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New England Fishery Management Council

50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492 | FAX 978 465 3116
John F. Quinn, J.D., Ph.D., *Chairman* | Thomas A. Nies, *Executive Director*

MEMORANDUM

DATE: April 30, 2021
TO: Scallop Survey Working Group (SSWG)
FROM: Tom Nies, Executive Director
SUBJECT: Scallop Survey Working Group Terms of Reference (TORs)

1. The final SSWG TORs are attached. Dr. Hare and I reviewed the TOR suggestions provided by the SSWG. We thank the group for their thoughtful discussion and suggestions. While most were accepted, we made one modification to the proposed TORs as explained in the following paragraph.

2. The SSWG suggested adding this bullet to TOR 3:

Consideration of survey strategies to inform and support scallop enhancement efforts

We decided that this is not an appropriate task for the SSWG. The group was not established to develop mechanisms to support a management approach that has yet to be thoroughly discussed by the Council. This proposed bullet does, however, highlight the need to make sure that the scallop survey can adapt to changes in distribution that result from either natural or anthropogenic factors. For that reason, we believe a more general approach to this topic is appropriate and have revised the second bullet to read as follows (the addition is underline).

- *Identification of existing and new scallop survey strategies for population assessments under changing conditions in stock and habitat parameters, and changes in stock distribution as a result of natural or anthropogenic factors.*

**Scallop Survey Working Group
Terms of Reference
April 30, 2021**

TOR #1: Describe the current survey system, including survey (dredge and optical) methods, design, and data products, as well as the process for determining annual survey coverage.

Description:

- *This TOR will include descriptions of the current survey system, including survey tools and methods, the process used to determine annual spatial coverage by survey type, and the data collected in each survey. This information will serve as a description of the current approach for the scallop survey system and will be referenced in relation to SSWG recommendations for TORs 2, 3, and 4.*

TOR #2: Describe and assess a coordinated strategy for sea scallop resource assessment surveys and investigate opportunities and methods for implementation. Address each of the following areas:

- a. Spatial coverage, including the Northern Gulf of Maine;**
- b. Sampling frequency and intensity within and between surveys;**
- c. Data standardization, delivery, access, and storage;**
- d. Automated scallop detection;**
- e. RSA survey priority setting process and long-term planning.**

Description:

- *This TOR will include, but not be limited to, the following items for each identified topic:*
 - *Assess the strengths and weaknesses of the current scallop survey system, including uncertainties and gaps in data outputs to meet objectives and needs of science and management.*
 - *Describe new or alternative approaches for optimizing the survey system.*
 - *Investigate opportunities and methods to implement strategies across all survey groups and including the new and alternative approaches.*

TOR #3: Identify survey methods, tools, and designs to monitor and assess the scallop resource in a changing ocean environment that includes offshore wind installations and changes in resource and fishery distribution.

Description:

- *This TOR will include, but not be limited to, the following items:*
 - *Description of the likely impacts of offshore wind installations on the current survey domain and methods on a present and multi-year timescale.*
 - *Identification of existing and new scallop survey strategies for population assessments under changing conditions in stock and habitat parameters, and changes in stock distribution as a result of natural or anthropogenic factors.*

TOR #4: Identify and catalogue the survey data products needed to support stock assessment approaches in the future and outline a process for modifying the scallop survey system to collect identified data products.

Description:

- *This TOR will include, but not be limited to, the following items:*
 - *Description of survey data outputs needed to support potential changes to stock assessment models, including age samples and ageing methods, growth information and density-dependent effects, scallop meat weight sampling, and estimates of fecundity.*
 - *Consider survey data products and survey spatial scale needed to support a spatially explicit methodology for forecasting the abundance and distribution of sea scallops by incorporating spatial data from surveys, landings, and fleet effort.*

Scallop Survey Working Group Work Plan - November 2021

	21-Jun	21-Jul	21-Aug	21-Sep	21-Oct	21-Nov	21-Dec	22-Jan	22-Feb	22-Mar	22-Apr	22-May	22-Jun	22-Jul
Council Meetings	NEFMC			NEFMC	SSC		NEFMC	NEFMC			NEFMC		NEFMC	
SSWG Meeting		Web 1/2-day				1-day			2-day		1-day			
TOR 1 <i>Summary Review Report</i> TOR 1 Complete														
TOR 2 <i>Coverage, Frequency, Intensity Data</i> <i>Auto Detection RSA Report</i> TOR 2 Complete														
TOR 3 <i>Wind Impacts Other Impacts Report</i> TOR 3 Complete														
TOR 4 <i>Assessment Needs Forecast Needs Report</i> TOR 4 Complete														
REPORT <i>Report Writing Review Revision Final Report</i> PROJECT COMPLETION														

Scallop Survey Working Group November Meeting Pre-Meeting Homework

At the November 17th SSWG meeting, we will continue discussions about developing a set of guiding principles for the overall scallop survey and survey coordination strategies. We will begin forming recommendations for new and alternative survey approaches and consider strategies for implementation of these approaches. We're asking that all SSWG members engage in these discussions and contribute ideas for consideration. In advance of the meeting, please consider the following questions and be prepared to share your ideas.

Please review this entire document and enter responses in the Homework Form

Survey Guiding Principles

1. Consider the current system and potential future needs:
 - a. What survey data products are required to support scallop stock assessment (stock status)?
 - b. What survey data products are required to support scallop management (specifications)?

2. Consider the following topics to develop a set of guiding principles for the scallop survey system:
 - a. Survey coverage – priority areas, exploration areas, Gulf of Maine
 - b. Types of samples – counts, length frequencies, meat and gonad weights, others
 - c. Sampling intensity – broad scale and fine scale spatial sampling, survey annotation rate
 - d. Sampling efficiency – high and low density areas, survey catch efficiency
 - e. Time series
 - f. Funding stability and long-term planning for survey groups

Survey Coordination

1. How can scallop surveys be better coordinated?

2. Consider the following items to develop a survey coordination strategy:
 - a. RSA survey planning process
 - b. NEFSC survey planning process
 - c. Short and long-term planning
 - d. Data collection and analysis standardization
 - e. Implementation strategies
 - f. Funding stability and long-term planning for survey groups

Sub-Group Work Session

The meeting will include a work session for sub-groups to be conducted through breakout rooms. **Please consider the following questions that will be discussed during the work session and rank your preference for breakout participation in order of interest from rank 1 (highest interest) to 3 (lowest interest) in the [Homework Form](#).** We will do our best to accommodate everyone's interest levels, while also ensuring we can make progress on each topic. There will be additional opportunities to weigh in on these topics, and the full SSWG will consider all input from sub-groups prior to forming recommendations.

Data Topics

1. What data issues should be considered by the SSWG under TOR #2 (coordinated strategy for scallop surveys and opportunities and methods for implementation)?
2. What data issues would be better addressed by a different process (e.g., follow-on process to develop recommendations to NOAA; external contractor for software development; 3rd party data management)?
3. How should the SSWG define the terms "data" and "public" under TOR #2?
 - a. For example, what are the data products from scallop surveys that are required to support science and management ("data") and who can access the data ("public")?
4. Should the SSWG consider recommendations about funding sources to support data storage and management (costs beyond the collection of data)?
 - a. Does the sub-group have any recommendations for the full SSWG to consider?
5. Does the sub-group have additional comments/ideas about data coordination?

Wind Impacts

1. What are the strengths and weaknesses of current survey tools/methods related to the implementation of wind farms?
 - a. Dredge, HabCam, drop camera
 - b. Random stratified, transect, grid
 - c. Survey platform (vessel type/size), data products, costs
2. What approaches to conduct scallop surveys in/around wind farms are feasible in the immediate future (1-5 years)?
 - a. For example, are there advanced technologies that are currently available? What types of funding are available to support new/alternative technologies and approaches?

3. What longer-term approaches to survey in/around wind farms should be prioritized for research/development/implementation?
4. Should the SSWG consider making recommendations about an approach to review the scallop resource and survey footprints?
 - a. Does the sub-group have any recommendations for the full SSWG to consider (review timing and frequency, review method, etc.)?
5. Does the sub-group have additional comments/ideas about survey coordination in relation to the potential impacts from wind farm development?

Assessment Needs

1. Does the current survey system provide all of the required data products to support the scallop stock assessment?
2. What new or different data products would be required to support an alternative stock assessment method?
3. Does the current survey system provide all of the required data products to support the scallop projection model?
4. What new or different data products would be required to support an alternative scallop projection approach?
5. Does the sub-group have recommendations about new or alternative approaches to ensure collection of all required data products to support science (assessment) and management (projections)?
6. Does the sub-group have additional comments/ideas about survey coordination in relation to future assessment needs?