



New England Fishery Management Council

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Eric Reid, *Chair* | Thomas A. Nies, *Executive Director*

July 1, 2022

Ms. Nicole Cabana
Science and Research Director (Acting)
Northeast Fisheries Science Center
166 Water Street
Woods Hole, MA 02543

Dear Nicole:

On June 30, 2022, the Council discussed research priorities for the next Scallop Research Set-Aside (RSA) announcement. The attached list includes the full text of the Council's recommendations for Scallop RSA research priorities for the 2023/2024 award cycle. This year, the Council recommended resource surveys as the highest priority. The Council also identified six research areas as medium priority, and two general research needs. The medium priority and general research needs are not listed in rank order and are of equal importance within their respective categories. The Scallop Plan Development Team, Advisory Panel, and Oversight Committee all provided input to the Council ahead of the June 2022 meeting.

Thank you for considering this input. Please contact me if you have questions.

Sincerely,

A handwritten signature in cursive script that reads "Thomas A. Nies".

Thomas A. Nies
Executive Director

cc: Michael Pentony, GARFO

Attachment – Full Text:

High Priority:

1. **SCALLOP RESOURCE SURVEYS:** Industry-based scallop surveys using dredge and/or optical tools conducted at varying sampling intensities (e.g., intensive and resource-wide), and analysis of collected survey data needed to support annual Atlantic Sea Scallop fishery management and scallop science needs. This includes industry-based surveys within Georges Bank and/or the Mid-Atlantic resource areas, and the Gulf of Maine including the Northern Gulf of Maine Management area.

Survey results must be available by early August of the year in which the survey is conducted (e.g., survey results that would inform 2024 fishing effort decisions must be available by mid-August 2023). The survey or surveys do not need to be carried out by a single grant recipient. In addition, the data needs of some resource areas benefit from redundant surveys that use different sampling technologies (e.g., optical and dredge). Survey data will be used to develop estimates of total and exploitable biomass to be used for setting fishery catch limits and allocations. Successful projects may be asked to provide data in a standardized format. The primary objective of these surveys would be to provide length frequencies, abundance and biomass estimates that are used by the Scallop Plan Development Team.

Medium Priority: (Not Listed in Rank Order – Equal Importance)

2. **SCALLOP BIOLOGY:** Research on Atlantic Sea scallop biology, including studies aimed at understanding recruitment processes (e.g., reproduction and gonad development, timing of spawning, larval transport, larval and early post-settlement stages, source/sink dynamics, age and growth, and yield), spatial population dynamics of the scallop resource, and examination of environmental stressors (anthropogenic and natural) and climate change on all of these processes. This priority also includes research on natural mortality processes, such as scallop predation (e.g., starfish, crab, snails), discard mortality, juvenile mortality events, and disease and parasites. The results of biology research should be informative to scallop stock assessments and projection models (current and future) and to support decision-making by fishery managers.

3. **TURTLES:** Research to support the investigation of sea turtle behavior in the Mid-Atlantic and Georges Bank (via satellite tagging or other means). This could include, but is not limited to, research to understand their seasonal movements, vertical habitat utilization, and the status and range of the population in response to climate change. This could also include research on gear design to reduce incidental takes of ESA-listed species. This research could assist in the collection of data that may be required by current or future biological opinions, to address reasonable and prudent measures of the biological opinion and could be used to evaluate current turtle regulations (e.g., timing and spatial extent of gear modifications). To the extent practical, data collected during turtle research should be leveraged to support decision making by fishery managers (e.g., bottom temperature data).

4. **SCALLOP RESOURCE ENHANCEMENT:** Research focused on the development of Atlantic sea scallop enhancement tools (spat collection, seed rearing in hatcheries, grow out of juvenile scallops, and offshore seeding of hatchery reared spat) to supplement the scallop population and fishery harvest in the federally managed scallop fishery. Research could focus on the development of standards and best practices for using husbandry techniques to enhance the

wild capture fishery while mitigating the impact of predators or could evaluate the economic feasibility of enhancement efforts. This includes the placement of scallops in areas where they are more likely to contribute to wild sets of scallops. Research could focus on projects that aim to develop and(or) refine techniques for growing seed from spat and transplanting those scallops to beds in federal waters. Projects conducted in state waters should describe plans to comply with local and state regulations.

5. HABITAT CHARACTERIZATION RESEARCH: Research including (but not limited to): continuation of before after control impact (BACI) dredge studies; identification of which species and life history stages depend on particular habitats vulnerable to alteration by the scallop fishery for use as nursery, over-wintering, or spawning areas; evaluation of long-term or chronic effects of scallop fishing on the ecosystem; and habitat recovery potential from fine scale fishing effort. In particular, projects that would evaluate Essential Fish Habitat (EFH) closures to assess whether these areas are accomplishing their stated purposes and to assist better definition of the complex ecosystem processes that occur in these areas would be of interest. Finally, investigation of variability in dredge efficiency across habitats, times, areas, and gear designs to allow for more accurate quantitative estimates of scallop dredge impacts on the seabed and development of practicable methods to minimize or mitigate those impacts would also qualify under this research priority.

6. FISHING IN HIGH DENSITY AREAS: Research to examine the impacts of intensive fishing effort in areas of high scallop densities such as impacts of sediment disruption, impact of high volumes of viscera on the benthic environment and water quality, scallop shell damage, repeated harvest/discarding cycles, and re-examination of non-harvest mortality assumptions. This may include research that occurs concurrently with harvest. This priority includes research into fisherman's behavior and decision making and ways to improve fishing practices to minimize waste and maximize yield.

7. WIND: Research aimed to support scallop management through studies that assess socioeconomic impacts on the scallop fishery from offshore wind energy development and production across multiple lease and call areas. This priority also includes research that aims to characterize the impacts of offshore wind energy development on scallop surveys through simulation modeling recommended by the Scallop Survey Working Group, and research that assesses the utility and feasibility of alternative sampling tools.

General Research (Not Listed in Rank Order – Equal Importance)

8. BYCATCH: Identification and evaluation of methods to reduce the impacts of the scallop fishery with respect to bycatch of small scallops and non-target species. This would include projects that determine seasonal bycatch rates of non-target species, characterize spatial and temporal distribution patterns, collect and analyze catch and bycatch data on a near-real time basis, as well as the associated discard mortality rates of key bycatch species. Research efforts focusing on non-target bycatch should provide results that would help the scallop industry avoid or respond to the implementation of accountability measures. Projects should consider the enforceability and feasibility of regulations in the commercial fishery.

9. COMMERCIAL DREDGE GEAR: Commercial dredge research to improve scallop catch efficiency, improve scallop size selectivity, reduce scallop damage (discard and incidental

mortality), reduce non-target species bycatch, and to reduce fuel consumption and improve energy efficiency.