New England Fishery Management Council
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Eric Reid, *Chair* | Thomas A. Nies, *Executive Director*

# MEETING SUMMARY
# Scallop Survey Working Group
March 16, 2022

The Scallop Survey Working Group (SSWG) met by webinar on March 16, 2022, to 1) review draft recommendations from the Data Topics and Wind Impacts Sub-Groups, 2) continue developing "Scallop Survey Guiding Principles" and "Coordination Strategies", and 3) review the work plan and identify next steps.

***MEETING ATTENDANCE:***

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

NEFMC staff member Sam Asci assisted with meeting logistics; there were thirteen members of the public in attendance, including the Scallop Advisory Panel Chair and Scallop Committee 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 review recommendations from the Data Topics and Wind Impacts sub-groups, review and update draft recommendations for Scallop Survey Guiding Principles, consider new approaches for RSA awards to increase coordination among survey partners, and update the SSWG work plan, tasking, and schedule.

Council staff conducted roll call and provided instructions for use of the GoToTraining software platform. Meeting materials are available on the Council's website: https://www.nefmc.org/calendar/mar-16-2022-scallop-survey-working-group-sswg-webinar.

***SSWG PROGRESS UPDATE:***

Dr. O'Keefe provided updates on the timeline for SSWG efforts, including full group and sub-group efforts, and activities since the November SSWG meeting, including the RSA review process and other parallel projects related to scallop surveys. Dr. O'Keefe and the Co-Chairs described the objectives and deliverables expected for the meeting.

***TOR #2 – DATA TOPICS***

Mr. Jonathon Peros presented a summary and draft recommendations from the March 3, 2022 Data Sub-Group Meeting (Table 1; Meeting Document #3).

Table 1. Data Sub-Group DRAFT recommendations as updated by the SSWG.

| ***Recommendation*** | ***Rationale*** |
|---|---|
| *Develop a standardized dredge data format* | • Reduce time and resources needed to merge datasets annually<br>• Facilitate capability for longer-term data coordination |
| *Develop dredge and HabCam data collection standards and universal databases* | • Multiple groups using the same tools should be producing the same data products<br>• Standardized data collection will facilitate common data storage, compilation, and streamline data access and applications |
| *Adjust historical dredge data for inclusion in universal database* | |
| *Minimum HabCam annotation threshold to support geostatistical models* | • Geostatistical model used to combine HabCam data requires a threshold number of annotated images, under which the model cannot operate |
| *Consider centralized database management*<br><br>*Support professional database management services and staffing* | • Central repository for all scallop survey data products<br>• Increased security for data protection<br>• Reduce burden on scientists to manage data<br>• Coordinated funding sources |
| *Conduct review of automated detection technology* | • Several efforts to advance technology<br>• Need to determine if technology is viable for application |

The SSWG supported the range of draft recommendations and provided additional ideas for Data Sub-Group tasking, including:

1. Identify strategies for the Council to support housing and updating final survey data tables used in annual specifications. Identify mechanisms to provide access to this information.
2. Identify potential approaches to conduct a peer-review of automated detection software technology and data products, as well as a roadmap for application of these tools.
3. Draft a recommendation to include in the SSWG final report related to increased support for an NEFSC HabCam centralized database.

4. Continue Data Sub-Group discussions about an overall scallop survey database, including details about what is included in the database, where it is housed and who is responsible to manage it, and identify possible resources to support data management.

The Data Sub-Group will next meet on March 31, 2022.

***TOR #3 – WIND IMPACTS***

Dr. Cate O'Keefe presented a summary and draft recommendations from the March 7, 2022 Wind Sub-Group Meeting (Table 2; Meeting Document #4). The SSWG considered the approach outlined in the "NOAA Fisheries and BOEM Federal Survey Mitigation Implementation Strategy – Northeast U.S. Region – DRAFT March 2022" document as a useful guide to address ToR #3.

Table 2. Wind Sub-Group DRAFT recommendations as updated by the SSWG.

| ***Recommendation*** | ***Rationale*** |
|---|---|
| *Inform Questions and Data Needed for Simulation Testing of Impacts and Mitigation Strategies* | • SSWG define questions to be answered, data sources needed, and implementation strategies (timing, funding, etc.) |
| *Implement a Survey Mitigation Program* | • Need to understand impacts from offshore wind on scallop survey and data products<br>• Should include simulation testing with SSWG identified inputs<br>• Need to maintain ability to track and monitor the scallop resource to support science and management |
| *Guidelines for Wind Company Surveys* | • Potential to inform requirements for wind company survey data collection protocols and generated data products<br>• Potential to leverage different survey methods |

The SSWG supported the range of draft recommendations and emphasized the importance of addressing the impacts offshore wind could have on scallop surveys. The SSWG provided additional ideas for Wind Sub-Group tasking, including:

1. Coordinate with ongoing NEFSC shellfish sampling design project, including SSWG members Drs. Paul Rago and Dvora Hart.
2. Recommendations for ToR #3 should consider broader ecosystem changes and resource dynamics, along with impacts from development of offshore wind.
3. Consider both short-term and longer-term impacts from offshore wind on the scallop survey and provide information about use of new tools in the future.
4. Use the "Scallop Survey Guiding Principles" to make recommendations for requirements of wind company monitoring surveys.

The Wind Sub-Group will next meet on April 8, 2022.

***SCALLOP SURVEY GUIDING PRINCIPLES:***

The SSWG reviewed the "DRAFT Scallop Survey Guiding Principles" document and provided updates to specific recommendations related to survey coverage, sampling types, intensity and frequency guidelines (Appendix 1).

The SSWG noted that a strength of the current survey system is the flexibility to support multiple independent estimates of scallop abundance, density, and biomass in specific resource areas. They highlighted that establishing guidelines for scallop surveys will be useful to assist in determining adequate coverage levels and sampling types and frequency, while allowing the flexible nature of the overall survey system to continue. The group discussed potential ways to integrate recommendations related to data standardization into the overall guidance. They also considered additional data that is collected through scallop surveys that may not be directly applied for scallop science and management, including habitat information, predator abundance, and other ecosystem indicators and recommended that efforts should be made to better utilize additional data across fishery and ecosystem needs. There was discussion on matching appropriate sampling tools, designs, and methods with specific conditions of survey areas. The SSWG discussed Council input related to developing of an overall structured survey design and suggested that additional attention is needed at upcoming meetings to respond.

The SSWG suggested that the Data Sub-Group provide additional details about 1) specific data that could be included in a centralized scallop database; 2) standardizing "additional" biological and environmental data fields; and 3) development of a metadata portal to describe data collected on scallop surveys.

***SCALLOP SURVEY COORDINATION STRATEGIES:***

The SSWG continued discussions of potential approaches to enhance coordination among survey partners. Mr. Peros presented a proposal for a new approach for RSA surveys focused on longer-term, effort-based awards. He provided a brief description of the current RSA process and timeline and highlighted challenges associated with setting survey priorities before actual survey coverage needs are known. The proposal for an effort-based approach would replace the current area-based RSA survey proposals and allow flexibility for longer (3-5 years) awards. The concept includes awarding individual survey groups a specified amount of annual effort with specific survey areas to be determined when coverage needs are known, later in the summer/fall.

The objectives of an effort-based RSA approach include:

- Addressing the disconnect between RSA priorities and proposals and survey needs;
- Increased flexibility to match surveys with science and management needs as described in the Scallop Survey Guiding Principles;
- Reducing the required resources to support annual grants, including proposals, reviews, and general administration;
- Ensuring that all survey partners, including NEFSC, have input to survey design and research interests;
- Provide support for survey groups to continued focused research efforts;
- Match survey tools to specific area conditions;
- Align RSA surveys with NEFSC survey planning to move away from the NEFSC gap-filling approach.

The SSWG was generally supportive of the effort-based RSA concept and highlighted the potential for increased efficiencies in all aspects of the RSA program. Mr. Ryan Silva advised that this type of approach would be feasible for the RSA program, while still maintaining the competitive grant structure. The SSWG suggested forming a sub-group to advance the concept and provide additional details on how an effort-based RSA survey program would be implemented. The SSWG will consider the concept in more depth at future meetings and determine if they want to include a recommendation to implement an effort-based RSA approach in the final report.

***SSWG WORK PLAN, TASKING AND MEETING SCHEDULE:***

Dr. O'Keefe presented next steps for the SSWG work plan and future meetings. The Council supports extending the SSWG efforts through the summer with a final report delivered at the September Council meeting. The SSWG is planning for three additional meetings, the first will be a virtual meeting on May 3rd, followed by an in-person meeting in July, and a final virtual meeting to review the report in August. Several additional sub-group meetings are planned in late March and April to support continued recommendations for the ToRs.

***ADJOURN***

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

# APPENDIX 1

## DRAFT Scallop Survey Guiding Principles
## March 2022

SSWG Recommendations for Scallop Survey Guiding Principles

The SSWG recommends that the Council and NEFSC adopt Scallop Survey Guiding Principles to inform survey-related decision-making, RSA priorities and program adaptations, and future science and management efforts and advice. This is intended to be a living document that provides guidance for surveys and data products for long-term use. The guidance may be considered and applied to align with SSWG recommendations on scallop survey coordination strategies, and the Council and NEFSC may consider the appropriate implementation timing and administrative oversight related to the guidelines.

The rationale for recommending adoption of the Scallop Survey Guiding Principles is to ensure adequate survey coverage, sampling types, intensity, and frequency needed to generate data products to support scallop science and management, while maintaining the flexibility of the survey system to continue supporting independent estimates of abundance, density, and biomass from survey partners.

The SSWG recommends the following guidelines:

*Survey Coverage:*

- The entire scallop resource and fishery footprint should be surveyed annually with a minimum of one survey, preferably with multiple surveys to include dredge and optical tools.
- Areas outside of the currently known scallop resource and fishery footprint should be surveyed regularly on a longer-term time step, as informed by the Scallop Plan Development team, scallop survey partners, and the scallop fishing industry.
- The Northern Gulf of Maine management area and Gulf of Maine resource area should be included in regular survey coverage.
- Survey coverage determination must consider areas of current and future offshore wind energy development.

*Types of Sampling*

- Samples required from all resource and fishery areas include biological samples, counts and measurements, additional biological and environmental information
- Efforts should be made to increase utilization of data products that are not directly applied to scallop science and management (e.g., ecosystem monitoring, habitat types, predator abundance and distribution) and a metadata portal should be developed to outline the existing data types
- Efforts should be made to match appropriate sampling tools, designs, and methods with specific conditions of survey areas (e.g., habitat type, gear conflict regions, wind farm areas)

*Sampling Intensity and Frequency*

- Underlying conditions of specific areas should be considered to determine required sampling levels (e.g., rotational areas, recruitment and cohort tracking, scallop abundance and density, scallop condition factors, disease and predator prevalence).
- Consider methods to determine the appropriate annotation rate for HabCam surveys.
- Annual surveys should be conducted on multiple scales with higher sampling intensity directed to priority areas.
- Consider objectives in both the pre-survey planning phase (i.e., optical track allocation, dredge sampling locations within strata, importance of multiple survey methodologies), as well as post-survey analysis phase (i.e., algorithm for appropriate sampling rate).

| ***Recommendation*** | ***Implementation*** | ***Rationale*** |
|---|---|---|
| ***Implement Scallop Survey Guiding Principles*** | • NEFMC and NEFSC adopt principles identified by SSWG to inform survey-related decision-making, RSA priorities and program adaptations, and future science and management efforts and advice.<br>• Intended to be a living document that provides guidance for surveys and data products for long-term use.<br>• Guidance may be applied to align with the Scallop Survey Coordination Strategies<br>• NEFMC and NEFSC should consider appropriate implementation timing and administrative oversight (e.g., immediate vs. long-term application, PDT tasking, RSA process) | • Support scallop science and management<br>• Continue independent estimates of abundance, density, and biomass while matching appropriate tools/methods to survey areas<br>• Ensure adequate survey coverage, sampling intensity, frequency, and sample types needed to generate data products to support annual management and stock assessments<br>• Evaluate strategies to enhance survey design |
| *Survey Coverage* | • Entire scallop resource and fishery footprint should be surveyed annually with minimum of one survey, preferably with multiple surveys to include dredge and optical tools<br>• Areas outside of the currently known scallop resource and fishery footprint should be surveyed regularly on a longer-term time step, as informed by the Scallop PDT, survey partners, and scallop fishing industry<br>• NGOM management area and Gulf of Maine resource area should be included in regular survey coverage<br>• Survey coverage determination must consider areas of current and future offshore wind energy development | |
| *Types of Sampling* | • Samples required from all resource and fishery areas should include biological samples, counts and measurements, additional biological and environmental information<br>• Efforts should be made to increase utilization of data products that are not directly applied to scallop science and management (e.g., ecosystem monitoring, habitat types, predator abundance and distribution) and a metadata portal should be developed to outline the existing data types<br>• Efforts should be made to match appropriate sampling tools, designs, and methods with specific conditions of survey areas (e.g., habitat type, gear conflict regions, wind farm areas) | |
| *Sampling Intensity and Frequency* | • Underlying conditions of specific areas should be considered to determine required sampling levels (e.g., rotational areas, recruitment and cohort tracking, scallop abundance and density, scallop condition factors, disease and predator prevalence).<br>• HabCam data needs to be spatially auto-correlated to perform geostatistics. Consider methods to determine the appropriate annotation rate for HabCam surveys.<br>• Annual surveys should be conducted on multiple scales with higher sampling intensity directed to priority areas. | |

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|---|---|
| | • Consider objectives in both the pre-survey planning phase (i.e., optical track allocation, dredge sampling locations within strata, importance of multiple survey methodologies), as well as post-survey analysis phase (i.e., algorithm for appropriate sampling rate). |