

Quarterly Reports

FY 2020 Fourth Quarter

Latest Reports and Study Profiles Posted to the
Environmental Studies Program Information System (ESPIS)



Contents

The Environmental Studies Program (ESP) Quarterly Reports include summaries of the Bureau of Ocean Energy Management (BOEM) environmental studies completed each quarter. These studies inform BOEM's policy decisions on the development of energy and mineral resources on the Outer Continental Shelf (OCS).

Visit ESPIS at <https://marinecadastre.gov/espis/#/>

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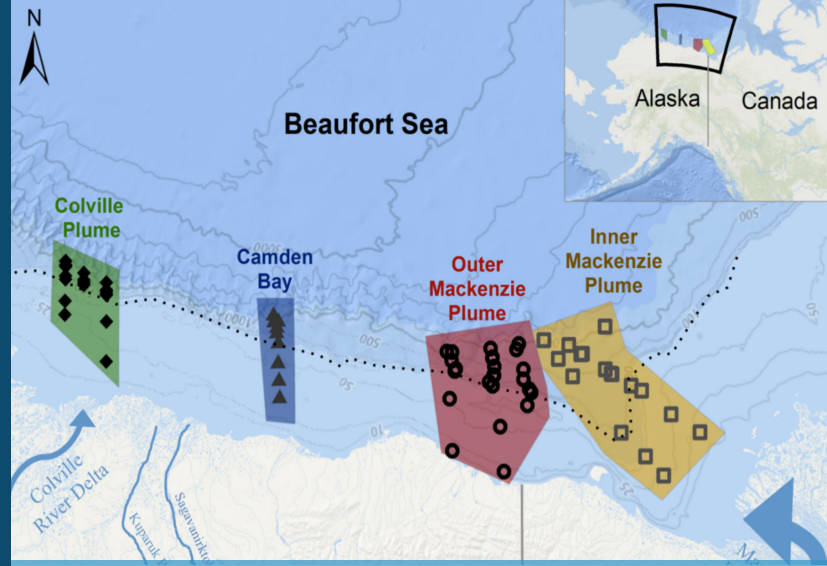
U.S.-Canada Transboundary Fish and Lower Trophic Communities

ESPIS Link: <https://marinecadastre.gov/espis/#/search/study/26875>

Conducted by: University of Alaska Fairbanks

National Studies List AK-12-04

Study Products (available in ESPIS): Final report, technical summary



Map of sampling stations during 2012 and 2013 Transboundary cruises, grouped into four regions

Purpose/Information Use:

Increasing interest in oil and gas development in the Outer Continental Shelf (OCS) in the eastern Beaufort Sea has elevated the need to collect ecological baseline data for fish and lower trophic organisms (organisms at the bottom of the food chain) in the Beaufort Sea waters of the United States and Canada. The purpose of this study was to provide BOEM, the State of Alaska, Alaska and North Slope Borough residents, and other interested stakeholders information regarding presence, abundance, distribution, and habitat of fish and invertebrates in the eastern Beaufort Sea OCS lease area. Scientists conducted open water shipboard surveys during the ice-free time periods of September 2012 and August 2013 and 2014 from the central U.S. Beaufort Sea north of Harrison Bay into the eastern Canadian Beaufort Sea just east of the Mackenzie Canyon. The data gained from the study will increase knowledge of the Beaufort Sea ecosystem and provide valuable information to inform BOEM's decisions regarding oil and gas leasing in the eastern Beaufort Sea.

Findings/Results:

- Distinct community patterns for all trophic levels were seen within and among years. Zooplankton communities were most similar to each other within each year, although larger interannual differences occurred.
- In contrast, there was more variation between the epifauna (animals living on the surface of the seabed) and fish communities across sampling sites within each year; however, individual community composition remained fairly consistent across years.
- Fish and epibenthos distributions are likely not directly controlled by a single physical factor but rather by large-scale processes and interdependent physical, chemical, and geological factors. Therefore, these ecosystem components are likely excellent indicators of longer-term, persistent changes in environmental conditions.

Study Products

Norcross BL, Apsens SJ, Bell LE, Bluhm BA, Dissen JN, Edenfield LE, Frothingham A, Gray BP, Hardy SM, Holladay BA, Hopcroft RR, Iken KB, Smoot CA, Walker KL, Wood ED. 2017. U.S.-Canada transboundary fish and lower trophic communities: abundance, distribution, habitat and community analysis. Anchorage (AK): U.S. Department of the Interior, Bureau of Ocean Energy Management. 965 p. Report No.: OCS Study BOEM 2017-034.

Ice Seal Movements and Foraging: Village-Based Satellite Tracking and Acoustic Monitoring of Ringed, Bearded, and Spotted Seals

ESPIS Link: <https://marinecadastre.gov/espis/#/search/study/26878>

Conducted by: Alaska Department of Fish and Game

National Studies List AK-12-05

Study Products (available in ESPIS): Final report, technical summary



Adult male ringed seal with a satellite-linked transmitter, photo by Kevin Fisher

Purpose/Information Use:

Four seal species in Alaska are referred to as ice seals because they use sea ice for some important life history events such as pupping, nursing, molting, and resting. Three species (bearded, ringed, and spotted seals) are important to the subsistence activities of coastal Alaska Natives to obtain or make food, oil, materials, clothing, and handicrafts. From 2014–2019, researchers worked with Alaska Native seal hunters to attach transmitters to 26 bearded, 16 ringed, and 25 spotted seals at eight locations: four locations in the Bering Sea, two locations in the Chukchi Sea, and two locations in the Beaufort Sea. The transmitters provided information on movements, dive behavior, and haul out behavior during all seasons. BOEM will use this data to better understand ice seal migration routes and feeding areas to plan lease sales, permit exploration and development activities, design shipping lanes, and determine effective mitigation measures to protect the seals and the communities that utilize them as a subsistence resource.

Findings/Results:

- Researchers found that movements of bearded and spotted seals were different depending on where they were tagged, emphasizing the importance of tagging at multiple and distant locations in the same year.
- Local and traditional knowledge was documented for 13 communities to further BOEM's understanding of seal behavior and how it may be changing.

Study Products

Quakenbush LT, Crawford JA, Nelson MA, Olnes JR. 2019. Ice seal movements and foraging: village-based satellite tracking and collection of traditional ecological knowledge regarding ringed and bearded seals. Anchorage (AK): U.S. Department of the Interior, Bureau of Ocean Energy Management. 238 p. Report No.: OCS Study BOEM 2019-079.

Arctic Whale Ecology Study: Use of the Chukchi Sea by Endangered Baleen and Other Whales

ESPIS Link: <https://marinecadastre.gov/espis/#/search/study/26884>

Conducted by: National Oceanic and Atmospheric Administration, National Marine Fisheries Service

National Studies List AK-12-07

Study Products (available in ESPIS): Final report, technical summary



Marine mammal observer using 25x "big-eye" binoculars

Purpose/Information Use:

The physical climate of the western Arctic has been rapidly changing, and detailed knowledge of large whale migration and movement patterns is essential for effective population monitoring. Because all marine mammal species are subjected to environmental changes, BOEM requires more complete information on the year-round presence of these species in the Chukchi Sea, how their presence relates to environmental variables (i.e., oceanographic currents, sea temperature, sea ice cover, prey availability, and anthropogenic impacts), and the transport of nutrient and prey through the Chukchi Sea. This study determined relationships between dominant currents passing from the Bering Sea through the Chukchi Sea and prey resources delivered to the Barrow Arch area. It also provided information about the dynamic nature of those relationships relative to marine mammal distribution and habitat utilization. The study provides BOEM with important baseline data on the occurrence, distribution, and habitat use of marine mammals in an area that is subject to rapid change.

Findings/Results:

- Long-term passive acoustic data throughout the southern and northeastern Chukchi Sea and western Beaufort Sea allowed for year-round broad spatial monitoring of bowhead, beluga, gray, killer, minke, fin, and humpback whales; ribbon and bearded seals; walrus; several noise sources (vessels, airguns, and ice); and sounds potentially produced by fish.
- These data helped identify marine mammal seasonal migrations, open water hotspots, and overwinter presence. In some cases, this has supported findings from other scientific methods and Traditional Ecological Knowledge (TEK); in other cases, the study obtained new information.
- Satellite tagging provided novel information on habitat use and revealed heterogeneous movement patterns and important foraging areas for gray whales in the Chukchi and northern Bering Sea.

Study Products

Vate Brattström L, Mocklin JA, Crance JL, Friday NA. Editors. 2019. Arctic whale ecology study (ARCWEST): use of the Chukchi Sea by endangered baleen and other whales (westward extension of the BOWFEST), final report. Anchorage (AK): U.S. Department of the Interior, Bureau of Ocean Energy Management. 476 p. Report No.: OCS Study BOEM 2018-022.

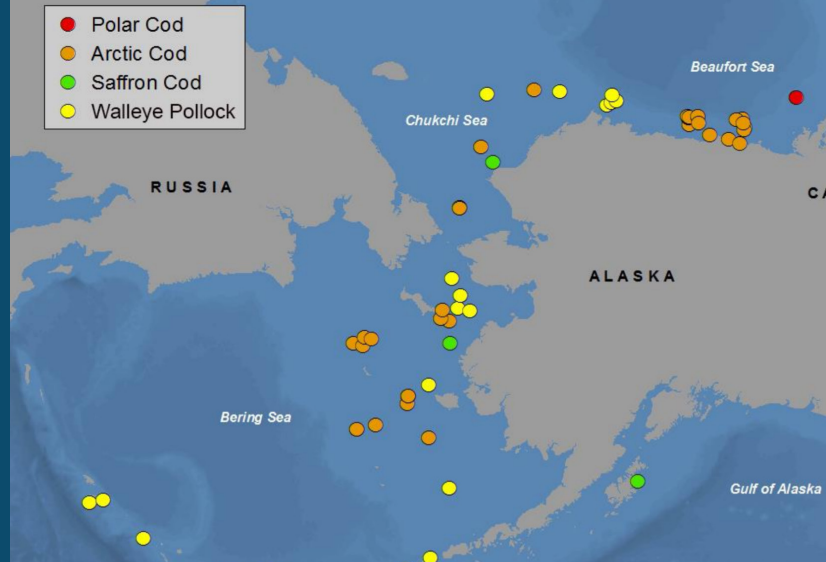
Genomics of Arctic Cod: A Sentinel Species in a Changing Environment

ESPIS Link: <https://marinecadastre.gov/espis/#/search/study/26926>

Conducted by: U.S. Geological Survey

National Studies List: AK-14-03

Study Products (available in ESPIS): Final report, technical summary, data



General sampling locales for each of the four gadid species in the Bering, Chukchi, and Beaufort Seas

Purpose/Information Use:

Although Arctic cod are considered a keystone species in the U.S. Arctic marine ecosystem on the Outer Continental Shelf (OCS), there is limited data associated with many aspects of this species' life history. The goal of this study was to provide genetic and genomic products that provide information on the population genetic structure and evolutionary history of Arctic cod, and the full set of genetic RNA information (transcriptomic products) that can be used for future research on the adaptability of Arctic cod to a changing Arctic ecosystem. Genetics/genomics analyses can provide data that 1) clarify whether the Arctic cod in the OCS comprise a single, panmictic (random mating) population or instead belong to a subgroup, or subpopulation, separate from other subpopulations; and 2) determine whether Arctic cod possess genetic characteristics that enable them to adapt to a changing OCS environment. BOEM will be able to use this information to inform multiple environmental analyses relating to Essential Fish Habitat and the Endangered Species Act.

Findings/Results:

- Unlike previous genetic assessment in the Chukchi Sea, this study found the high levels of genetic diversity, suggesting that Arctic cod in the Beaufort and Chukchi seas would not be subject to the same types of problems found with low levels of genetic variation, at least at neutral genetic markers, which may limit the species' ability to adapt to environmental changes.
- The large census size of Arctic cod may allow this species to retain high genetic diversity levels and provide the ability to evolve to a changing environment.
- It is unknown whether the hybridization between Arctic and Polar cod found in the study is a novel event in response to changing Arctic ecosystem processes or represents a historical trend; this question will require further sampling.

Study Products

Wilson RE, Sage GK, Sonsthagen SA, Gravley MC, Menning DM, Talbot SL. 2017. Genomics of Arctic cod. Anchorage (AK): U.S. Department of the Interior, Bureau of Ocean Energy Management. 92p. Report No.: OCS Study BOEM 2017-066.

Subtidal and Intertidal Habitats and Invertebrate Biota in Lower Cook Inlet, Alaska

ESPIS Link: <https://marinecadastre.gov/espis/#/search/study/100080>

Conducted by: National Park Service

National Studies List: AK-15-08

Study Products (available in ESPIS): Final reports



National Park Service biologist records a sampling site corner at Lake Clark National Park and Preserve

Purpose/Information Use:

This study provides information on intertidal and subtidal habitats in the Cook Inlet. To prepare NEPA analyses for the Cook Inlet, BOEM requires updated information regarding the physical and biological environment, including variability in oceanographic conditions, nearshore benthic communities, and data related to sensitive species. Specific information needs included 1) collating existing baseline information; 2) identifying habitats with little historical information; and 3) characterizing the flora and fauna potentially most subject to impact from an oil spill. To access and characterize the biota at remote intertidal and subtidal sites in the southwest Cook Inlet, the researchers conducting this study developed a sampling methodology, including a novel methodology to characterize the extremely wide and low-angle rock ramps that are common to this area. BOEM will use the data generated by this study for to support NEPA analyses for lease sales in the Cook Inlet Planning Area.

Findings/Results:

- This study compiled the data from previous research on Cook Inlet intertidal monitoring into a database, which informed the sampling design and monitoring efforts for this study.
- Physical oceanographic parameters of the Cook Inlet and geological features of the benthic habitat may be key factors to predicting the distribution and abundance of invertebrates and macroalgae inhabiting Cook Inlet intertidal and subtidal habitats.
- The study generated 13 recommendations for a potential long-term monitoring program for the Lower Cook Inlet.

Study Products

Jones T, Saupe S, Iken K, Konar B, Venator S, Lindeberg M, Coletti H, Pister B, Reynolds J, Haven K. 2019. Assessment of nearshore communities and habitats: lower Cook Inlet nearshore ecosystem 2015-2018. Anchorage (AK): U.S. Department of the Interior, Bureau of Ocean Energy Management. 221 p. Report No.: OCS Study BOEM 2019-075.

Coletti H, Iken K, Jones T, Konar B, Lindeberg M, Saupe S, Venator S. 2017. Evaluation of nearshore communities and habitats in lower Cook Inlet, Alaska. Anchorage (AK): U.S. Department of the Interior, Bureau of Ocean Energy Management. 48 p. Report No.: OCS Study BOEM 2017-045.

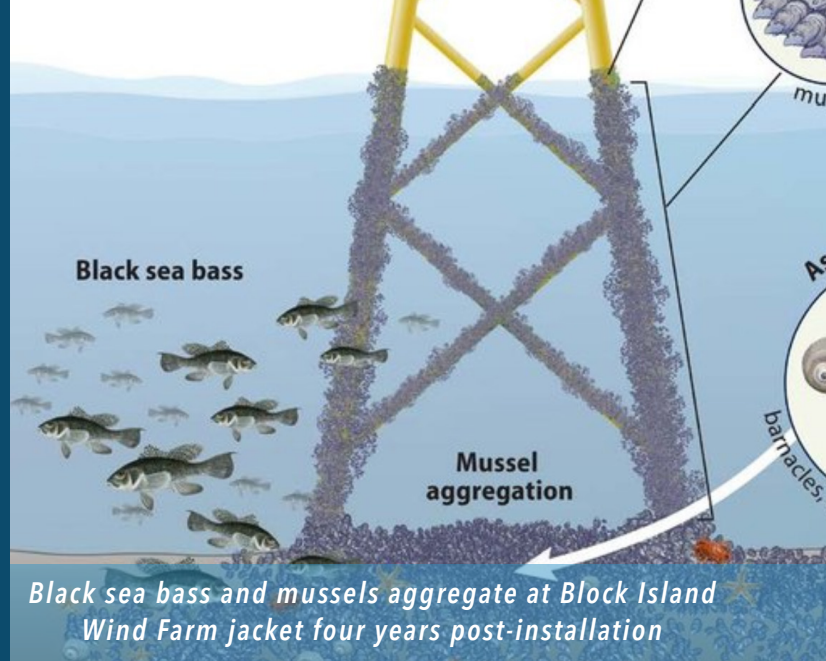
Real-time Opportunity for Development Environmental Observations (RODEO); Task 7: Monitor Seafloor Disturbance

ESPIS Link: <https://marinecadastre.gov/espis/#/search/study/100218>

Conducted by: HDR

National Studies List: AT-14-01-07

Study Products (available in ESPIS): Final report, technical summary



Black sea bass and mussels aggregate at Block Island Wind Farm jacket four years post-installation

Purpose/Information Use:

Seafloor disturbance and recovery monitoring were conducted in and around the Block Island Wind Farm (BIWF) to assess the impact of wind farm construction activities on the seafloor. Previous studies from Europe have shown that introduction of solid structures onto the seafloor, such as the four-legged BIWF turbine jacket foundations, may modify near-bottom current flow processes and induce scour. This impact in turn may temporarily or permanently alter seafloor characteristics. Changes in seafloor characteristics may result in loss of native benthic habitat, directly impacting benthic community abundance and diversity; it may also compromise functionality and physical integrity of the structures themselves. BOEM will use the results of this study to evaluate the environmental effects of future facilities and to improve the accuracy of models and analysis criteria employed to establish monitoring controls and mitigations.

Findings/Results:

- Most seafloor disturbances directly associated with wind farm construction activities were temporary. Much of the damaged area completely recovered within four years of the disturbance as a result of bottom currents facilitating sediment movement.
- Most seafloor disturbances associated with construction activities occurred within an approximately 200 m (656.2 ft) area around each turbine. This observation may be used to determine where construction-related direct impact areas may occur for future wind farm facilities and inform decisions regarding appropriate areas to conduct construction activities.

Study Products

Khan A, Smith K. 2020. Seafloor disturbance and recovery monitoring at the Block Island Wind Farm, Rhode Island – summary report. Sterling (VA): U.S. Department of the Interior, Bureau of Ocean Energy Management. 317 pp. Report No.: OCS Study BOEM 2020-019.

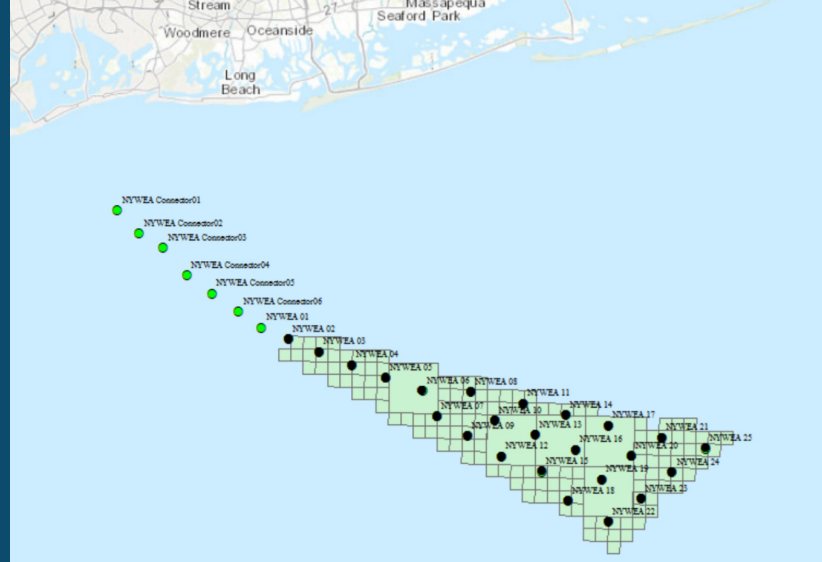
Atlantic Fish Telemetry: Monitoring Endangered Atlantic Sturgeon and Commercial Finfish Habitat Use Offshore New York

ESPIS Link: <https://marinecadastre.gov/espis/#/search/study/100108>

Conducted by: SUNY Stony Brook

National Studies List: AT-16-01a

Study Products (available in ESPIS): Final report



Locations of transceivers deployed Nov 2016 to March 2017 for tracking Atlantic sturgeon

Purpose/Information Use:

This extensive acoustic telemetry project involved attaching sound-emitting tags to fish or other marine species to track their movement. The project was conducted in 2016 to monitor Atlantic sturgeon and commercially important species in the New York Lease Area (NYLA). The objectives of this project were to 1) establish an acoustic telemetry array in the lease area and a nearshore connector array; 2) tag 100 Atlantic sturgeon and 118 individuals of other species; 3) estimate the total number and proportion of tagged individuals present in the NYLA; and 4) estimate occurrence as a function of distance from shore, residency in the NYLA and movement rates. BOEM will be able to use the data collected from this study to better assess potential environmental and socioeconomic impacts of development of the NYLA.

Findings/Results:

- The project successfully tracked Atlantic sturgeon, several elasmobranchs (e.g., sharks, skates, rays), winter flounder, summer flounder, and black sea bass individuals in the NYLA.
- Atlantic sturgeon displayed consistent spatial and temporal trends with individuals moving to deeper offshore waters in the NYLA during the fall and winter.
- These results suggest that seasonal occupancy trends can be used for scheduling seasonal windows to reduce negative interactions between Atlantic sturgeon and anthropogenic activities, such as the installation of cables from offshore wind facilities.
- Winter flounder, summer flounder, and black sea bass were detected in the NYLA, and although low levels of data limited detailed analysis, it appears that the species show seasonal occupancy of the NYLA.

Study Products

Frisk MG, Ingram EC, Dunton K. 2019. Monitoring endangered Atlantic sturgeon and commercial finfish habitat use in the New York lease area. Sterling (VA): U.S. Department of the Interior, Bureau of Ocean Energy Management. 88 p. Report No.: OCS Study BOEM 2019-074.

Atlantic Fish Telemetry: Occurrence of Commercially Important and Endangered Fish Species in the Delaware Wind Energy Area

ESPIS Link: <https://marinecadastre.gov/espis/#/search/study/100110>

Conducted by: University of Delaware

National Studies List: AT-16-01c

Study Products (available in ESPIS): Final report, technical summary, data



Atlantic sturgeon with field datasheet before release

Purpose/Information Use:

There is increasing interest in the development of offshore wind energy projects to supply electricity to growing coastal populations. More information is needed on how these projects may affect commercially or ecologically important fish species. This study was conducted to document the occurrence and distribution of commercial fish species, winter skate and Atlantic sturgeon, over a two-year period in the Delaware Wind Energy Lease Area using acoustic telemetry (attaching sound-emitting tags to fish or other marine species to track their movement). A total of 124,710 acoustic detections from 26 species were recorded at stations around the perimeter of the Delaware Wind Energy Lease Area, allowing researchers to summarize areas of intensive use and determine environmental predictors of occurrence of key species. BOEM will be able to use the data collected from this study to better assess potential impacts of the development of offshore wind energy projects in the Delaware Wind Energy Lease Area.

Findings/Results:

- It will be difficult for offshore wind energy development projects to completely avoid impacting Atlantic sturgeon, which occur throughout the entire lease area and can occur year-round.
- Winter skate are less likely to be impacted by construction efforts, as their occurrence is much less common in the lease area.
- Construction during the summer months would likely impact the fewest number of individual animals. However, there is an increased presence of highly migratory and often protected elasmobranch species (e.g., blacktip sharks, dusky sharks, sand tiger sharks, tiger sharks, white sharks) transiting through the lease area during the summer.

Study Products

Haulsee DE, Fox DA, Oliver MJ. 2020. Occurrence of commercially important and endangered fishes in Delaware wind energy areas using acoustic telemetry. Sterling (VA): U.S. Department of the Interior, Bureau of Ocean Energy Management. 80 p. Report No.: OCS Study BOEM 2020-020.

A Parametric Analysis and Sensitivity Study of the Acoustic Propagation for Renewable Energy Sources and Projects

ESPI Link: <https://marinecadastre.gov/espis/#/search/study/100142>

Conducted by: CSA Ocean Sciences Inc.

National Studies List: AT-16-05

Study Products (available in ESPI): Final report, technical summary



*Propogation modeling;
graphic by Kerri Seger and Kevin Heaney*

Purpose/Information Use:

To construct offshore wind facilities, piles are sometimes driven into the seafloor as foundational structures for turbines. Pile driving can cause noise pollution that may affect marine fauna. To mitigate these risks, risk assessments and permits are required and are based on the best oceanographic understanding and acoustic modeling available at the time of the permitting process. The goal of this study was to facilitate improved risk prediction by recommending the most efficient acoustic models and ranking the most influential environmental parameters at two representative sites. BOEM will use the results of this study to evaluate different modeling methods and their results.

Findings/Results:

- This study developed a methodology to determine the acoustic field as a function of range, direction, and depth from impact pile driving.
- The model evaluated a non-point source (a cylinder) and the depth variations for sound emanating beyond 5 km.
- The model was able to match previous numerical studies as well as measurements at ranges from 730 m to 65 km for all frequencies from a single pile installment off the coast of the Netherlands.

Study Products

Heaney KD, Ainslie MA, Halvorsen MB, Seger KD, Müller RAJ, Nijhof MJJ, Lippert T. 2020. A parametric analysis and sensitivity study of the acoustic propagation for renewable energy sources. Sterling (VA): U.S. Department of the Interior, Bureau of Ocean Energy Management. 165 p. Report No.: OCS Study BOEM 2020-011.

Gulf SERPENT: Continuing and Expanding a Deepwater Biological Observation System in the Northern Gulf of Mexico

ESPIS Link: <https://marinecadastre.gov/espis/#/search/study/100028>

Conducted by: Louisiana State University

National Studies List: GM-09-01-16

Study Products (available in ESPIS): Final report, technical summary



Great barracuda swimming with almaco jacks beneath a platform in northern Gulf of Mexico

Purpose/Information Use:

SERPENT (Scientific and Environmental ROV Partnership using Existing iNdustry Technology) is a global scientific collaboration between the oil and gas industry and academia. It affords scientific access to industrial vessels and remotely operated vehicles (ROVs) that are deployed in support of petroleum exploration and production. The objectives of Gulf SERPENT were to use Gulf of Mexico ROV video observations to 1) learn what organisms were present; 2) understand where they occurred (season, time of day, depth); and 3) document observed behavior and inter- and intra-species associations. This information can provide BOEM with useful baseline data. Vertical distribution patterns on risers (pipelines used to transport oil and gas to the surface) give an ideal estimate of which species inhabit different parts of the water column and may inform decision-making about artificial structure design and permitting.

Findings/Results:

- Vertical distributions of the coldwater coral *Lophelia pertusa* on risers indicated a Gaussian (bell-shaped curve) pattern with an average depth of 1,600 ft and a range from 1,000–2,300 ft.
- The soft coral *Anthomastus sp.* had a vertical distribution that extended from 2,600 ft to within approximately 165 ft of the seabed and an average depth of 3,560 ft.
- The invasive orange cup coral *Tubastrea coccinea* was abundant on all structures surveyed from the near surface to 300 ft. Observations of this species dropped off between 300–400 ft, with an observed range of 0–410 ft.
- The invasive lionfish *Pterois volutans* and *Pterois miles* were observed between 62–268 ft.

Study Products

Benfield MC, Kupchik MJ. 2020. Continuing and expanding a deepwater biological observation system in the northern Gulf of Mexico. New Orleans (LA): U.S. Department of the Interior, Bureau of Ocean Energy Management. 255 p. Report No.: OCS Study BOEM 2020-022.

Investigation of an Ancient Bald Cypress Forest in the Northern Gulf of Mexico, USA

ESPIS Link: <https://marinecadastre.gov/espis/#/search/study/100147>

Conducted by: Louisiana State University

National Studies List: GM-14-03-07

Study Products (available in ESPIS): Final report, technical summary



LeFleur's Bluff State Park; photo by Abby Braman of Peace Riverkeepers, used with permission

Purpose/Information Use:

Preserved landscapes, such as buried wetland forests and marshlands, contain valuable information of past ecosystems, climate, and physical geology and geography. The primary objective of this study was to document and characterize an area in the Northern Gulf of Mexico (GOM) off the coast of Alabama that contains well-preserved ancient bald cypress stumps in order to generate information on the geological, geophysical, ecological, and paleoenvironmental characteristics of this geographical site type. This information was then used to develop a model for other potential sites that could contain preserved wood on millennial and longer time scales. Identifying the geological and geophysical characteristics of these formerly terrestrial habitats will inform BOEM's development of more effective survey methods for detecting and characterizing such seabed features and environmental analyses for such sites when relevant to proposed oil, gas, and dredging activities.

Findings/Results:

- The swamp sediments were hypothesized to have been preserved and buried by fluvial (river and stream) and/or floodplain sediment accumulation.
- If other locations in the Northern GOM have similar geomorphology and environmental conditions, then other sites located within GOM incised valleys (valleys formed by fluvial systems) at similar elevations may also contain preserved glacial age forests. It is likely that a "bathtub ring" of other sites exists within the GOM.
- Such locations may contain other well-preserved sediments, wood, and other artifacts that may provide further insights into paleo-oceanographic and paleoenvironmental studies of continental margins around the world.

Study Products

DeLong KL, Bentley Sr SJ, Xu K, Harely GL, Reese CA, Obelcz J, Gonzalez S, Truong JT. 2020. Investigation of an ancient bald cypress forest in the northern Gulf of Mexico. New Orleans (LA): U.S. Department of the Interior, Bureau of Ocean Energy Management. 108 p. Report No.: OCS Study BOEM 2020-034.

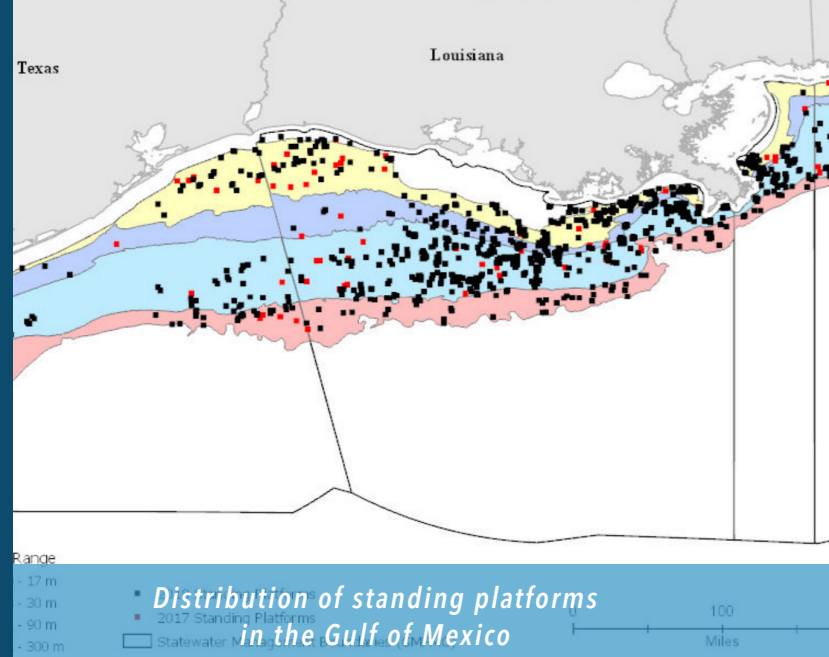
Explosive Removal of Structures: Fisheries Impact Assessment

ESPIS Link: <https://marinecadastre.gov/espis/#/search/study/100150>

Conducted by: LGL Ecological Research Associates, Inc.

National Studies List: GM-15-01

Study Products (available in ESPIS): Final report, technical summary



Purpose/Information Use:

The number of offshore oil and gas platforms increased steadily from the mid-1960s to the early 1990s. The total number of structures grew at a much slower rate from the early 1990s to about 2007, when the net numbers began a steep decline. The net decline is explained by platform removals, particularly removals made using explosives. The overarching goal of this study was to determine the impacts on federally managed commercial and recreational fish and fisheries resulting from the use of explosives to sever the upper portions of platforms during decommissioning activities on the Outer Continental Shelf. BOEM required updated information regarding the impacts of explosive severance decommissioning activities on fish and fisheries. BOEM initiated the study to obtain this update, which consists of a comprehensive literature synthesis, field studies, and modeling assessments. Results were based on a stratified random sample of 60 offshore platforms collected over three field seasons.

Findings/Results:

- Five federally managed species were evaluated (red snapper, vermilion snapper, gray triggerfish, greater amberjack, and cobia). Except for greater amberjack, the effects of explosive platform removal do not appear to be of major concern, given the small percentage of the overall stocks (< 10%) that occurred on platforms.
- The impact on greater amberjack could be of greater concern, however, as about 48% of the total stock appears to occur on platforms. Few, if any, fish that aggregate around platforms survive explosive platform removal.
- The effects on fisheries may be more significant on a localized basis. For example, offshore western Louisiana, platforms constitute 72% of the known reef habitats.

Study Products

Gallaway BJ, Raborn S, McCain K, Beyea T, Default S, Conrad A, Kim K. 2020. Explosive removal of structures: fisheries impact assessment. New Orleans (LA): US Department of the Interior, Bureau of Ocean Energy Management. 149 p. Report No.: OCS Study BOEM 2020-038.

The Department of the Interior Mission

The Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

The Bureau of Ocean Energy Management

The mission of the Bureau of Ocean Energy Management is to manage development of U.S. Outer Continental Shelf energy and mineral resources in an environmentally and economically responsible way.

The BOEM Environmental Studies Program

The mission of the Environmental Studies Program (ESP) is to provide the information needed to predict, assess, and manage impacts from offshore energy and marine mineral exploration, development, and production activities on human, marine, and coastal environments. The proposal, selection, research, review, collaboration, production, and dissemination of each of BOEM's Environmental Studies follows the DOI Code of Scientific and Scholarly Conduct, in support of a culture of scientific and professional integrity, as set out in the DOI Departmental Manual (305 DM 3).

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