



New England Fishery Management Council

50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492 | FAX 978 465 3116

Eric Reid, *Acting Chairman* | Thomas A. Nies, *Executive Director*

MEETING SUMMARY
Scallop Survey Working Group
July 27, 2021

The Scallop Survey Working Group (SSWG) met by webinar on July 27, 2021 to 1) review the approved SSWG Terms of Reference (ToRs), 2) receive a progress update on work to address the ToRs, including the approach taken, the formation of sub-groups, results to date, and identification of next steps, and 3) review the SSWG work plan.

MEETING ATTENDANCE:

Scallop Survey Working Group	
Peter Chase, NEFSC, Co-Chair	Bill DuPaul, VIMS Emeritus, Co-Chair
David Bethoney, CFRF	Drew Minkiewicz, FSF (not in attendance)
Han Chang, NEFSC	Tasha O'Hara, CFF
Scott Gallagher, COV (not in attendance)	Jonathon Peros, Council Staff
Dvora Hart, NEFSC	Paul Rago, Retired NEFSC Branch Chief
Chad Keith, NEFSC	Dave Rudders, VIMS
Paul Kostovick, NEFSC	Liese Siemann, CFF (not in attendance)
Andy Lipsky, NEFSC (not in attendance)	Ryan Silva, GARFO
Amber Lisi, ME DMR (not in attendance)	Kevin Stokesbury, SMAST
Roger Mann, VIMS	
SSWG Facilitators	
Cate O'Keefe, Fishery Applications Consulting	Jessica Joyce, Tidal Bay Consulting

NEFMC staff member Sam Asci assisted with meeting logistics; there were eight members of the public in attendance, including several Council members.

INTRODUCTIONS:

The meeting began at 9:00am with introductory comments by facilitator Cate O'Keefe. Dr. O'Keefe provided an overview of the agenda, including meeting objectives and deliverables. The major goals of the meeting were to discuss feedback from the SSWG for portions of ToRs #2 and 3, complete descriptions of the current survey system strengths and weaknesses related to survey design and data products, and review the SSWG work plan.

Council staff conducted roll call and confirmed that SSWG members are receiving all communications. Meeting materials are available on the Council's website:

<https://www.nefmc.org/calendar/jul-27-2021-scallop-survey-working-group>

SSWG OBJECTIVES, TORs AND APPROACH:

The Co-Chairs reviewed the SSWG objectives, ToRs, and approach to address the ToRs. The SSWG will incrementally develop recommendations addressing the ToRs for the Council and Northeast Fisheries Science Center (NEFSC). The ToRs developed by the SSWG in April were reviewed and approved by the Council Executive Director and NEFSC Director and presented to the Scallop Advisory Panel, Scallop Committee, and Council in June 2021. The approach to address the ToRs includes input from the full SSWG through meetings, correspondence, and questionnaires, as well input from topic-specific sub-groups.

TOR #1 OVERVIEW AND PROGRESS UPDATE:

Dr. O’Keefe provided a brief update on progress to address ToR #1, which states:

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.

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.

This ToR will be addressed using existing information about 1) the overall scallop survey objectives and history, 2) summary descriptions of the methods, designs, and data products from each survey tool, 3) the collective survey products and Council process to apply survey results, and 4) the RSA program priority setting and review processes. Dr. O’Keefe is currently drafting the ToR 1 report and will gather information from individual SSWG members to fill any gaps in available information with a goal to complete the ToR 1 report by December 2021.

TERM OF REFERENCE #2 OVERVIEW AND PROGRESS UPDATE:

The SSWG reviewed ToR #2, which states:

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:

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

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, including the new and alternative approaches.*

Between May and July 2021, the SSWG focused on assessing the strengths and weaknesses of the current system with regards to spatial coverage, sampling intensity, and sampling frequency, as well as data standardization, delivery, access, and storage.

Spatial Coverage, Sampling Intensity and Sampling Frequency

Dr. O’Keefe presented compiled feedback about the strengths, weaknesses, efficiency, and transparency of the current system’s spatial coverage, sampling intensity and sampling frequency. A questionnaire on these broad topics was distributed to the SSWG in early June to solicit individual feedback, which was compiled and summarized to serve as the assessment of the current system. Results were presented in a tabular format, highlighting areas of overlap between the topics of coverage, intensity, and frequency.

Results from the questionnaire indicated that the current system’s strengths are the adaptable, flexible, and stable scope, scale, and timing of the overall survey and the multiple independent data products from highly qualified survey teams. Identified weaknesses included low or missing coverage in areas outside of the SAMS management areas, lack of coordination and long-term planning for the overall scallop survey, and minimal ability for exploratory surveys. Feedback suggested that the current survey system has inefficiencies due to the lack of a standardized prioritization process to determine spatial coverage and sampling intensity and lacks transparency for coordination between the NEFSC and RSA survey processes. Determination of survey coverage and intensity in the Northern Gulf of Maine (NGOM) was highlighted as an area of uncertainty, as well as coverage and intensity of the changing distribution of the overall scallop resource.

The SSWG discussed the results to determine if the feedback provided a comprehensive assessment of the current system. Generally, the SSWG agreed that the descriptions of spatial coverage, sampling frequency, and sampling intensity are accurate and inclusive of the working group’s feedback. They noted that spatial coverage and sampling intensity decisions have been driven by past understanding of the scallop resource, and that future decisions need to consider changes to resource distribution to adapt plans for short, medium, and long-term planning. The working group discussed the evolution of the survey over the last 20 years and highlighted the historic adaptability and expansion of survey coverage by different survey tools funded through the RSA program. The SSWG recommended that a brief overview of the survey history be added to ToR #1, using existing information from the 2015 Scallop Survey Peer Review.

Next, the SSWG discussed how to pivot from discussions of the current system to development of new approaches and processes for a coordinated survey strategy. The group discussed overarching problem statements to guide development of next steps, including the lack of a comprehensive set of guiding principles and the lack of a coordinated approach to determine spatial coverage, sampling intensity, and sampling frequency. Working group members considered whether to address survey coordination as a first next step, then consider prioritization of a strategic scientific approach. Ultimately, the group recommended applying a hierarchical approach to define survey objectives by developing a comprehensive set of guiding principles for survey spatial coverage, sampling intensity, and sampling frequency, then focus on the logistics to meet those objectives, which includes coordination of survey components.

Data Standardization, Delivery, Access and Storage

Mr. Jonathon Peros presented feedback about the strengths and weaknesses of the current data products and data management system. Mr. Peros led a sub-group focused on data standardization, delivery, access, and storage and solicited feedback through a series of interviews and with individuals and small groups of SSWG members in June and July 2021. Results were presented as generalized statements and in tabular format, highlighting topics that the SSWG can address, as well as areas that may require additional input and support beyond the SSWG efforts.

Feedback from the sub-group indicated that the current data management system is working but has more weaknesses than strengths. Data standardization and coordination among survey groups was highlighted as a current challenge that could be addressed by the SSWG. The lack of standardized data fields across all survey groups was identified as a major weakness that creates time lags in data processing, and limits broad accessibility to data products. The sub-group noted that survey data is currently not easily shared and there is no mechanism to enforce data sharing. Data storage and funding for data management were also identified as current weaknesses, and the sub-group reported that these complex issues may need additional attention beyond the SSWG. There is no dedicated funding for storage of the overall scallop survey data and current databases are not being maintained. The sub-group also provided ideas for new and alternative approaches for data management, including contracting external IT professionals to lead development of database and storage options, standardized data fields across all survey groups, exploring automated annotation of optical survey data, and housing data products in a centralized location managed by a third-party organization. Members of the data sub-group provided additional feedback for SSWG consideration, including issues of standardizing data delivery and funding needs to support short and long-term data management.

The SSWG began discussion of data topics by clarifying what is encompassed under the term “data” as related to the scallop survey. Optical surveys produce several levels of data, ranging from video and photo files, to annotated image “raw data”, to calculations of density, abundance, and biomass estimates by area. Dredge surveys produce station level counts and biological samples, as well as calculations of swept-area biomass by area. The SSWG will need to consider the definition of data in relation to standardization, delivery, access, and storage. A member of the public asked about the source of funding to support data management in the future, specifically if RSA funds would be considered. Members of the SSWG commented that RSA funds may be appropriate to support data management but noted that RSA priorities and the competitive nature of the RSA grant program may pose challenges to the use of RSA funds to support long-term data storage and management. The group also discussed the topic of data sharing and what constitutes public data and noted that the National Science Foundation has guidelines that may be relevant to consider. The SSWG will need to develop a clear understanding of the term “public” and recommend what data should be shared and why. The group also recognized that not all data products collected from the surveys are used in management and that data could be leveraged to support science and management for other species and resources by developing metadata.

The SSWG discussed how to pivot from discussions of the current system to development of new approaches and processes for an improved, coordinated data management system. They

noted that some issues, such as standardized data fields coordinated among survey groups may be short-term “low hanging fruit” for the SSWG to address. The group suggested a similar hierarchical approach to define objectives for data products, including defining “data” related to the scallop survey, defining “public” to understand access and sharing challenges, and considering funding needs for data management, followed by considering how to coordinate a strategic data management system.

SSWG WORK PLAN, TASKING AND MEETING SCHEDULE:

Dr. O’Keefe presented next steps for the SSWG to address ToR #2. Over the next several months, the SSWG will continue work on spatial coverage, sampling intensity, and sampling frequency, as well as data standardization, delivery, access, and storage with a focus on developing new approaches and processes and strategies to implement recommendations. Additionally, sub-groups will be formed to address automated detection of scallops from optical surveys and RSA program related topics. Efforts to address these topics will include correspondence in the form of email communications and group questionnaires, and individual and sub-group meetings and interviews. The SSWG will continue to work on ToRs simultaneously with updates provided to the Council in September and December. The next SSWG meeting will be held in October to provide another update on progress and begin discussions on initial recommendations.

TERM OF REFERENCE #3 OVERVIEW AND PROGRESS UPDATE:

Dr. O’Keefe provided a brief update on progress to address ToR #3, which states:

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 distributions.

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 and anthropogenic factors.*

Dr. O’Keefe led a sub-group focused on the impacts of offshore wind installations on the current survey domain and methods and solicited feedback through a series of individual interviews in June and July 2021. Interview topics included descriptions of impacts from wind installations on individual survey tools (dredge, drop camera, HabCam), potential impacts to the overall survey system, and impacts on ability support scallop science and management. Results were presented in tabular format, highlighting impacts across survey tools and identifying impacts to data products and science and management systems.

The sub-group identified transit issues associated with wind farms as a potential challenge for all survey groups. They noted that the dredge survey may be most impacted due to the mobile nature of the survey tool, but also noted that sediment plumes around wind turbine foundations may impact optical surveys. The sub-group raised questions about the ability of the R/V Sharp to conduct survey operations in wind farm areas and highlighted that costs could increase for all

survey groups. Feedback suggested that all survey tools will likely be impacted by wind installations in some manner with resulting loss of information compared to the current survey system. Additionally, the incremental development of wind farms will cause multiple changes to survey design over time, potentially impacting survey time series and leading to degradation in precision and accuracy of data products. Highlighted impacts to the management system included possible delays in data delivery and implementation of management actions, changes in spatial coverage of management areas, and potential changes to the calculations of annual scallop allocations.

The SSWG discussed sub-group recommendations for next steps to identify new or existing survey approaches in the context of wind installations. The sub-group recommended identifying the strengths and weaknesses of individual survey tools related to wind farms, e.g., gear/vessel adaptability and maneuverability, data products, costs, etc. They suggested the SSWG focus on immediate needs as construction of wind farms in certain areas will begin in 2022, but also consider longer-term planning to ensure that new approaches remain useful. The sub-group noted the NEFSC shellfish re-stratification efforts should consider wind farm build out, and they highlighted the need for regular review of the survey footprint in response to changing resource distribution. Several sub-group members noted potential challenges for funding a specific survey tool within wind farms through the competitive RSA program and suggested that other surveys and monitoring programs, such as multispecies/ecosystem surveys and wind company area-specific impact monitoring efforts, may be leveraged with scallop surveys for funding and data products.

The working group highlighted the importance of SSWG recommendations related to impacts from wind installations as this is the primary group informing future NEFSC decisions for conducting scallop surveys in and around offshore wind installations. It was noted that the NEFSC has an internal working group dedicated to broad impacts from offshore wind development on data and science products, including scallop forecasting models, running parallel to the SSWG efforts, but that the NEFSC does not plan to make any scallop survey decisions without input from the SSWG. The working group also suggested investigating regulations about vessel proximity and interactions with wind turbines to inform specific impacts during construction and operation phases of wind farm development.

ADJOURN

The Co-Chairs and facilitators thanked the SSWG, and the meeting adjourned at approximately 12:30pm.