

## **Review of the Stellwagen and Georges Bank Dedicated Habitat Research Areas 2022**

### **Purpose**

The purpose of this document is to provide information regarding the use of the Stellwagen Dedicated Habitat Research Area (DHRA) and the Georges Bank DHRA since their establishment in April 2018. The regulations at 50 CFR 648.371, which establish these DHRAs, include a provision that the Regional Administrator initiate a review of the DHRAs 3 years after their establishment to determine whether they should be maintained.<sup>1</sup> The New England Fishery Management Council's Omnibus Essential Fish Habitat Amendment 2 (OHA2) outlined the research agenda for the DHRAs and the process and information to be considered in the 3-year evaluation. This document evaluates research projects identified as taking place in the DHRAs in accordance with that information.

### **Background**

In OHA2, the New England Fishery Management Council recommended, and NOAA's National Marine Fisheries Service (NMFS) approved, the establishment of the Stellwagen DHRA and the Georges Bank DHRA to better understand how habitat management measures influence stock productivity and to allow for the design of more effective conservation measures in future actions (83 FR 15240; April 9, 2018). The regulations at 50 CFR 648.371 codify the Stellwagen DHRA, which prohibits fishing with bottom-tending mobile gear, sink gillnet gear, or demersal longline gear, unless otherwise exempted, and the Georges Bank DHRA, which prohibits bottom-tending mobile gear, unless otherwise exempted.

The DHRAs are intended to allow coordinated research and to build upon past studies and baselines by restricting certain types of fishing to create appropriate reference conditions in the research area. The DHRAs are set up as general closures where the investigators determine the study sites and treatments and arrange the necessary research fishing activity. The DHRAs are intended to provide opportunities for addressing the following research topics and question:

- Gear impacts
  - How do different types of bottom tending fishing gear (e.g., trawl nets, dredges, hook and line, traps, gillnets, longlines) affect the susceptibility and recovery of physical and biological characteristics of seabed habitat, and how do these impacts collectively influence key elements of habitat including spatial complexity, functional groups, community state, and recovery rates and dynamics?

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<sup>1</sup> The Omnibus Deep-Sea Coral Amendment established a third DHRA, the Jordan Basin DHRA, which we approved and implemented in 2021. This DHRA did not include a sunset provision and is not included here because it is not subject to review. We did not identify current or ongoing research that relies on the Jordan Basin DHRA designation during this process.

- Are our estimates of gear contact with the bottom accurate? Can we develop trawl gear that minimizes contact on the bottom, thereby reducing the potential for gear impacts?
- Habitat recovery
  - What recovery models (e.g., successional vs. multiple-stable states) are operant in the region and how resilient are seafloor habitats to disturbance? In other words, how do seafloor habitats recover, and are there thresholds after which habitats have achieved an alternate state and are no longer capable of recovering to their previous undisturbed condition?
  - Do "small" fishing-caused disturbances surrounded by unimpacted habitat recover more quickly and exhibit greater resilience in contrast to "large" fishing-caused disturbances embedded with small unimpacted patches?
  - When a particular area is fished for the first time vs. subsequent efforts, are these impacts equal per unit effort? Or, is the first pass over an area much more detrimental? Conversely, is there a tipping point beyond which the habitat is no longer capable of recovering?
- Natural disturbance
  - In the absence of fishing, what are the dynamics of natural disturbance (e.g., major storm events) on seafloor habitat (especially biological components) across five major grain size classes (mud, sand, coarse sand-granule, pebble-cobble, boulder) and across oceanographic regimes? In areas where natural disturbance is high, are signals of the impacts of fishing masked?
- Productivity
  - How does the productivity of managed species (and prey species) vary across habitat types nested within the range of oceanographic and regional settings? And how does this productivity change when habitats are impacted by fishing gear? Do durable mobile bottom tending gear closures increase fish production? Why are highly productive areas so productive?

The regulations require the Regional Administrator to initiate a review, consult with the New England Fishery Management Council about, and evaluate the use of the DRHAs beginning 3 years after their establishment to determine if they should be maintained. Criteria used to evaluate whether the DHRAs may continue include documented active and ongoing research in the form of data records, cruise reports, or inventory of samples, approved research proposals, or funding requests for pending research. The review is intended to evaluate whether appropriate research activities are ongoing or imminent, or if these designated areas are unused for their intended purpose of improving habitat science. Specific questions NMFS must consider in the evaluation include:

- Is there active research being conducted in the DHRA?
- Is it anticipated that it will continue beyond this fishing year?

- Is there potential research currently in the permitting process at GARFO or other entities, e.g., Stellwagen Bank National Marine Sanctuary?
- Is there potential research currently in the funding process?
- Is there a high likelihood that the project will be funded?
- Are the fishing restrictions associated with the DRHA designation an explicit part of the design of the project?
- Is there potential research [at some other critical stage in the idea-->funding process]?

Additional information and a flowchart outlining how these questions should be used in the evaluation process can be found on pages 116 and 117 of [Volume 3 of OHA2](#).

Removal of the DHRAs, if warranted, would be completed consistent with the Administrative Procedure Act.

### **Research in the DHRAs**

#### **2018-2021**

In 2019, NMFS updated the online form to apply for research documentation (e.g., Letter of Acknowledgement, Exempted Fishing Permit, Scientific Research Permit) to include a question regarding whether research was planned in a DHRA. From that time until 3 years after the establishment of the DHRAs (March 2021), 16 distinct applications indicating research in a DHRA were submitted. One application was for research located in the Great South Channel Habitat Management Area, which does not overlap with a DHRA. The applicant indicated that the research would take place in a DHRA in error, and this project is excluded from further discussion. Fourteen applications were for Scientific Research Permits for NOAA Northeast Fisheries Science Center's resource surveys. These are regular, ongoing resource assessments that are not focused on the effects of fishing on habitat. One application was focused on the development of electronic monitoring in the New England multispecies fisheries and did not include habitat-oriented research.

#### **2021-2022**

From March 2021 through May 2022, nine distinct applications were submitted indicating research in DHRAs. One of the applications requested a permit for research in the Great South Channel Habitat Management Area, not in a DHRA. Further, the permit was not granted, and the project is excluded from further discussion. Seven applications were for the continuation of the Science Center's previously mentioned annual resource surveys. The final application was a drop camera survey of Atlantic sea scallops conducted by UMass Dartmouth's School for Marine Science and Technology (SMAST). The survey provides spatial information on scallop density and size and includes [study sites](#) in both the Stellwagen and Georges Bank DHRAs.

In addition to information collected from research permit applications, NMFS published a request for information about research in the Stellwagen and Georges Bank DHRAs in the *Federal Register* on July 20, 2022 (87 FR 43246). The data collection period ended on August 19, 2022. SMAST provided additional information about the drop camera scallop surveys in

response to the notice. It also provided information regarding a video trawl survey overlapping with the Stellwagen DHRA. The survey is designed to collect data on groundfish species, including size, density, abundance, and catch per unit effort. Stellwagen Bank National Marine Sanctuary (SBNMS) submitted information regarding a video analysis of the patterns and processes of natural disturbances in the Stellwagen DHRA, conducted in collaboration with the Mystic Aquarium and the University of Connecticut.

### **Evaluation of Research in the DHRAs**

With respect to these research projects identified as taking place in the DHRAs, NMFS must consider the questions outlined for the evaluation process:

- Is there active research being conducted in the DHRA?  
Yes. Research activities are taking place in both DHRAs. The Science Center's resource assessments and the SMAST scallop survey overlap with both DHRAs. The New England multispecies electronic monitoring research, SMAST video trawls, and the SBNMS video analysis include research activities in the Stellwagen DHRA.
- Is it anticipated that it will continue beyond this fishing year?  
Yes. The Science Center's resource assessments, SMAST scallop surveys, and SMAST video trawl surveys are multi-year projects with recent research acknowledgments from GARFO (see next question) and are expected to continue. The SBNMS video analysis began in 2021 and is expected to continue for the foreseeable future, dependent on funding. Continued funding is likely, as the Sanctuary Superintendent has discretion over how the Sanctuary's budget is allocated and indicated that research in the DHRA a high priority. While research on electronic monitoring in the multispecies fishery is ongoing, the project identified above ended in 2021. No other investigators indicated their electronic monitoring research takes place in a DHRA.
- Is there potential research currently in the permitting process at GARFO or other entities, e.g. Stellwagen Bank National Marine Sanctuary?  
Yes. The Science Center applies for Scientific Research Permits for resource assessments annually, and has active permits in 2022 (DA22-006, DA22-013). SMAST has an active Letter of Acknowledgment for drop camera scallop surveys on Georges Bank (DA22-054)—the project identified through the permitting system as taking place in a DHRA—as well as a number of other Letters of Acknowledgment and Research Set-Aside Letters of Authorization for drop camera scallop surveys. While the SMAST video trawl survey was not identified through the research permit system, NMFS recently issued a Letter of Acknowledgment for the project (DA21-060), which expired June 30, 2022. The SBNMS video analysis is permitted under the Superintendent's permit for activities in the Sanctuary.
- Is there potential research currently in the funding process?  
The ongoing research described above may have additional funding in process to support future activities. However, NMFS did not identify any additional, potential research currently in the funding process.

- Is there a high likelihood that the project will be funded?  
As NMFS did not identify potential research in the funding process, this question is not applicable.
- Are the fishing restrictions associated with the DRHA designation an explicit part of the design of the project?  
The Science Center's resource assessments began prior to the DHRA designations and are regular, ongoing resource assessments. The DHRA designation is not an explicit part of the research. The SMAST scallop survey began in the early 2000s, and the SMAST video trawl in 2016, prior to the designation of the DHRAs. SMAST indicated that neither project relied on nor considered the DHRA designation. Electronic monitoring research in the multispecies fishery focuses on the efficacy of electronic monitoring and does not rely on the DHRA designation. The SBNMS video analysis explicitly relies on the Stellwagen DHRA designation. The research addresses elements of natural disturbance and requires the exclusion of bottom tending gear from the DHRA. The Sanctuary Superintendent has indicated that research in the DHRA is a priority and emphasized the importance of the Stellwagen DHRA in the management and protection of the Stellwagen Bank National Marine Sanctuary.
- Is there potential research [at some other critical stage in the idea-->funding process]?  
NMFS did not identify potential research in another stage of development.

In summary, while a number of research activities take place in the DHRAs, the majority happen to overlap with the DHRA. One active and ongoing project relies on the Stellwagen DHRA. NMFS did not identify any past, current, or planned research activities in which the Georges Bank DHRA has played a critical role.