

New York Bight Fish, Fisheries, and Sand Features: In the Field

1. **STATEMENT OF WORK**

A. Purpose

This Statement of Work (SOW) describes the tasks that are to be performed in support of the Department of the Interior, Bureau of Ocean Energy Management (BOEM) Environmental Studies Program (ESP) on the project entitled, "New York Bight Fish, Fisheries, and Sand Features: In the Field." BOEM has identified the need to better understand habitats and sand features in the Mid-Atlantic for BOEM's Marine Minerals Program (MMP) to inform and evaluate the use of potential sand borrow areas in federal waters for possible impacts to fish and associated invertebrates.

B. Background

The Bureau of Ocean Energy Management (BOEM) is charged with the environmentally responsible management of Outer Continental Shelf (OCS) resources (e.g., oil and gas, sand and gravel, renewable energy). Federal jurisdiction starts at 3 nautical miles (nm) offshore of most states, except for Texas and the Gulf coast of Florida, where it starts at 9 nm. Public Law 103-426 (43 U.S.C. 1337(k)(2)), enacted 31 October 1994, gave the Minerals Management Service (MMS), now BOEM, the authority to negotiate, on a noncompetitive basis, the rights to OCS sand, gravel, and shell resources for shore protection, beach or wetlands restoration projects, or for use in construction projects funded in whole or part by, or authorized by, the federal government. These authorizations are assessed and issued through BOEM's MMP.

As the demand for OCS sand increases, the BOEM MMP is facing increasingly complex issues, such as resource allocation, cumulative impacts from repeated use, space/use conflicts, protection of archaeological sites, and Essential Fish Habitat (EFH) issues, among others. It is critical that BOEM uses the best available science in their environmental assessments of lease requests, so that all necessary and effective precautions are taken to reduce potential impacts during sand dredging and conveyance to the placement site.

BOEM anticipates that multiple sites may be accessed in federal waters of the New York Bight (NYB; waters off of New Jersey and New York), in part to address the Army Corps of Engineer's projected sand deficiency for completing vital federally-authorized shore protection projects in the next 5 years. Since dredging on the NYB OCS has been infrequent relative to other regions, research on biological activity and biophysical coupling will complement the geophysical and geotechnical data, and strengthen NEPA analyses that consider the potential effects of dredging.

Dredging activities under BOEM's jurisdiction generally occur from 3 to 9 nautical miles (nm) from shore, in waters less than 50 m. The NYB is inhabited by a diverse community of fishes and invertebrates, with both resident and transient species. Additionally, strong seasonal fluctuations

in abiotic factors are often linked to changes in biological diversity. Therefore, the potential effects of sand dredging on ecosystem health and the recovery of fishes may vary spatially and temporally. Commercial, recreational, and charter fishing industries may also be impacted as many of these species are economically important.

A recent BOEM-funded study analyzed existing data in the NYB (Grothues et al., 2021; [Executive Summary](#), [Volume 1](#), and [Volume 2](#)) and identified several key knowledge gaps:

- a better understanding of basic life history and ecology of NYB fishes,
- the role of bathymetric, bedform, and benthic features on the distribution of fishes including water column piscivorous and planktivorous fishes,
- behavioral responses to dredging activity and subsequent environmental change, and
- the effect of scale on our understanding of habitat and ecosystem function.

BOEM ESP sought to identify these knowledge gaps prior to pursuing this NYB field study as a strategy to address urgent information needs specific to the BOEM MMP. BOEM ESP also sought to advance this body of scientific literature in anticipation of overlapping information needs for OCS renewable energy planned in other parts of the NYB region.

C. Goals and Objectives

Goals include obtaining field data on how fishes associate with sand features, specifically around potential sand resources in the NYB. An optional task (Task 8) is offered to the recipient to include economically important invertebrates. This is optional due to differences in collection methods. These data may also be used to investigate how scale affects results and interpretation. If possible, the study should monitor conditions before, during, and after dredging, and should document biological activity in these areas. The Study Area extends from the offshore extent of state jurisdiction (3 nm from shore) to 50 m deep (approximately 9 nm from shore), from Cape May, NJ through Montauk, NY, though field work will be focused in water <30 m deep (Figure 1). The BOEM-funded data review (Grothues et al., 2021) integrated state data as appropriate; this study should also consider the usefulness of data in state waters.

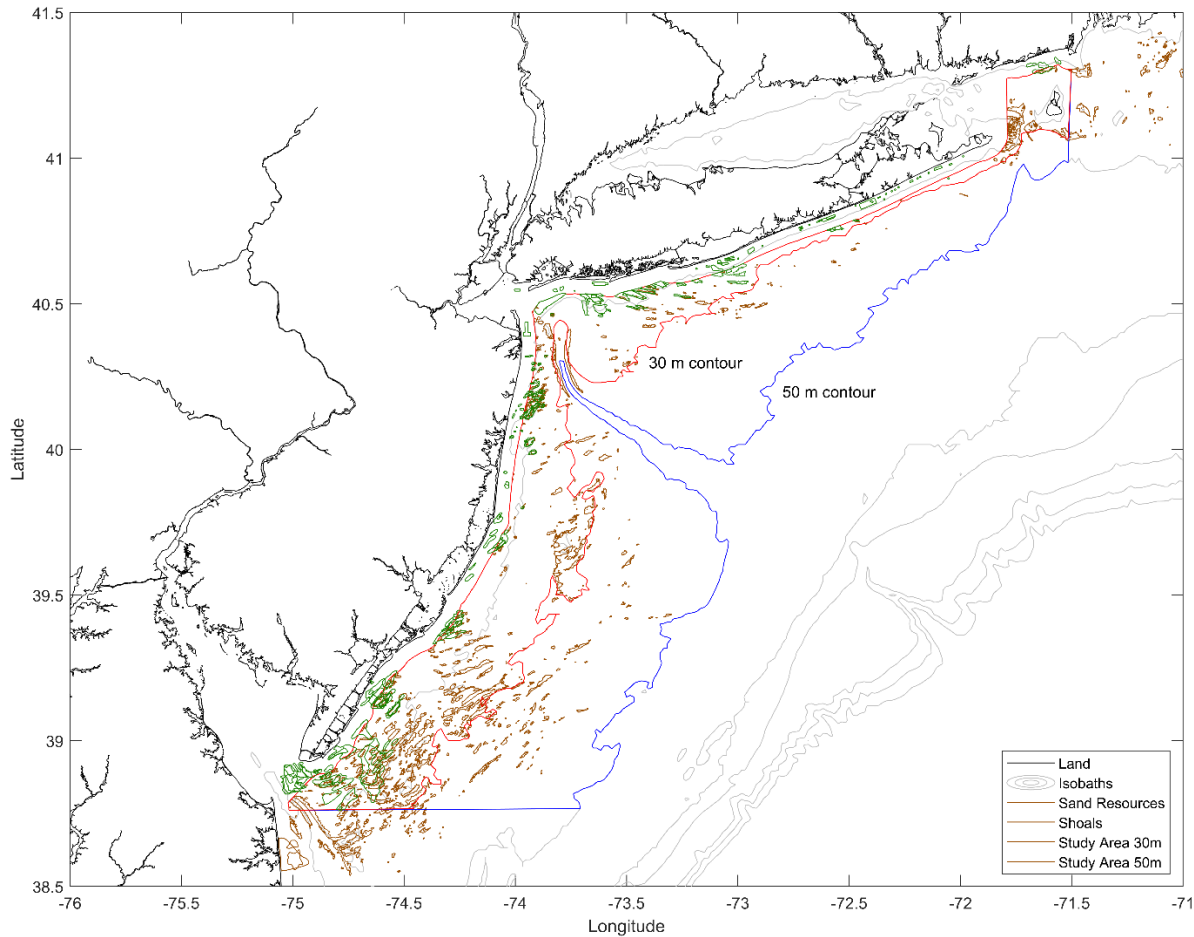


Figure 1. New York Bight (NYB) Study Area with Potential Sand Resources (from Grothues et al., 2021)

Specific objectives include studying fishes, especially ecologically and economically important species, including protected species. Data should be collected on species abundance, size composition, life stage, and distribution across the spatial continuum from the air-sea interface to the sea-sediment interface, to understand processes driving meso- and micro-scale patterns in species assemblages, biodiversity, and habitat associations. The overarching hypotheses are that:

- (1) Stakeholder and partner involvement strengthen BOEM's understanding of NYB, as well as the approach to gather additional information;
- (2) Areas with sand features and relief have greater habitat value for fishes than flat areas with limited or no sand features, as determined by species' abundance, distribution, diversity, and assemblages;
- (3) Patterns of fish distribution differ according to season, year, and scale; and
- (4) The best way for a field research program to contribute to the state of knowledge and meet applied science information needs of the BOEM MMP is to tackle: 1) the broad suite of

parameters that have been identified as knowledge gaps, or 2) alternatively to focus at a greater depth on a more narrow set of parameters.

Description of Work

This project will aim to characterize how and why fishes associate with sand features in the New York Bight. This will be primarily achieved by (1) filling selected knowledge gaps through field surveys that hold the greatest potential for understanding the impacts from dredging activities and (2) using new and existing data in models (e.g., species distribution, community composition, ecosystem-based).

Task 1: Project and data management

This study shall have a dedicated Project Manager (PM) to organize and maintain all aspects of the research, and act as the primary communicator with BOEM COR. The PM should consider using a shared online software for all study participants to access (e.g., Microsoft Teams, Monday.com).

The recipient shall hold a kickoff meeting with BOEM at the BOEM Sterling office or via webinar within thirty (30) days of award. Personnel present at this meeting shall include the Project Manager and Study Principal Investigators (PIs). An agenda for the meeting and draft PMP shall be provided to the Contracting Officer's Representative (COR) at least ten (10) days before the meeting, or 20 days after award, to allow for review. At the kickoff meeting, the draft Project Management Plan (PMP) shall be reviewed and, if any, remaining technical or managerial issues shall be resolved. Within two (2) weeks following the meeting, the recipient shall prepare and distribute to the parties listed in Section 7 a summary detailing the discussions and any mutually agreed to decisions along with the final PMP. Any agreed-to changes that might affect the agreement are subject to approval in writing by the BOEM Contracting Officer (CO) via an IA modification. BOEM and the recipient shall conduct bi-monthly or monthly calls, with the frequency determined by the PM and BOEM COR. The recipient shall submit quarterly status reports summarizing work conducted via e-mail to the BOEM contacts listed in Section 7. These shall be letter reports in BOEM's format and shall include a summary of work completed, overall project status, any issues, and itemized expenditures that match invoices.

No originals shall be mailed without prior backups. Reports and products will remain secure within the recipient and BOEM, with any public release or access approved by BOEM. If distributed prior to completion of this study, the recipient shall include language to the data recipient that ensures that the data are not distributed further, and that no publication is done without opportunity for PIs to review the analysis and be potential co-authors if they add value to those derived research efforts. The preferred format of files shall be determined based on an agreement between the COR and the recipient at the kickoff meeting; any changes in data formats during the contract period of performance must be agreed upon in advance by BOEM and the recipient.

The recipient shall provide a method for the safe storage and easy retrieval of all results, acquired data, photographs, and video. The recipient shall ensure that no loss of information occurs in any

processing step taking place prior to archiving. The Project Manager shall inventory the data and verify the presence of all necessary documentation prior to archiving. The recipient shall retain a copy of the information collection logs and information delivered to the BOEM for a period of one year from the award completion date. The recipient shall be responsible for the submission of the data to BOEM according to the schedule in Section 7.

Task 2: Complete a Field Survey Plan

The recipient shall develop a Field Survey Plan outlining the approach and methods of field work for monitoring biological associations with sand features in the NY Bight (Task 3). Details of methodology will be informed by results of the New York Bight data and literature review funded in Fiscal Year 2019 (Grothues et al., 2021, MM-19-02), as well as any new BOEM research findings (e.g., Battista et al., 2019, Pickens et al., 2020). BOEM will provide all relevant data and literature as needed. Based on sand resources that have been or may be dredged, BOEM will identify specific sand resources that the recipient shall target for surveys (e.g., Figures 2-4; Task 3).

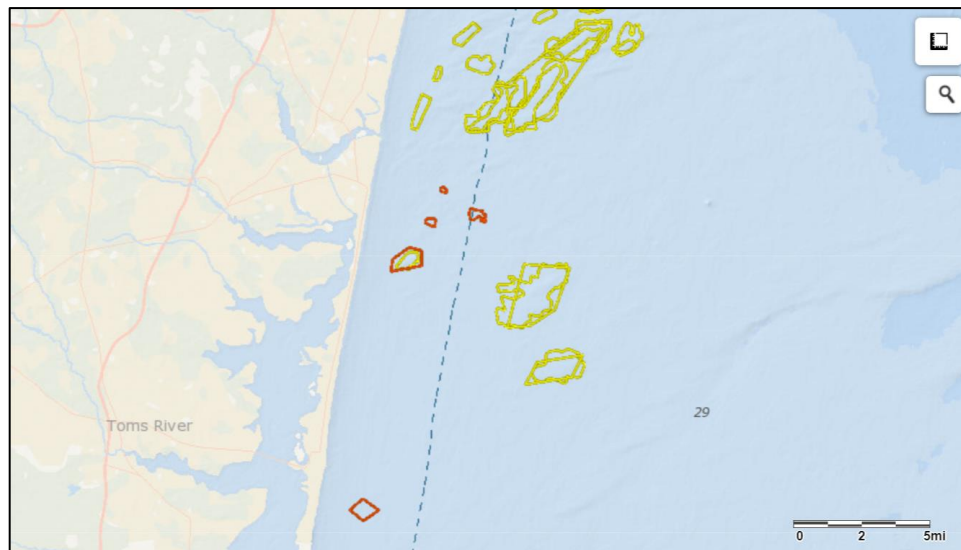


Figure 2. Potential sand resources near Manasquan Inlet, NJ that may be targeted for field surveys

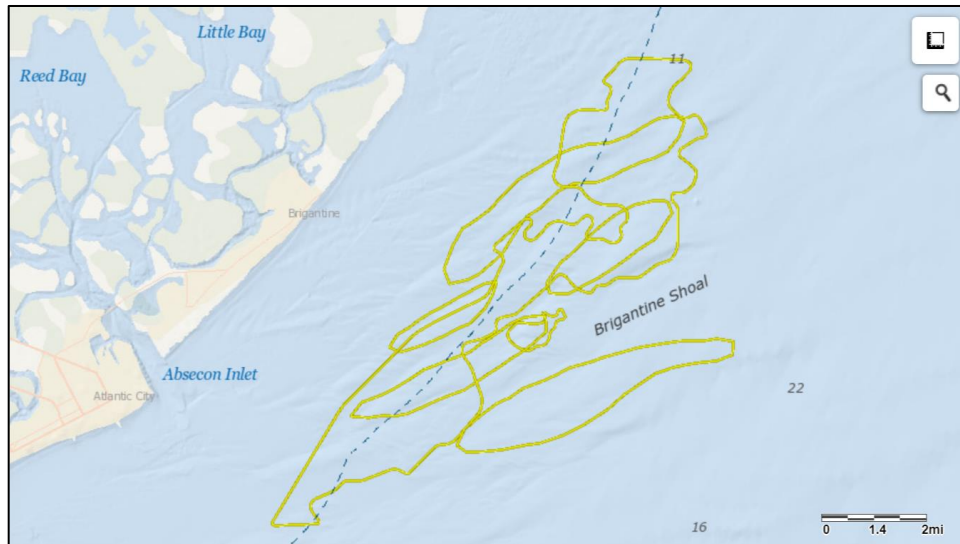


Figure 3. Potential sand resources off Absecon Inlet, NJ that may be targeted for field surveys

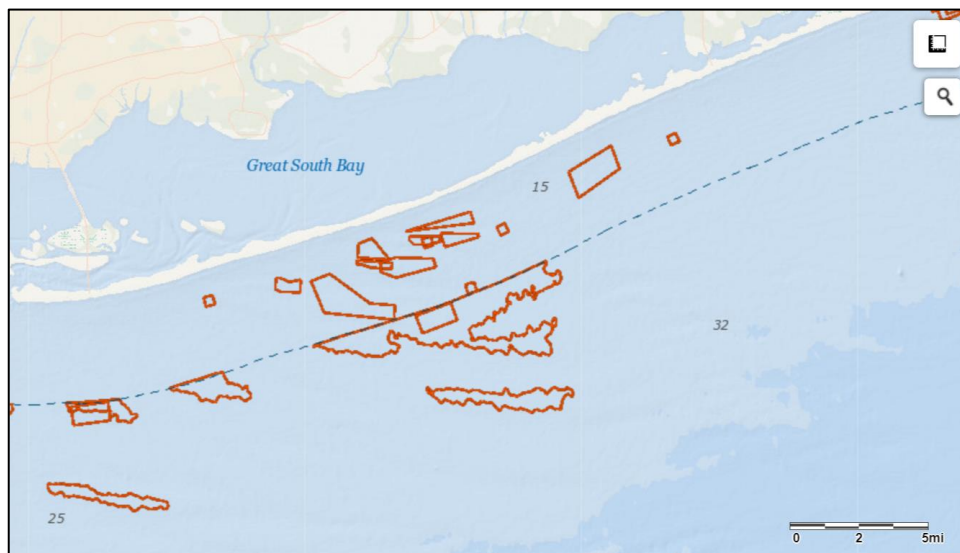


Figure 4. Potential sand resources off Fire Island National Seashore, NY that may be targeted for field surveys

Methods shall be further refined by input provided from stakeholders (including academic, federal, and industry sectors). BOEM will assist in identifying Federal and state efforts that may inform methods and scope and identify any potential funding leverage. Researchers shall gather local stakeholder and industry knowledge (e.g., fisheries industry, sport fishing, diving) through appropriate and methodical outreach activities (e.g., meetings, online forums, and fishing activity surveys). Not only will the results of this effort further inform study methodology, but relevant feedback should also be included in data analysis (Task 4) and the Final Report (Task 5).

The Field Survey Plan shall also describe relevant personnel and contact information, schedule, equipment, and safety measures. The intent is that this Plan would be a helpful resource to all

field personnel. The recipient shall submit a draft Field Survey Plan to BOEM within five (5) months, which BOEM will review within two (2) weeks, with the recipient finalizing in two (2) more weeks.

Task 3: Execute NYB Field Surveys

Field surveys should aim to identify factors that influence distribution of economically or ecologically important fish species around potential sand resources in the NYB. While surveys will focus on biological associations with sand resources, they must also consider other environmental factors that may drive distribution. Factors include biological, chemical, and physical drivers, like prey distribution, temperature and salinity, and geomorphology. Existing datasets should be leveraged when possible. Data should be collected and analyzed such that it can be modeled with abiotic factors to identify any correlations among taxa, as well as correlations among taxa occurrence and environmental factors (Task 4). Further, data should be collected that will allow for an analysis of species abundance, size composition, and distribution through time and at various scales for comparison (Task 4).

An active dredge project may occur during the study timeline, so researchers should build in flexibility in the Field Survey Plan to survey these sites before, during, and after dredging, if possible. If a control site is also available, it should be monitored proximal to the dredge site, but outside of the expected zone of disruption (e.g., a neighboring ridge-swale complex). These surveys should aim to capture the behavior or reactions of fishes to dredging. As needed, BOEM will modify the timeline and/or budget allocations to accommodate the uncertainty of dredge events.

Researchers should also collect environmental or physical data that may be needed for modeling (Task 4) but lacking (e.g., sea surface temperature, dissolved oxygen, chlorophyll-a). The recipient should consider partnerships with the fisheries industry to improve access to different species, increase the spatial extent of surveys, and gain knowledge of stakeholder perspectives. The recipient shall arrange for BOEM scientists to assist in field efforts when possible.

During field surveys, the recipient will capture high-resolution photos (i.e., at least 300 dpi) and high-definition videos (i.e., at least 1080p) of the field work for BOEM marketing and outreach materials.

Field surveys should be complete within three years, six months of project award (i.e., three years after the Field Survey Plan is complete). Updates on field progress will be provided on regularly scheduled phone calls and quarterly progress reports; no additional deliverables are required for this task.

Task 4: Data Analysis and Modeling

The recipient will analyze the results of the field survey, and leverage existing/historical data as applicable, to identify how factors influence species distribution around NYB sand resources. Recipient should include analysis aimed at understanding the mesoscale and microscale habitat use, species assemblages, biodiversity, and habitat associations of fishes in the NYB. Species

distribution models and/or network analysis should identify statistical correlations among taxa, as well as correlations of taxa with environmental variables. These should be compared to existing species distribution models (e.g., Friedland et al., 2021 and Breece et al., 2018), investigating model differences and implications of scale (e.g., size, spacing, and concentration of habitat features) and its effects on the distribution of important species or communities. The recipient shall also analyze ecologically meaningful metrics, such as community composition, life stage occurrence, reproduction, water column distribution, trophic interactions, and seasonality, as data allows. These metrics will be determined by the recipient, with input from the COR and BOEM SMEs, and based on the availability of data.

Biological data could be coupled with physical data for a more comprehensive description of habitat. If pursued, this characterization should follow the Coastal and Marine Ecological Classification Standard (CMECS), refining any existing habitat classifications for the region (e.g., Battista et al., 2019, Pickens et al., 2020).

The analysis shall also consider fisheries use of sand resources, based on both landings data and field surveys. The prevalence and potential economic value of species found on sand resources shall be summarized, seasonally if possible. BOEM should be able to use this information when analyzing potential impacts to fisheries due to dredge projects.

As feasible, ecological metrics, model outputs, and/or fisheries data should be presented such that decision-makers may quantify or visualize trade-offs (e.g., simultaneously assess impacts to multiple resources from dredging in different seasons or areas).

Task 5: Draft and Final Report

The final report will include the field methods, data analyses, modeling, summary of results, and conclusions. Additionally, it shall summarize potential impacts and vulnerabilities of NYB species and fisheries from dredging, considering seasonality, spatial extent, and frequency of events. If data analysis enabled a trade-off comparison (Task 4), the utility and limitations of this should be explained. If other factors may interact with dredging effects (e.g., changes in prey distribution or cable-laying activities), these shall also be described in terms of activity and potential impact.

This Report shall also integrate inventive ways to present data to make it more effective and accessible. Graphics, tables, and photos should illustrate research findings.

The draft Final Report will be delivered to BOEM within three years, nine months of project award. BOEM will provide comments within 30 days. The recipient will make edits and return a final report 30 days after that. All compiled literature, both formatted citations and PDFs, will be provided in an EndNote X20 library.

The final deliverables will be published by BOEM in the ESP Information System available at: <http://www.boem.gov/ESPIS/> and <http://marinecadastre.gov/espis/#/>. All materials shall be

considered proprietary until BOEM releases the report to the public. The recipient shall deliver one electronic copy of each deliverable (i.e., report and field data), containing both editable and non-editable formats (i.e., Microsoft Word documents and PDFs).

Task 6: Presentation of Results

The recipient will present the results of this study at three or more professional conferences. The results shall also be shared to relevant stakeholders, for example through peer-reviewed publications, webinars, and workshops. The recipient will also convey the results of the study to regional fishermen. An abstract and any content will be developed together with the BOEM COR.

Task 7: Education

The recipient will develop educational materials to support a 45-minute class plan that meets science education standards for a grade between 7-12 to share information on NYB ecology and any relevant study results. This class plan will be provided to regional schools and measured for effectiveness as possible.

When possible, underrepresented groups such as women and minorities, should be integrated in executing research as well as targeted in outreach.

Optional Task 8: Target Economically Important Invertebrates

The recipient may choose to include economically important invertebrates (e.g., sea scallop, ocean quahog, Atlantic surfclam, or squids) in field surveys. Sea scallop and squid are among the top three revenue-generating species in the last decade, while ocean quahog and Atlantic surfclam may overlap potential OCS sand resources (Grothues et al., 2021). Since these species often require different collection methods than many fishes, BOEM is not requiring they be targeted as part of this study but recognizes that information on distribution would be valuable to decision-makers.

Citations

Battista, T. W. Sautter, M. Poti, E. Ebert, L. Kracker, J. Kraus, A. Mabrouk, B. Williams, D.S. Dorfman, R. Husted, and C.J. Jenkins. 2019. Comprehensive Seafloor Substrate Mapping and Model Validation in the New York Bight. OCS Study BOEM 2019-069 and NOAA Technical Memorandum NOS NCCOS 255. 187 pp. doi:10.25923/0hw8-gz28

Breece, M.W., Fox, D.A. and Oliver, M.J. (2018), Environmental drivers of adult Atlantic Sturgeon movement and residency in the Delaware Bay. *Mar Coast Fish*, 10: 269-280.
<https://doi.org/10.1002/mcf2.10025>

Friedland, KD, Bachman, M, Davies, A, et al. Machine learning highlights the importance of primary and secondary production in determining habitat for marine fish and macroinvertebrates. *Aquatic Conserv: Mar Freshw Ecosyst*. 2021; 1– 17. <https://doi.org/10.1002/aqc.3527>

Grothues TM, Iwicki CM, Taghon GL, Borsetti S, Hunter E. 2021. Literature synthesis of NY Bight fish, fisheries, and sand features. Sterling (VA): US Department of the Interior, Bureau of Ocean Energy Management. OCS Study BOEM 2021-036. ([Executive Summary](#), [Volume 1](#), and [Volume 2](#))

Pickens BA, Finkbeiner M, Taylor JC. 2020. Volume 2: Shoal identification and a new classification system for sand resources. In: Pickens, BA, Taylor JC, editors. *Regional Essential Fish Habitat geospatial assessment and framework for offshore sand features*. Sterling (VA): US Department of the Interior, Bureau of Ocean Energy Management. OCS Study BOEM 2020-002 and NCCOS Technical Memorandum 270, <https://doi.org/10.25923/akzd-8556> 47 pp.

6. DELIVERABLES

A. Quarterly Reports

Quarterly reports will be provided at the end of each Fiscal quarter beginning in FY–2021, as noted in the Schedule of Deliverables, to include work completed (both as tasks and percentage), budget spent, and any areas of concern. The 4th quarter report will summarize information from work and preliminary analysis of the respective year.

B. Project Management Plan (Task 1)

Based on this SOW, a draft Project Management Plan (PMP) will be prepared for review ten (10) days before the kickoff meeting, or within 20 days. A final PMP, with any edits incorporated, will be available within 2 weeks after the meeting.

C. Animal Telemetry Network Data Deliverable (Task 1)

BOEM ESP requires the best scientific quality animal telemetry data from its research efforts to be curated and made publicly accessible through the Animal Telemetry Network (ATN). The ATN is the authoritative data service for animal telemetry data of the Integrated Ocean Observing System of the United States subsystem for Data Management and Communications (US-IOOS-DMAC), which is implemented in partnership with the Global Ocean Observing System's Ocean Tracking Network International Data Management Committee (GOOS-OTN-IDMC). This requirement addresses BOEM ESP's obligations to provide public access to scientific research results, enhance the integrity of BOEM's scientific findings, maximize the benefits of its research contributions to the broader scientific community, and support a shared data infrastructure for biological oceanographic observing that is part of BOEM's cumulative effects assessment and long-term monitoring goals. This requirement also satisfies BOEM ESP's continued commitment to archive its best scientific quality observational data at the NOAA National Centers for Environmental Information.

PIs will adequately format and document data to specifications of the US-IOOS-DMAC and/or GOOS-OTN-IDMC, and submit the data by visiting the DAC portal at <http://atn.ioos.us/>. If standards are not available, extramural researchers will have the option to format their data according to the developing DAC standards and conventions. PIs can opt for additional services provided by any node of the ATN in lieu of DAC data submission, but the node must have a publication service that the DAC has approved for harvest. Invoices for any additional expenses for comparable services by any other organization or institution that is not recognized on the DAC website as an approved node will be scrutinized before being approved by the BOEM COR.

1) Animal Telemetry Metadata

BOEM requires telemetry metadata to be submitted to the ATN, documenting the scientific, technical, and administrative information for each coherent unit of scientific data, including the physical medium, file information, volume, and access URL, if applicable. For example, the Platform transmitter terminal (PTT) numbers assigned to individual satellite tags are required as part of a metadata submission for satellite tag data.

Metadata must be submitted to the DAC or through an approved node. Proof of submission including details on when data were submitted and their status (whether they are in good standing) in the ATN systems, must be available to BOEM via the DAC before invoices and payments will be approved for this deliverable, as indicated by the milestones and deliverables table below. BOEM may also withhold payments subject to review of the metadata in order to ensure planned availability of the scientific dataset (see deliverable on Availability of the Scientific Dataset below), and to verify any measures that have been taken or are planned for archiving datasets at NCEI, including links to archived data and associated discovery metadata, if available.

2) Availability of the Scientific Dataset

All animal telemetry data will be made publicly accessible through data submission to the DAC or approved node of the Animal Telemetry Network. The PI will initiate data submission on a schedule detailed in the agreement. Periodic submission of tag data may be required prior to the release of incremental funding of multi-year projects. Complete data submission is required prior to the completion of the study, as final invoicing/ payment for this deliverable may be withheld until the DAC or the approved node has signed off on the dataset's completeness. The PI is entitled to require that access to the data that is uploaded to ATN DAC be initially restricted (i.e. password protected) to only individuals who are approved by that contractor/grantee at their sole discretion. These data are referred to as 'restricted data', and can remain restricted for a period of 18 months after the completion of the study unless otherwise agreed upon by the PI and the Contracting Officer's Representative (COR). Even though restricted access prohibits the public from downloading the data, restricted access data are still open data and therefore cannot be kept from disclosure in all cases. Summaries of track and detection data for satellite, archival and acoustic tags will be displayed on the DAC web portal to enable public discovery and anticipate the public availability of publicly funded open data.

D. BOEM Data Deliverable (Task 1)

All data collected or used during the conduct of this study, including data collected during this study as well as data sourced from partners and collaborators shall be made available to BOEM for the purposes of the Marine Minerals Program assessment activities, and for broader allied information needs in the NYB region, including renewable energy OCS development interests. To the extent allowable and as required under federal law, these data shall be transferred to BOEM under open license so that BOEM can disseminate these data that it requires under this award and make these data available to the public, and hold them in the public domain.

ESPIS data will be submitted to the COR as a final deliverable of the study to include the:

- 1) Final Report and Technical Summary: the copies of the narratives of study results in both the MS Word and Adobe Acrobat (PDF/A) formats, without any password protections for open access by BOEM staff and the public, following the ESP Report Specifications.
- 2) Study Footprint: the geographic information that enables the referencing of the study using a GIS, following the study footprint specifications;
- 3) Study Footprint Metadata: the scientific attribution information required to

enhance discoverability of the study in the ESPIS system and third party sites (such as data.gov), following the study footprint metadata specifications;

- 4) Study Map: the study area map embedded in the i. Final Report, and ii. Technical Summary that depicts the study footprint and that is cited in the study footprint metadata;
- 5) FGDC compliant metadata for each scientific dataset: the scientific, technical, and administrative information for each coherent unit of scientific data, including the physical medium, file information, volume, and access URL, when applicable;
- 6) Copy of related publications: the manuscripts of scholarly publications and conference presentations for research funded by this [contract/ agreement] for free and unlimited use by BOEM staff, which may take the form of a full-text, final, pre-publication copy of the related publication in cases that the publisher enforces pay for access or copyright restrictions.
- 7) Bibliographic information for related publications: the information on each related publication needed for formatting CSE bibliographies using the name-date system, including the URL and Digital Object Identifier to access the publication on the publisher's website, when applicable.

Please refer to the BOEM website for more guidance on the ESPIS requirements:
<https://www.boem.gov/ESP-Data-and-Information-Specifications/>

E. Field Survey Plan (Task 2)

A draft of the Field Survey Plan will be provided for BOEM review and approval within five (5) months of award. BOEM will provide comments within two (2) weeks. The recipient will finalize within two (2) additional weeks.

F. Data Analyses and Models (Task 4)

Relevant data will be cataloged, organized, and compiled. Based on available data, the recipient will analyze and summarize data into relevant metrics. Final data analytical outputs and model results will be submitted with the Report, 3 years, and 9 months from project kick-off. BOEM will provide comments within thirty (30) days. The recipient will the finalize within thirty (30) days, within four years from project start.

Unless specifically approved by BOEM, only non-proprietary, open-source software shall be used and all code developed as part of this contract, which will be publicly available in repositories such as GitHub. Raw data from the field work will be provided, as needed. Spatial results will also be provided as GIS layers within three years, nine months.

G. Final Report (Task 5)

The recipient will submit the Draft Report within 3 years and 10 months from project kick-off.

BOEM will provide comments within thirty (30) days. The recipient will then finalize within thirty (30) days, or four years from project start. An EndNote library will be submitted with the final report. The final report supporting data will be submitted as specified above under the models and data deliverable, and otherwise if not specified above on DVD or hard drive media and mailed to the BOEM Sterling HQ office for sharing with other program areas and the public, as appropriate and required under federal law. A technical summary will accompany final deliverables.

H. Presentation of Results (Task 6)

In collaboration with the BOEM COR, the recipient must present the results of this study at an appropriate scientific conference before the end of the agreement.

I. Education (Task 7)

A classroom lesson and materials will be prepared and distributed to regional schools within two years.

External communications: All external communications will be coordinated with each agencies staff.

Scientific Integrity: Scientific integrity is vital to Department of the Interior (DOI) activities under which scientific research, data, summaries, syntheses, interpretations, presentations, and/or publications are developed and used. Failure to uphold the highest degree of scientific integrity will result not only in potentially flawed scientific results, interpretations, and applications but will damage DOI's reputation and ability to uphold the public's trust. All work performed must comply with the DOI Scientific Integrity Policy posted to <http://www.doi.gov>, or its equivalent as provided by their organization.

7. DELIVERABLES SCHEDULE AND DISTRIBUTION

Deliverable products shall be submitted to the e-mail addresses shown below in accordance with the following schedule. In the event that NCCOS encounters or anticipates difficulty in meeting the delivery schedule, the COR will be notified in writing of the reasons for the delay and the projected revised delivery dates. Any other related effects of project delay will also be summarized.

Deliverable	Distribution	Due Date
A. Quarterly Progress Reports	One electronic copy to: COR CO Chief, DES DES Contact	At the end of each fiscal quarter
B. Project Management Plan	One electronic copy to: COR/CO	Draft within 20 days Final within 44 days

C. ATN Data Deliverable	Period data submission directly to the ATN *CO	Within 90 days of data collection
D. BOEM Data Deliverable	DVD or Hard Drive medium mailed to BOEM Sterling, VA office to the care of the ESP Representative *CO	Within 3 years, 9 months
E. Field Survey Plan	One electronic copy to: COR *CO	Within 6 months
F. Data analyses and Models	One electronic copy to: COR	Within 3 years, 9 months
G. Final Report	One electronic copy to: COR CO Chief, DES DES Contact	Within 3 years, 9 months
H. Presentation of Results	Presentation at Scientific Meeting (coordination with COR; paper sent electronically to COR, Chief, DES, DES Contact) * CO Outreach to fishing industry	Before end of agreement
I. Education	One electronic copy to: COR/CO DES Contact Outreach to 7-12 school	Before end of agreement
*Transmittal Letter Only		

ADDRESSES FOR DELIVERABLES

<u>Contracting Officer's Representative (COR)</u> Deena Hansen Bureau of Ocean Energy Management Environmental Assessment Division 45600 Woodland Road, VAM-OEP Sterling, VA 20166 Email: Deena.Hansen@boem.gov	<u>Contracting Officer (CO)</u> Dominique Bruce-Morton Bureau of Safety and Environmental Enforcement Acquisition & Financial Assistance Branch 45600 Woodland Road, VAE-AMD Sterling, VA 20166 Email: Dominique.Bruce-Morton@bsee.gov
<u>Chief, DES</u> Chief, Division of Environmental Sciences Bureau of Ocean Energy Management 45600 Woodland Road, VAM-OEP Sterling, VA 20166 EnvironmentalStudiesProgram2@boem.gov	<u>ESP Representative</u> Dr. Jonathan Blythe Bureau of Ocean Energy Management 45600 Woodland Road, VAM-OEP Sterling, VA 20166 Email: Jonathan.Blythe@boem.gov