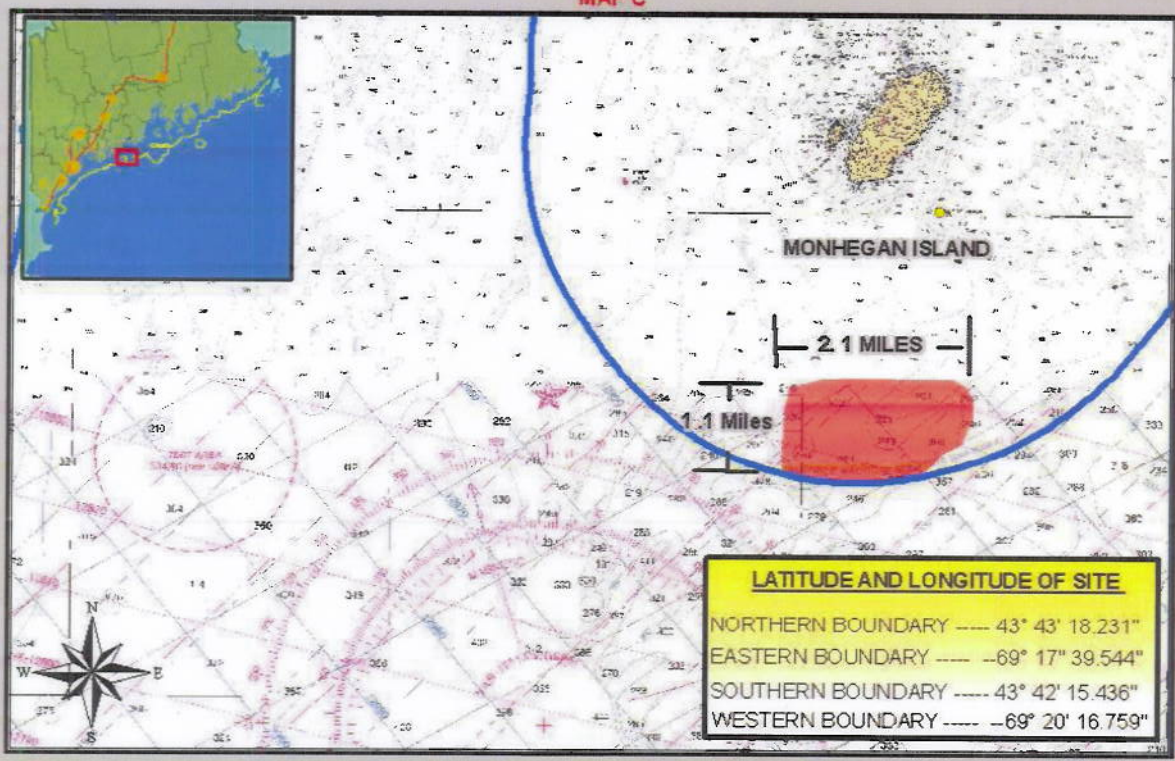
If you have any questions, please contact me at 720-356-1322 or via my email at Laura.Margason@go.doe.gov.

Sincerely,



Laura Margason
NEPA Document Manager

MAP C



— State Marine Boundary
■ Demonstration Site

MONHEGAN ISLAND OCEAN ENERGY DEMONSTRATION SITE

0 0.2 0.5 1.2 1.8 2.4 Miles

Map by Matthew Wood
Maine State Planning Office
Sources: BE SPO, BE DRR,
ME DEP, NE PA, BE G S,
NO AA, US FWS, BIRD



References

Mizrahi, D. Personal communication between D. Mizrahi (New Jersey Audubon Society) and P. Jumars (UMaine) regarding radar monitoring being conducted at Monhegan Island. December 8, 2010.

NJAS (New Jersey Audubon Society) 2010. Preliminary results from radar monitoring of aerial vertebrate movement patterns on Monhegan Island, Maine and its near-shore waters. November 3, 2010.

Welch, L. 2010. Personal communication between L. Welch, USFWS, and R. Holberton (UMaine) regarding the roseate terns, November 2010.