New England Fishery Management Council
50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492 | FAX 978 465 3116
E.F. "Terry" Stockwell III, *Chairman* | Thomas A. Nies, *Executive Director*

June 25, 2014

Mr. John Bullard
Regional Administrator
NMFS, Greater Atlantic Regional Fisheries Office (GARFO)
55 Great Republic Drive
Gloucester, MA 01930

RE: Scallop Research Set-Aside priorities for FY2015-2016

Dear John:

The Council met on June 19, 2014 and approved research priorities for the Scallop Research Set-Aside (RSA) program for FY2015 and 2016.

Attached is the final list of research priorities that should be used in the upcoming Scallop RSA federal funding announcement for fishing years 2015 and 2016. These Council-approved priorities include input from the Scallop Plan Development Team, Scallop Advisory Panel, and Scallop Oversight Committee.

The list of priorities is similar to last year, but some priorities have been reworded and reordered to reflect more pressing management issues. One important clarification to note is that the Council recommends the top priority issue, survey related research, be the overall top priority for 2015, but not included for 2016 in this announcement. Instead, NMFS should wait to solicit for 2016 scallop survey related research proposals until after the Northeast Fisheries Science Center convenes a peer review of scallop surveys and stock assessments. In March 2015 the Center is scheduled to convene an independent review and evaluation of the various scallop survey methods used in this region. Therefore, it would be more effective to see what the results of that review are before RSA funds are used to support scallop survey research.

With respect to priority 1(c) (broad, resource wide industry-based survey of scallops), the Council clarified that this priority need not be met by a single research contract.

Please contact me if you have any questions.

Sincerely,

Thomas A. Nies

Thomas A. Nies
Executive Director

cc: Dr. William Karp
Enclosure

Atlantic Sea Scallop Research Priorities for FY2015 and FY2016

The Council recommends that Priority #1: Survey Related Research, be removed for FY2016. Therefore, survey related proposals should have the highest overall priority in FY2015, but NMFS should not solicit for survey related proposals for FY2016 in this announcement. Instead, another announcement should be issued in 2015 following a peer review of scallop survey methods, and that announcement could include survey related research proposals for FY2016 and FY2017.

HIGHEST (IN PRIORITY ORDER)

1. **Survey Related Research (a, b, and c have equal priority)**

a) an intensive industry-based survey of each of the relevant scallop access areas (Closed Area I, Closed Area II, Nantucket Lightship, Delmarva, Elephant Trunk and Hudson Canyon). The primary objective of these surveys would be to estimate total allowable catches (TACs) under the rotational area management program if the data from these surveys are available by August of the prior fishing year. Areas scheduled to be open in the following fishing year generally have a higher priority than other areas. For 2015 the three priority areas are: Delmarva, Elephant Trunk, and Hudson Canyon. For 2016 the priority areas may be: any areas in and around GB scallop access areas that may be open based on the EFH Omnibus Amendment (Northern edge area in and around Closed Area II, northern part of Closed Area I, and east and west of Nantucket Lightship access area).

b) an intensive industry-based survey of areas that may be candidate access areas in the future (i.e., open areas with high scallop recruitment or closed areas that may open to fishing in the future, such as groundfish mortality closed areas or current habitat closed areas). For example, Northern edge area in and around Closed Area II, the northern part of Closed Area I that is currently part of an EFH closed area, and east and west of the Nantucket Lightship access area where small scallops have been observed.

c) a broad, resource wide industry-based survey of scallops within Georges Bank and/or Mid-Atlantic resource areas. The survey or surveys do not need to be carried out by a single contractor or grant recipient. The primary objective of these surveys would be to provide an additional broadscale biomass index to improve the overall precision of the scallop biomass estimate produced from the model used by the Scallop Plan Development Team. If the data from these surveys are available by August of the prior fishing year these results can be used in the overall scallop biomass estimate to evaluate the current status of the stock.

2. **Bycatch research**

Identification and evaluation of methods to reduce the impact of the scallop fishery with respect to bycatch. This would include projects that determine seasonal bycatch rates, characterize spatial and temporal distribution patterns, gear modifications to reduce bycatch, as well as the associated discard mortality rates of yellowtail flounder, windowpane flounder, and other key bycatch species. Research efforts should be targeted to avoid pending or potential implementation of accountability measures.

3. **Scallop and area management research**

Including but not limited to: evaluation of ways to control predation on scallops (i.e starfish and dogfish); research to actively manage spat collection and seeding of sea scallops; social and economic impacts and consequences of closing areas to enhance productivity and improve yield of sea scallops and other species; and estimation of factors affecting fishing power for each limited access vessel.

MEDIUM (not listed in order of importance):

- Research to support the investigation of loggerhead turtle behavior in the Mid-Atlantic (via satellite tagging or other means) to understand their seasonal movements, vertical habitat utilization, and how and where interactions with dredge gear are occurring. This priority topic also includes monitoring of scallop dredge and trawl operations, and the development of further gear modifications if monitoring should indicate current designs are not eliminating the threat or harm to sea turtles or are resulting in unacceptable scallop catch loss.

- Research aimed at describing the occurrence as well as understanding the mechanisms of processes that affect scallop product quality and marketability (i.e., scallops with grey meats or evidence of disease). Research should also include evaluation of the potential magnitude of impacts on scallop mortality from scallops due to quality issues.

- Habitat characterization research including (but not limited to): video and/or photo transects of the bottom within scallop access areas, closed scallop areas, and in comparable fished areas that are both subject and not subject to scallop fishing before and after scallop fishing commences (BACI or before after control impact dredge impact studies); identification of nursery and over-wintering habitats of species that are vulnerable to habitat alteration by scallop fishing; and other research that relates to habitats affected by scallop fishing, including, but not limited to, long-term or chronic effects of scallop fishing on marine resource productivity, other ecosystem effects, habitat recovery potential, and fine scale fishing effort in relation to fine scale habitat distribution. In particular, projects that directly support evaluation of present and candidate 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. Finally, investigation of variability in dredging 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.

- Seasonally monitor any large recruitment event (i.e. southeast of NL access area and south along 40 fathom curve to Hudson Canyon).

OTHER (not listed in order of importance):

- Longer term research projects designed to either: 1) examine whether chemicals, water quality, and other environmental stressors effect reproduction and growth of scallops (i.e., jet fuel, pesticides, ocean acidification, etc.); or 2) research other scallop biology projects, including studies aimed at understanding recruitment processes (reproduction, larval and early post-settlement stages), growth, and natural mortality (including predation and disease).

- Studies aimed at addressing relevant issues that were identified as research priorities in the 2010 50th Stock Assessment Workshop including (*may want to update with research priorities under development in SAW59 – available in June 2014*):

    - Discard mortality of scallops. The current assumption used in the assessment is very uncertain. Projects that could improve the understanding and rate of discard mortality would be useful.
    - Seasonal growth of scallops. The model used to estimate biomass currently assumes even growth during the year, but there is some evidence available to suggest that scallops do not

grow evenly during the year. Projects that could improve the understanding of seasonal cycles of scallop growth would be useful.

- Incidental mortality of scallops. The current assumption used in the assessment is very uncertain. Studies could evaluate the effect of the four-inch rings on incidental mortality. Now that a larger fraction of small scallops are traveling through the mesh, examine whether incidental mortality has increased or are the scallops relatively unaffected. This could be done by running HabCam or an Autonomous Underwater Vehicle (AUV) along dredge tracks.
- Continue analysis of scallop annual growth data. NEFSC has archived scallop shells from the 1980s and 1990s and additional age analyses would support information about scallop growth.
- Continue to investigate patterns of seasonality in weight of the meats and gonads, and timing of scallop spawning.

- Other resource surveys to expand and/or enhance survey coverage in areas that have the potential to be important resource areas, but which currently have a lack of comprehensive survey coverage (i.e. inshore areas east of the current NEFSC survey strata or deeper than the surveyed area, NGOM resource, etc.).

- Develop methodologies or alternative ways for the scallop fleet to collect and analyze catch and bycatch data on a near real-time basis (i.e., collection of scallop meat weight and quality data, specific bycatch information, etc. Potential ideas include but are not limited to: concepts like a "Study Fleet", electronic monitoring, dockside monitors, bag tags, etc.).