

Recent Efforts in Underwater Cultural Heritage Management on the Pacific Outer Continental Shelf

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Abstract

The Bureau of Ocean Energy Management (BOEM) is responsible for managing the nation's energy and mineral resources on the federal Outer Continental Shelf (OCS). These resources include conventional energy (oil and gas), renewable energy (wind and hydrokinetic) and sand and gravel extraction for beach restoration. As with any federal action or undertaking, an assessment of potential impacts to the environment, including cultural resources, is required to make an informed decision. The BOEM Pacific OCS Region is taking a proactive approach to cultural resources management on the OCS by funding research efforts that provide baseline information on known and potential underwater cultural resources, and by identifying best practices for incorporating information from indigenous communities in the planning process.

Key words: Bureau of Ocean Energy Management, Cultural Landscape, Offshore Renewable Energy, Outer continental Shelf, Submerged Landform, Tribe

Introduction

The Bureau of Ocean Energy Management (BOEM) is responsible for managing over 1.76 billion acres of seafloor off the coast of the United States (U.S.) and is charged with regulatory oversight of offshore conventional energy (oil and gas), renewable energy (wind, wave and ocean currents) and marine minerals (primarily sand and gravel resources for coastal restoration). The Bureau's jurisdiction begins 3 nautical miles offshore and extends approximately 200 nautical miles, to the extent of the Exclusive Economic Zone¹. BOEM's authority over conventional energy and marine minerals was established through the Outer Continental Shelf Lands Act (OCSLA) of 1953, which gave the Secretary of the Interior authority over mineral exploration and development on the Outer Continental Shelf (OCS). Through the Energy Policy Act (EPAAct) of 2005 BOEM (then operating as the Minerals Management Service) also has authority over offshore renewable energy. The EPAAct significantly expanded the bureau's offshore energy responsibilities and renewed interest in energy development on the Atlantic and Pacific OCS. For any federal action or undertaking within the Bureau's authority, BOEM

must comply with the National Environmental Policy Act (NEPA), the National Historic Preservation Act (NHPA) and other legislative and regulatory environmental requirements. Included in those requirements is the obligation to consult with federally recognized tribal governments, as mandated through Executive Order 13175 and Secretarial Order 3317. Additionally, the NHPA requires consultation with federally recognized tribes and Native Hawaiian Organizations for cultural resources that are considered eligible for listing on the National Register of Historic Places. As BOEM's offshore renewable energy program has developed, and applications for construction of offshore facilities are increasing, it is important that the Bureau properly engage with the nation's coastal indigenous communities. To ensure that the Bureau is consulting properly, BOEM is funding several projects that seek to be more proactive in developing the best practices for identifying appropriate information gathering protocols and survey measures in order to avoid or mitigate adverse effects during development on the OCS. Each of these projects is rooted in the cultural landscape concept, which seeks to develop a more holistic understanding of areas that could be affected by a proposed action or undertaking by integrating environmental science with historical, archaeological and traditional knowledge.

Cultural Landscape Approach

The concept of cultural landscapes is not new. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), “[I]n 1992, the World Heritage Convention became the first international legal instrument to recognize and protect cultural landscapes” (Mitchell et al., 2009: 19). UNESCO defines a cultural landscape as embracing...

“...a diversity of manifestations of the interaction between humankind and its natural environment. Cultural landscapes often reflect specific techniques of sustainable land-use, considering the characteristics and limits of the natural environment they are established in, and a specific spiritual relation to nature...Cultural landscapes are illustrative of the evolution of human society and settlement over time” (Mitchell et al., 2009: 19-20).

In recent years the cultural landscape approach has also gained traction and acceptance within the federal historic preservation program in the U.S. For example, the U.S. National Park Service's Bulletin 36 defines a cultural landscape as, “a

geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values” (NPS, 1994). More recently, the U.S. National Oceanic and Atmospheric Administration’s (NOAA) Marine Protected Areas Federal Advisory Committee issued a white paper in 2011, which recommended incorporating a cultural landscape approach to “strengthen conservation of resources that cross the land/sea interface, promote sustainability of those resources and improve the socio-economic resilience of communities which depend upon them” (MPAFAC, 2011: 4). Additionally, in 2011 the Advisory Council on Historic Preservation (ACHP) released the Native American Traditional Cultural Landscapes Action Plan, which is designed to:

- Promote the recognition and protection of Native American traditional cultural landscapes both within the federal government and the historic preservation community
- Address the challenges of the consideration of Native American traditional cultural landscapes in the Section 106 review process as well as in NEPA reviews (ACHP, 2012).

This plan was adopted by the ACHP in November 2011 and announced by the White House on June 28, 2012 (Donaldson, 2012).

BOEM Environmental Studies

Established in 1973 under the former Minerals Management Service, the Environmental Studies Program (ESP) is an applied science program that was created to develop, conduct and oversee scientific research specifically to inform policy decisions regarding offshore energy and marine minerals activities on the OCS. Research conducted through the BOEM ESP covers physical oceanography, atmospheric sciences, biology, protected species, social sciences and economics, submerged cultural resources and environmental fates and effects. The primary goal of the ESP is to provide information needed for the assessment and management of environmental impacts on the human, marine and coastal environments of the OCS and the potentially affected coastal areas. As a result, BOEM is a leading contributor to the growing body of scientific knowledge about the nation’s marine and coastal environment. Through BOEM’s ESP, baseline

analysis of underwater cultural heritage resources has been updated off the Atlantic, Gulf of Mexico and Pacific coasts (Pearson et al., 2003; TRC, 2012; ICF International et al., 2014, respectively). Each of these studies includes a database of identified and reported historic shipwrecks and a predictive model of high probability areas that could be associated with submerged prehistoric landforms, areas that would have been exposed thousands of years ago during the Last Glacial Maximum (LGM). Additionally, in support of potential offshore renewable energy development, initial baseline assessments have been completed along the Atlantic and Pacific coasts of historic properties that could be affected by alteration of the seascape from construction of offshore facilities (TRC, 2012; ICF International et al., 2014, respectively).

BOEM held the first commercial offshore renewable energy lease sale for an area off of Rhode Island in July 2013, and a second sale was held off Virginia in September. Interest for developing offshore renewable energy has also been expressed elsewhere on the Atlantic OCS, as well as off the coasts of Hawaii and Oregon within the BOEM Pacific OCS Region. Offshore renewable energy siting could have an affect on submerged prehistoric sites and coastal sites that are important to indigenous groups. Expected impacts to the seafloor will occur from the installation of individual wind, wave or ocean current generators and associated transmission cable corridors. Additionally, wind turbines, which can stand 300-500 feet above the ocean surface, will have a definite visual signature. Depending on how far offshore wind turbines are constructed, many of these facilities will be visible to some extent from the coast, and therefore will have some level of affect to the offshore view.

Therefore, as BOEM reviews applications for offshore renewable energy projects, it is critical that the Bureau not only develop protocols that honor the unique relationship between the federal government, sovereign tribal nations and indigenous communities, but also incorporates traditional knowledge and oral tradition into the decision-making process. To meet these challenges, BOEM has awarded several research studies that seek to develop best-practices protocols for working with federally recognized tribes and Native Hawaiian communities, as well as incorporating information from these groups into the analysis of offshore geophysical survey data. Some of these projects are briefly

highlighted below and two of these efforts will be detailed further in this session by Valerie Grussing and Hans Van Tilburg.

Submerged Paleocultural Landscapes Project

Off the Atlantic coast of the U.S., where interest in offshore wind energy has been more prominent, BOEM has entered into a cooperative agreement with the University of Rhode Island, in partnership with the Narragansett Indian Tribal Historic Preservation Office, to develop a science-based, standardized best practices methodology for incorporating tribal knowledge into a predictive model for identifying submerged landforms. *Developing Protocols for Reconstructing Submerged Paleocultural Landscapes and Identifying Ancient Native American Archaeological Sites in Submerged Environments* seeks to enhance and refine the Bureau's understanding of submerged paleocultural landscape distribution on the Atlantic OCS and to better understand and identify paleocultural landscapes of importance to regional tribes through collaborative research. Specifically, the project is designed to incorporate Narragansett Indian Tribal oral history and traditional knowledge with remote sensing surveys off the coast of Rhode Island in order to develop a geospatial predictive model that will identify offshore environments with varying archaeological sensitivity for containing ancient Native American archaeological resources.

The first phase of the project was completed in the spring of 2013, which consisted of a 2-day workshop between invited tribal representatives and archaeologists from Europe and the U.S. The workshop reviewed current theories on submerged landform identification and discussed how to respectfully engage Native American tribes. The second phase of the project will synthesize the information obtained at the workshop, along with published sources, to develop a methodology aimed at incorporating tribal knowledge into best practices protocols for developing a model to identify submerged landforms. Once a working model is developed, researchers will conduct field investigations and data acquisition, combined with tribal traditional knowledge in order to validate the model and create a more complete understanding of the paleocultural landscape off Rhode Island. The project also includes an outreach component with the Narragansett Tribe and will develop training materials and a documentary film. This project was awarded as a cooperative agreement through the North Atlantic Coast

Cooperative Ecosystem Studies Unit in July 2012 and should be completed in September, 2016.

Characterization of Tribal Cultural Landscapes

At the time of this writing, the BOEM Pacific OCS office has received two applications for offshore renewable energy projects off the Oregon coast. These proposed projects include a commercial floating wind lease off of Coos Bay and a marine hydrokinetic (MHK) research lease off of Newport. Prior to receiving these lease requests, the BOEM Pacific OCS office entered into an interagency agreement with NOAA's Marine Protected Areas Center and the Maritime Heritage Program to develop best practices protocols for working with west coast tribes to incorporate information on tribal cultural landscapes into the Bureau's decision-making process. The goal of this project, *Characterizing Tribal Cultural Landscapes*, is to develop a proactive approach to working with Native American communities in order to identify areas of tribal significance that need to be considered in the planning process. A more detailed discussion of this project is provided elsewhere in this session by Dr. Valerie Grussing in her paper, *Characterizing Tribal Cultural Landscapes for Resource Preservation and Protection*.

Hawaii Maritime Heritage

The BOEM Pacific OCS Region office has not yet received any completed applications for renewable energy projects offshore Hawaii, however, interest has been expressed for offshore wind development. In May 2012, the BOEM Pacific OCS Region signed an inter-agency agreement with NOAA's Office of National Marine Sanctuaries to provide baseline information on underwater cultural heritage resources off the eight main Hawaiian Islands. The project, *Assessing Historic Properties and Cultural Resources in the Main Hawaiian Islands*, will develop a database of underwater and land-based cultural resources that could be affected by construction of offshore renewable energy facilities. The project also seeks to develop a best practices methodology for engaging Native Hawaiian communities, similar to the Tribal Cultural Landscapes project, so that information important to Native Hawaiians is included in the planning and review process for any future offshore renewable energy applications. This is the first cultural resources-related project that BOEM has undertaken for Hawaii and the information

collected through this effort will provide critical information for taking into consideration the effects of offshore renewable energy development on cultural resources near the eight main Hawaiian Islands. Further information on this effort is discussed elsewhere in this session by Dr. Hans Van Tilburg in his paper, *Assessing Historic Properties and Cultural Resources in the Main Hawaiian Islands*.

Submerged Landforms on the Pacific OCS

With the completion of the updated baseline study on underwater cultural heritage for the BOEM Pacific OCS Region, BOEM developed this follow-up study to further investigate submerged landforms off the U.S. west coast and to refine the predictive model for where these landforms might be expected. *Archaeological and Biological Assessment of Submerged Landforms off the Pacific Coast* is a multi-disciplinary effort that will examine existing data sets from areas off the southern California and central Oregon coastlines that have been identified as having a high potential to be associated with previously exposed landforms. The project will develop and field test a geospatial model that will aid in the identification and classification of potential submerged cultural landforms from existing remote sensing data and seafloor maps in areas along the Pacific coast. Similar to the Narragansett project on the Atlantic OCS, this project will evaluate existing remote sensing data and review current theories on sea level rise during the Last Glacial Maximum (LGM) on the Pacific OCS in order to identify high probability areas for further testing. Biological indicators, such as hard-bottom features, will also be assessed to see if these features correlate with possible submerged landforms. The project will also conduct fine-scale survey and ground-truthing of identified features and analyze new data for possible indicators of prehistoric human activity. This project should be completed in 2017.

Pacific Region Ocean Uses Atlas

The last project that the BOEM Pacific Region office is currently undertaking, which has the potential to incorporate cultural use information from indigenous communities, is the *Pacific Region Ocean Use Atlas* (PROUA). The PROUA project was developed through an inter-agency agreement with NOAA's National Ocean Service and is designed to document where coastal communities use the ocean across a full range of typical human activities and sectors. The primary objective of the project is to enhance ocean

planning for offshore renewable energy development and inform other ocean planning strategies that require insight on how and where ocean areas are used for recreational, commercial and industrial types of activity. One component of this project is to conduct interactive participatory mapping workshops in order to capture the knowledge of community experts about the patterns of ocean uses occurring off the coasts of Hawaii, Oregon and Washington. Though the previously discussed efforts have not yet been completed to fully develop protocols for engagement with coastal indigenous communities, efforts have been made to invite these groups into the process appropriately.

Conclusion

With the passage of the 2005 Energy Policy Act, BOEM's mandate over offshore energy and marine minerals expanded to include offshore renewable energy. In an attempt to improve BOEM's environmental review process and better fulfill the Bureau's obligation to consult with federally recognized tribes and Native Hawaiian Organizations, BOEM is developing a more proactive approach to engage indigenous communities in the decision-making process in support of offshore renewable energy. Information on each of the studies described in this paper, as well as other research funded by the Bureau, can be found on our website at: www.boem.gov/studies.

Acknowledgement

Funding for the research projects identified above has been provided through the Bureau of Ocean Energy Management. The author would like to thank the Tribal Historic Preservation Offices of the Confederated Tribes of Grand Ronde, the Makah Tribe, and the Yurok Tribe for their efforts on the Tribal Cultural Landscapes project, as well as the Narragansett Indian Tribal Historic Preservation Office for their efforts on the Submerged Paleocultural Landscapes project.

Endnote

¹OCSLA and the Submerged Lands Act define the OCS as all submerged lands lying seaward of state coastal waters. For most coastal states federal waters begin 3 nautical miles past the mean low tide line, the exception to this rule includes offshore Texas and the west coast of Florida, whose state waters extend 9 nautical miles offshore.

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