

New England Fishery Management Council Scallop Survey Working Group

April 9, 2021

The meeting will begin at 9:00 a.m.

If you are having any problems participating, please email Sam Asciasci@nefmc.org or call Cate O'Keefe at 978-766-0536

Welcome and Overview

Council Executive Director Tom Nies

- Scallop Survey Working Group (SSWG) Council website:
 - <https://www.nefmc.org/committees/scallop-survey-working-group>
- Purpose:
 - Facilitate collaboration around integrated approaches to conduct scallop surveys that support stock assessments and management
 - Explore mechanisms to implement approaches

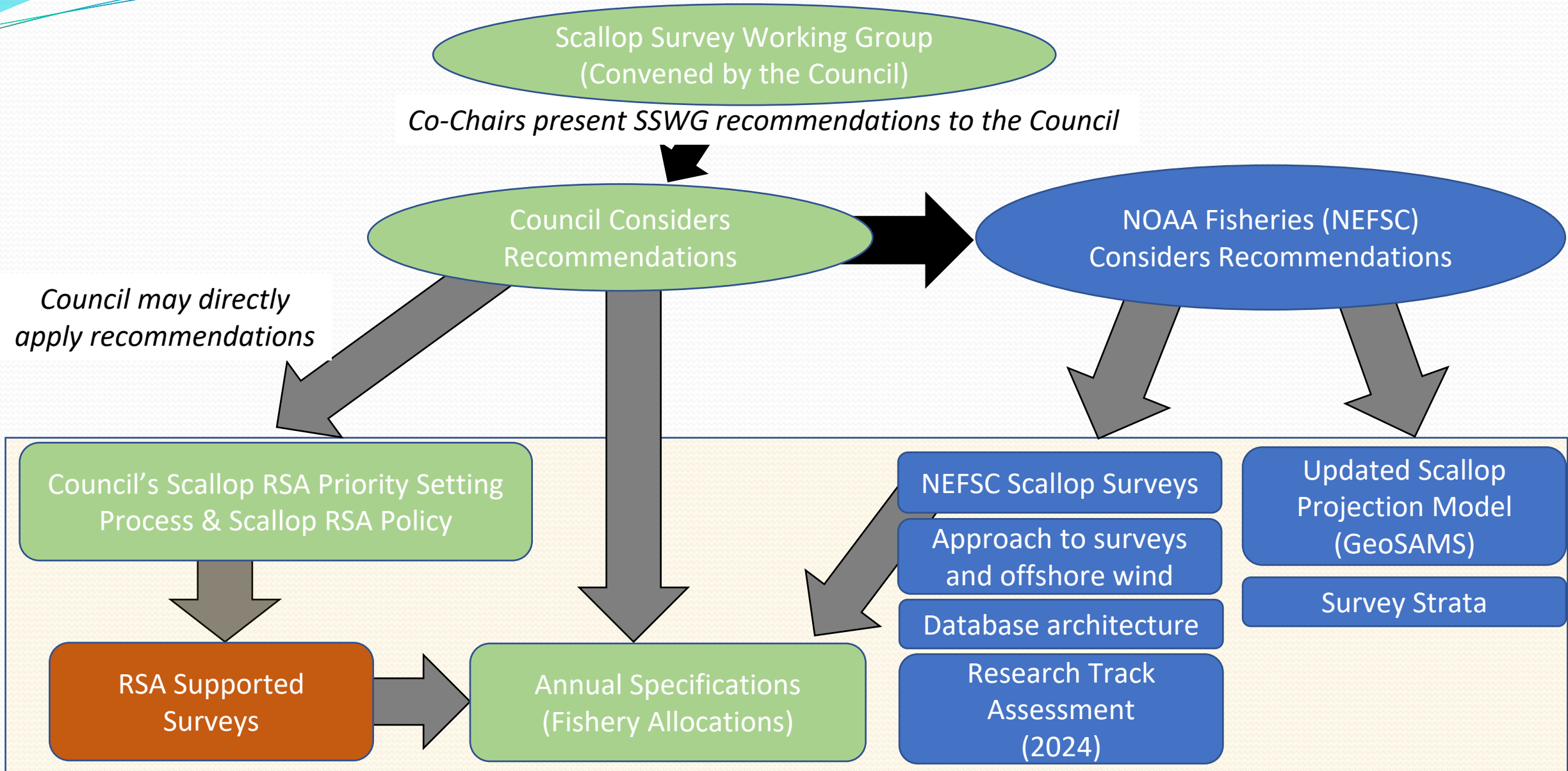
SSWG Scope

- SSWG is not intended to operate as a peer-review process
- Survey methodology was previously addressed by the 2015 Scallop Survey Peer Review
- Advanced statistical approaches are not included in the SSWG TORs
- Fundamental RSA grant program structure and processes are not included in the SSWG TORs

Applying SSWG Recommendations

- SSWG is Step 1 in a multi-step process that will involve the Council, NMFS, and each survey partner
- The solution is not predetermined
- SSWG recommendations will be considered as a roadmap for next steps

Recommendations



Welcome and Overview

Science Center Director Dr. Jon Hare

- NEFSC correspondence to the Council in September 2019 and a perspective on the Scallop Survey Peer Review
- Likely disruption of offshore wind development on scallop surveys and monitoring operations
- Outlook on longer term scallop survey and assessment planning



Instructions for GoToWebinar Remote Participation

If you are having any problems participating, please email Sam Asci
sasci@nefmc.org or call Cate O'Keefe at 978-766-0536

NOTE:

In order to participate in the meeting, you must register for the webinar. Those who call in without registering will not receive an access code or audio pin, meaning there will be no way for us to “unmute” you.

If you do not register for the webinar, you will not be able to comment or participate in the meeting.

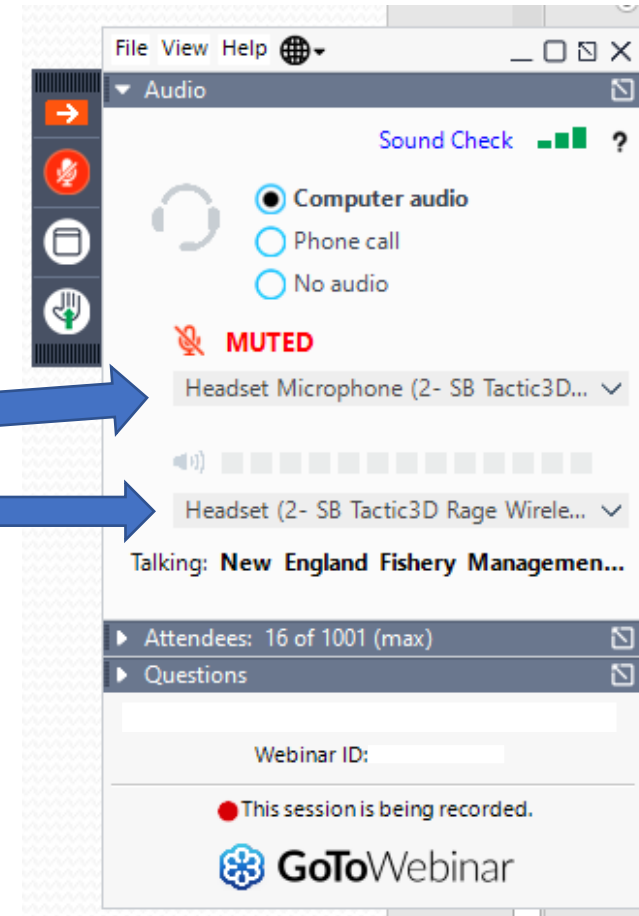
The meeting will be recorded, recordings are available upon request to the Council.

Using Computer Audio (best option)

(Once you have joined the webinar)

- Select the microphone and speaker

options that correspond with your computer

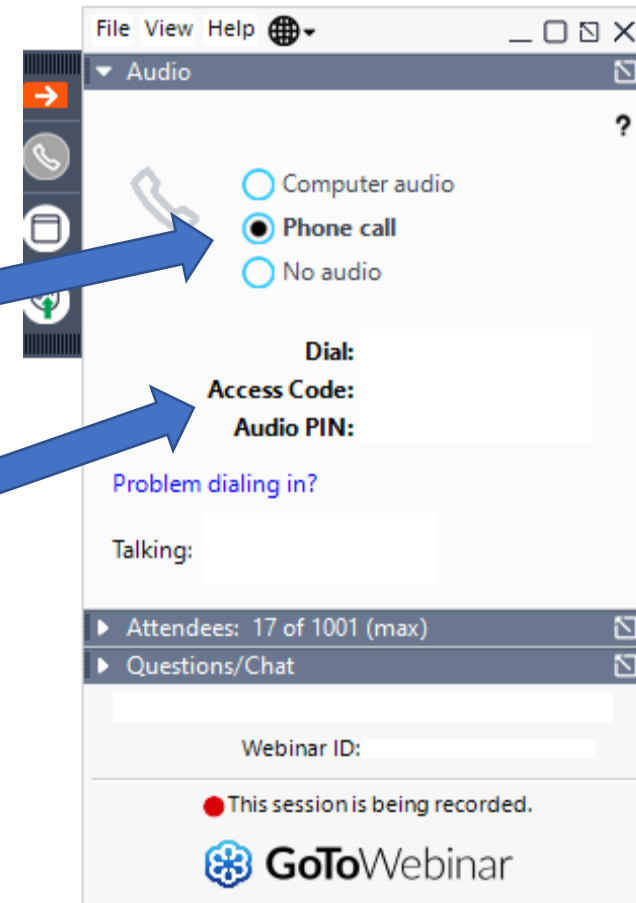


Using Phone Audio

(Once you have joined the webinar)

- *In Audio Settings box, select **“Phone call”***
- *Then, using your phone, call the number provided **here** and enter the Access Code/Audio PIN numbers when prompted*

enter Access Code/Audio PIN on your phone

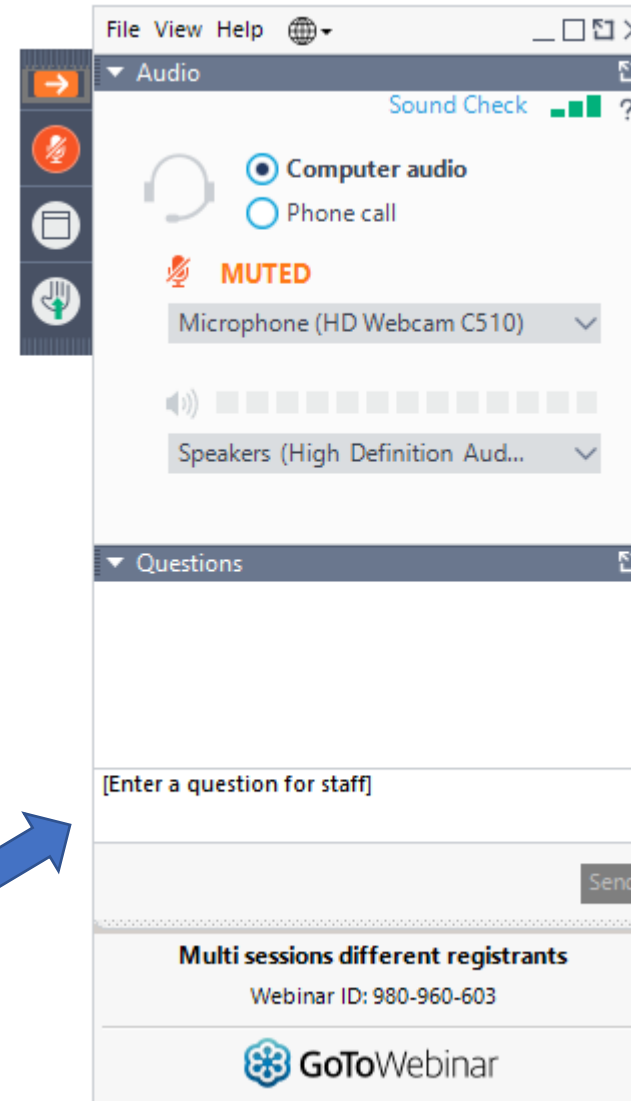


Your Audio PIN is unique to you—do not share it with others

Raising your hand

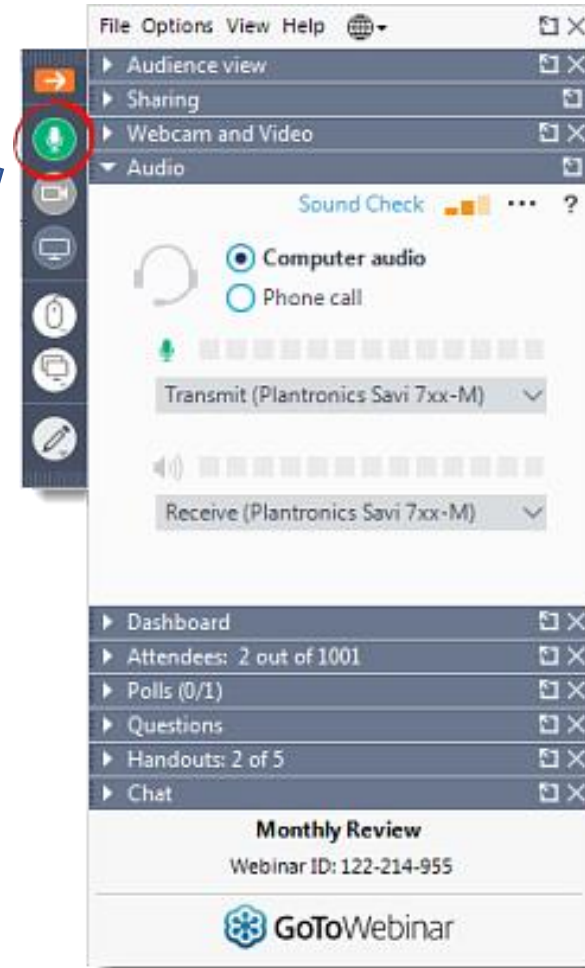
- If you would like to take part in discussion/ask question, click the **“Raise hand”** button, **here**
- Click again when you are done speaking to lower your hand
- (**RED** means hands is raised, **GREEN** means it is down)
- You can also let us know if have technical issues by stating so in the **“Questions”** box, **here.**

Please reserve the Questions box for this purpose.



Mute/Unmute

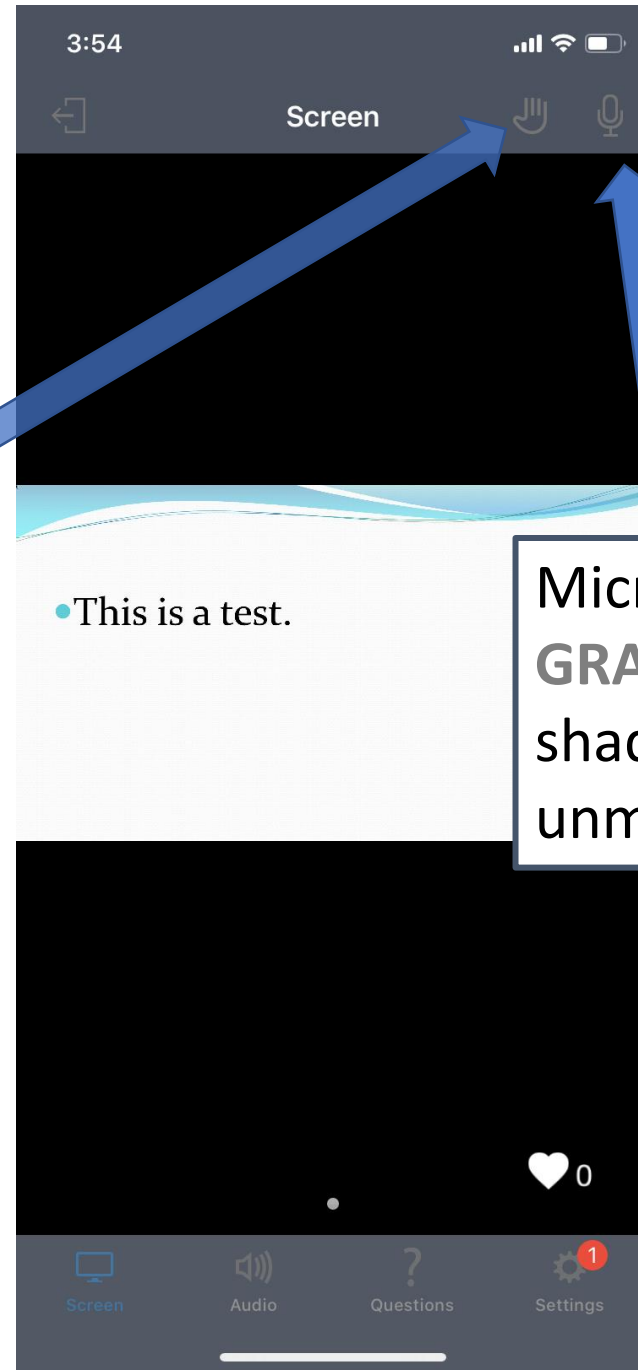
- When you are called on to speak, you must unmute yourself by clicking the “microphone” button **here**
- *If you are unmuted, the microphone symbol will be **GREEN**, if you are muted it will be **RED***
- *We will tell you when you are clear to speak.*
- *Please mute yourself when you are done speaking*



GTW on iPhone/iPad

- The “raise hand” and mute/unmute functions work the same if you are using the GoToWebinar app on an iPhone or iPad.

“Raise hand” will be **GRAY** when hand is down, shaded **BLUE** when hand is raised



Microphone will be **GRAY** when muted, shaded **BLUE** when unmuted

Introductions



Dave Bethoney



Han Chang



**Peter Chase
Co-Chair**



**Bill DuPaul
Co-Chair**



Scott Gallager



Dvora Hart



Chad Keith



Paul Kostovick



Andy Lipsky



Amber Lisi



Roger Mann



Drew Minkiewicz



Tasha O'Hara



Jonathon Peros



Paul Rago



Dave Rudders



Liese Siemann



Ryan Silva



Kevin Stokesbury



Sam Ascii



Cate O'Keefe



Jessica Joyce

Meeting Norms – Please,

- Be recognized before speaking
- Treat everyone with respect
- Allow others to be heard
- Engage each other's thoughts, ideas and opinions
- Stay focused on the topic under discussion
- Minimize distractions
- Share responsibility for success
- Make your contributions concise

Meeting Agenda

- **Meeting Objectives**

- Initiate Scallop Survey Working Group (SSWG)
- Define SSWG scope of work (Terms of Reference - TORs) and member roles
- Begin developing SSWG work plan

- **Meeting Deliverables**

- Feedback and recommendations on the Draft TORs
- Preliminary timeline and work plan for SSWG and sub-groups
- Preliminary list of topics and deliverables for next meeting (summer/October)

Meeting Agenda

- 9:20am Introductions, Agenda Review
- 10:00 SSWG Overview and Questions
- 10:30 *Break*
- 10:45 **Public Comment**
- 11:00 Presentation of Draft TORs
- 11:30 SSWG Discussion on Draft TORs
- 12:30pm *Lunch Break*
- 1:15 SSWG Discussion on Draft TORs – Continued
- 2:45 *Break*
- 3:00 **Public Comment**
- 3:15 SSWG Work Plan, Sub-Groups, and Next Steps
- 3:30 Closing Remarks
- 3:45 Adjourn

Statement of Organization, Practices, Procedures (Doc. #4)

- Organizational Structure
 - Working Group of the Council
 - Government and non-government experts
 - Provide recommendations in response to TORs
 - Recommendations not binding
 - Sub-groups established by Co-Chairs
- Working Group Roles
 - Co-Chairs responsible for conducting meetings and presenting to Council
 - Members responsible to contribute to full working group and sub-groups
 - Facilitators assist to support working group meetings and activities

SSWG Process

- SSWG activities over 12-15 months, completed July 2022
 - 2021: April, July (half-day), October, December
 - 2022: February, April, May (if needed)
- Co-Chairs, Council staff, facilitators will convene 5 or 6 meetings of SSWG
- Sub-groups to address specific topics in TORs
 - Meet and communicate between full SSWG meetings
 - Progress tracked and reported to full SSWG
- SSWG Co-Chairs will present recommendations to the Council
- Council will share recommendations with NEFSC

SSWG Questions

- Questions/Comments on Objectives, Process, Scope
- Please use “Raise Hand” function
 - Co-Chairs will call on you in order
 - Unmute yourself to speak
 - Re-mute after speaking
 - Facilitators will “Lower Hand”

New England Fishery Management Council Scallop Survey Working Group

April 9, 2021

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resume at ## a.m.**

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Public Comment

- Council is making efforts to allow members of the public to participate in all SSWG meetings
- Individuals are encouraged to submit written comments in advance:
 - Council Chair or Executive Director (comments@nefmc.org)
 - SSWG Facilitator (okeefe@fisheryapps.com)
- At Co-Chairs discretion, public comments may be allowed during portions of SSWG meetings
- All comments/questions will be maintained as part of the SSWG record and may be considered by the SSWG throughout the process

Public Comment – 15 Minutes

Please state your name and affiliation

Please use the Hand Raise function and wait to be called

Submissions in the Question Box will be compiled post-meeting

Public comments will be taken during SSWG meetings as time allows and can be submitted to Cate O’Keefe (okeefe@fisheryapps.com) anytime throughout the SSWG process



Draft Terms of Reference (Doc. #5)

- Draft TORs were developed by SSWG Co-Chairs with input from Council and NOAA staff
- Overview of TORs
- Followed by discussion/questions for each TOR by SSWG:
 - General feedback
 - Capacity: can SSWG address each TOR in project timeline?
 - Sub-group interest
 - Elements:
 - Is the TOR accurate and complete (revisions)?
 - Is anything missing (additions)?
 - Does anything seem out of place or redundant (deletions)?

Term of Reference #1

- **Describe current survey (dredge and optical) methods, design, and data products.**
 - *This TOR will include descriptions of the current survey system, including survey tools and methods, the process used to determine annual spatial coverage, 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. Much of this information has previously been compiled through various Council and assessment related activities.*
 - *Additionally, this TOR will include a description of 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, as identified by the SSWG.*

Term of Reference #2

- Investigate opportunities for pursuing an overall strategic approach for sea scallop resource assessment surveys. Address each of the following areas, and make recommendations when appropriate:
 - 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;
 - Council 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:

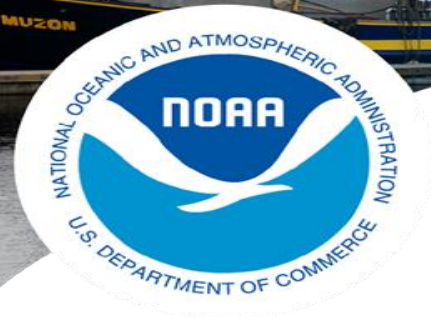
- *Assess the current status and document current challenges*
- *Discuss and assess an optimal strategy*
- *Investigate opportunities and methods to implement strategies across all survey groups*

Term of Reference #3

- **Within the context of an overall strategic approach for sea scallop surveys, identify and recommend existing and new survey methods, tools, and designs to address the impacts of offshore wind and climate change.**
- *This TOR will include, but not be limited to, the following items:*
 - *Description of the likely impacts of offshore wind and climate change on the current survey domain and methods on a present, 5, and 10 year timescale.*
 - *Consider the needs of regional surveys for population assessments and addressing any changes in stock/habitat parameters.*

Term of Reference #4

- Identify and catalogue the survey data products needed to support stock assessment approaches in the future.
- *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 and gonad weight sampling*
 - *Describe a spatially explicit methodology for forecasting the abundance and distribution of sea scallops by incorporating spatial data from surveys, landings, and fleet effort*
 - *Outline a process for modifying the survey strategy in the future to support assessments.*



**NOAA
FISHERIES**

Northeast Fisheries Science Center

Overview of Offshore Wind Energy & Scallop Surveys

Andy Lipsky, NOAA Northeast Fisheries Science Center

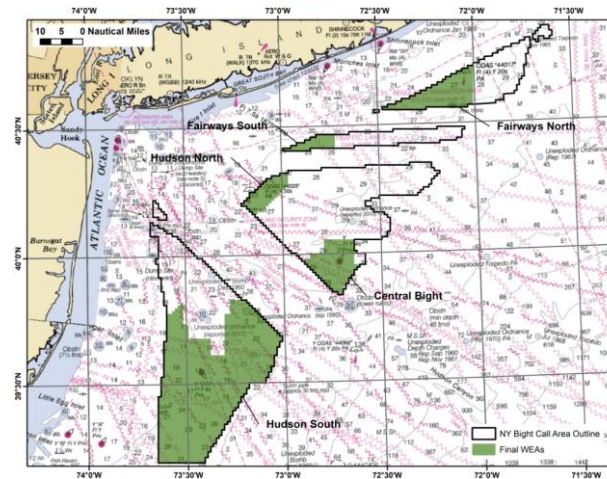
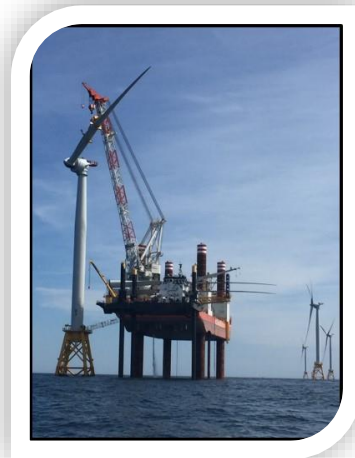
Phil Politis, NOAA Northeast Fisheries Science Center

Anna Mercer, NOAA Northeast Fisheries Science Center

Douglas Christel, NOAA Greater Atlantic Regional Fisheries Office

Talya ten Brink, NOAA Greater Atlantic Regional Fisheries Office

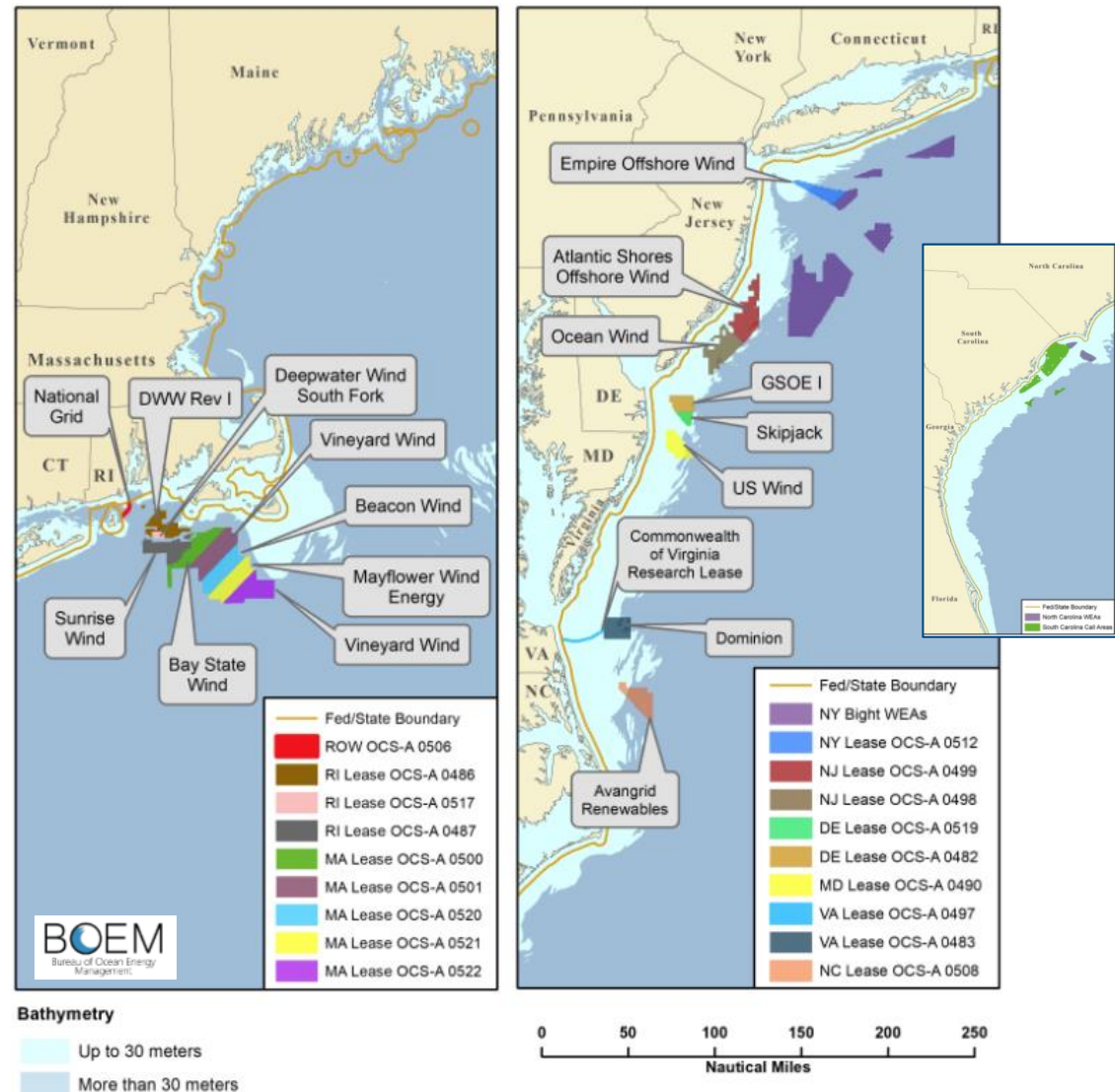
Presentation to the
Scallop Survey Working Group
April 9, 2021



NOAA FISHERIES

Offshore Wind Development Status

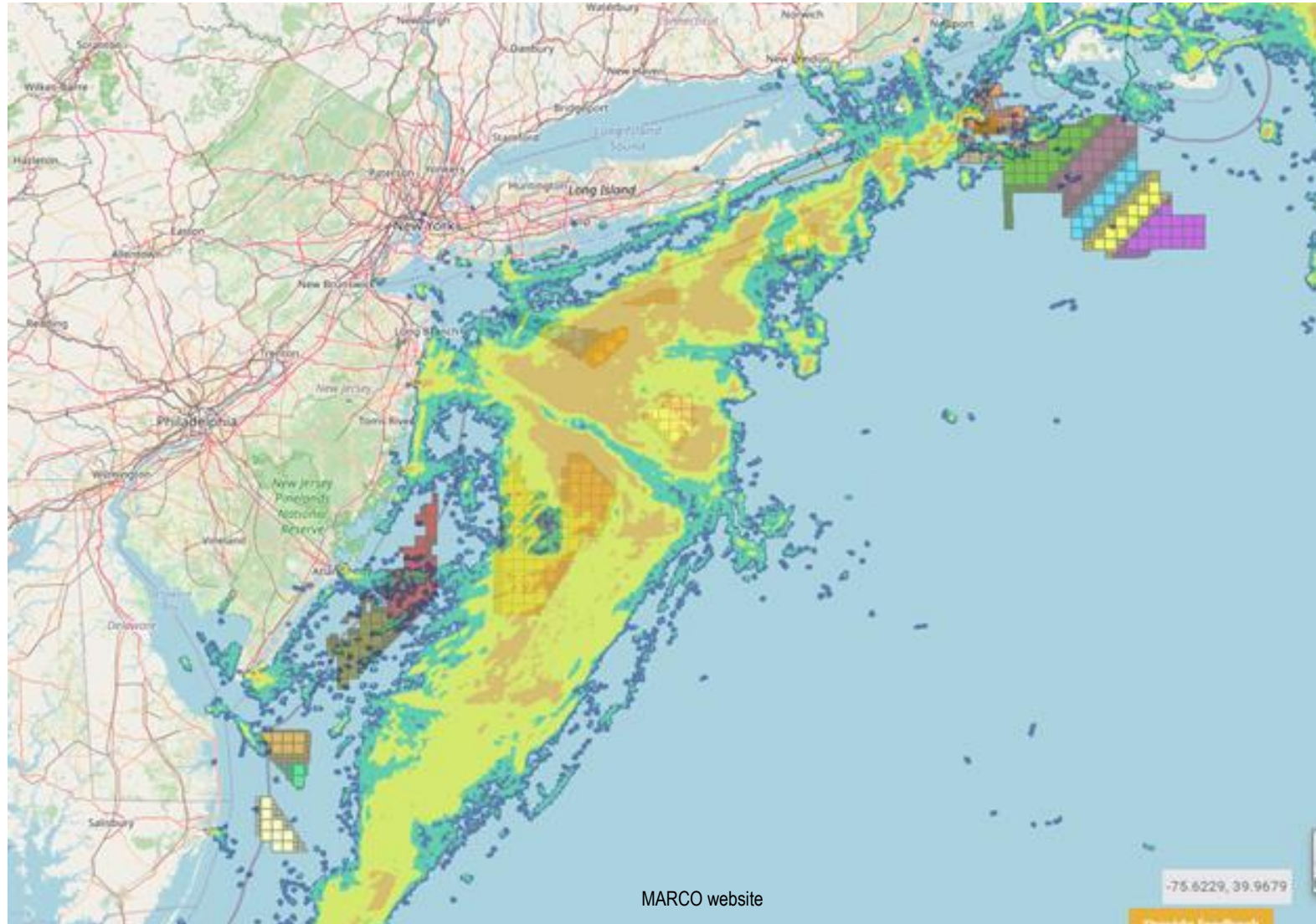
- U.S. Goal Set for 30 GW of offshore wind power by 2030
- U.S. Goal Set for 110 GW of offshore wind power by 2050
- **New Wind Energy Areas** now established in NY Bight- Adds **800,000 acres** to existing **1.7M** acres of leases
- Notice of Intent to proceed with **16 Construction and Operations Plans/EISs** by 2025
- 16 Record of Decisions by the end of 2024
- We anticipate 7-9 concurrent project regulatory actions within the next 12 months



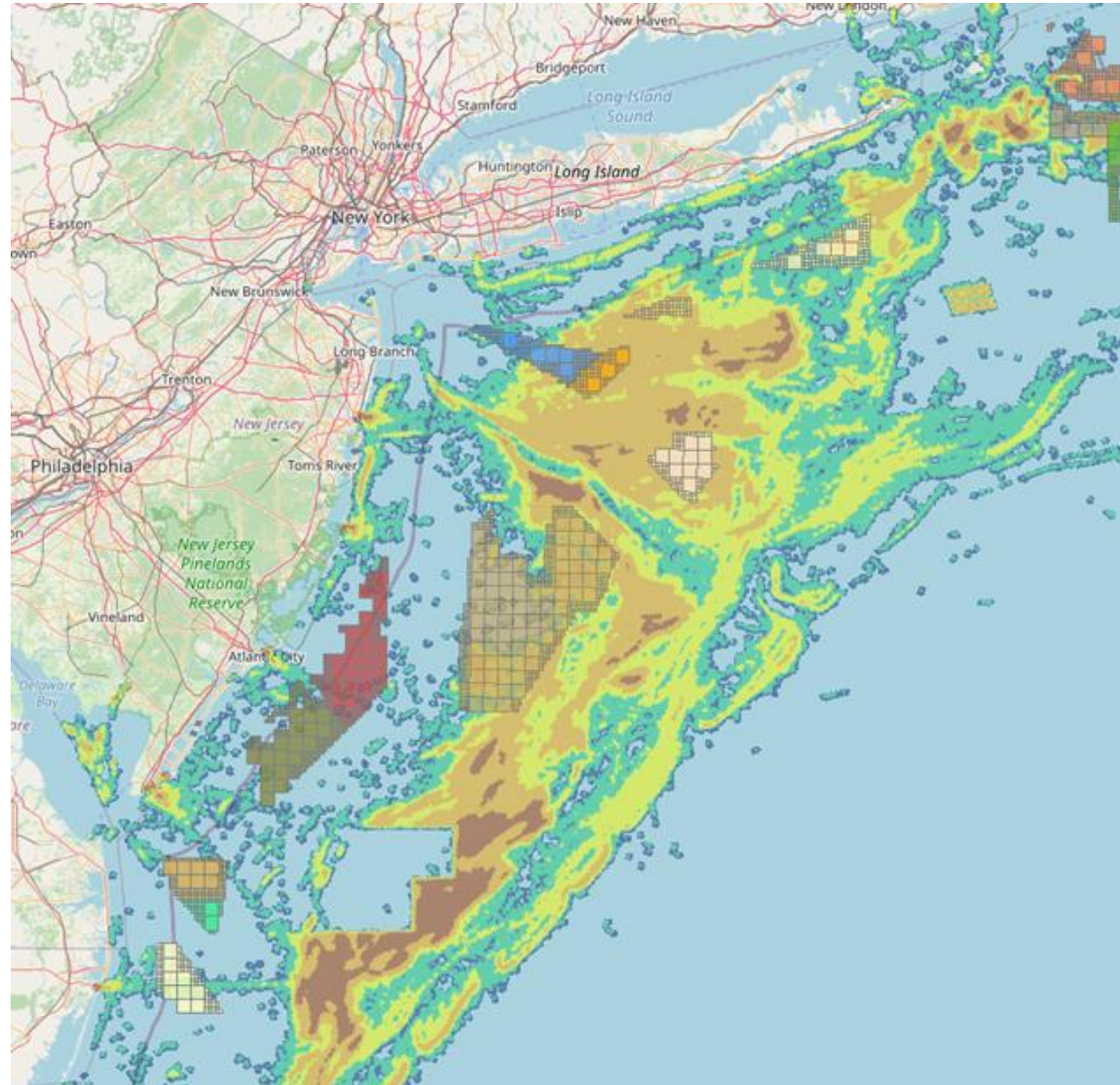
<https://www.boem.gov/renewable-energy/mapping-and-data/renewable-energy-gis-data>



Scallop VMS activity (<5 knots) 2011-2014



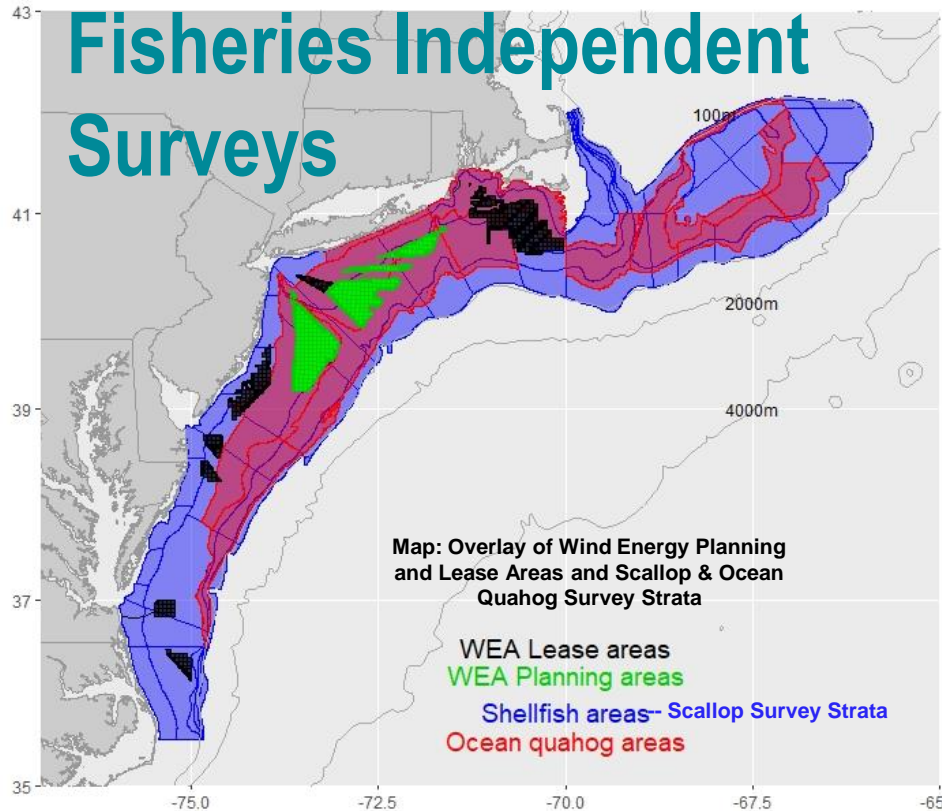
Scallop VMS activity (<5 knots) 2015-2016



Offshore Wind-NMFS Resource Demands

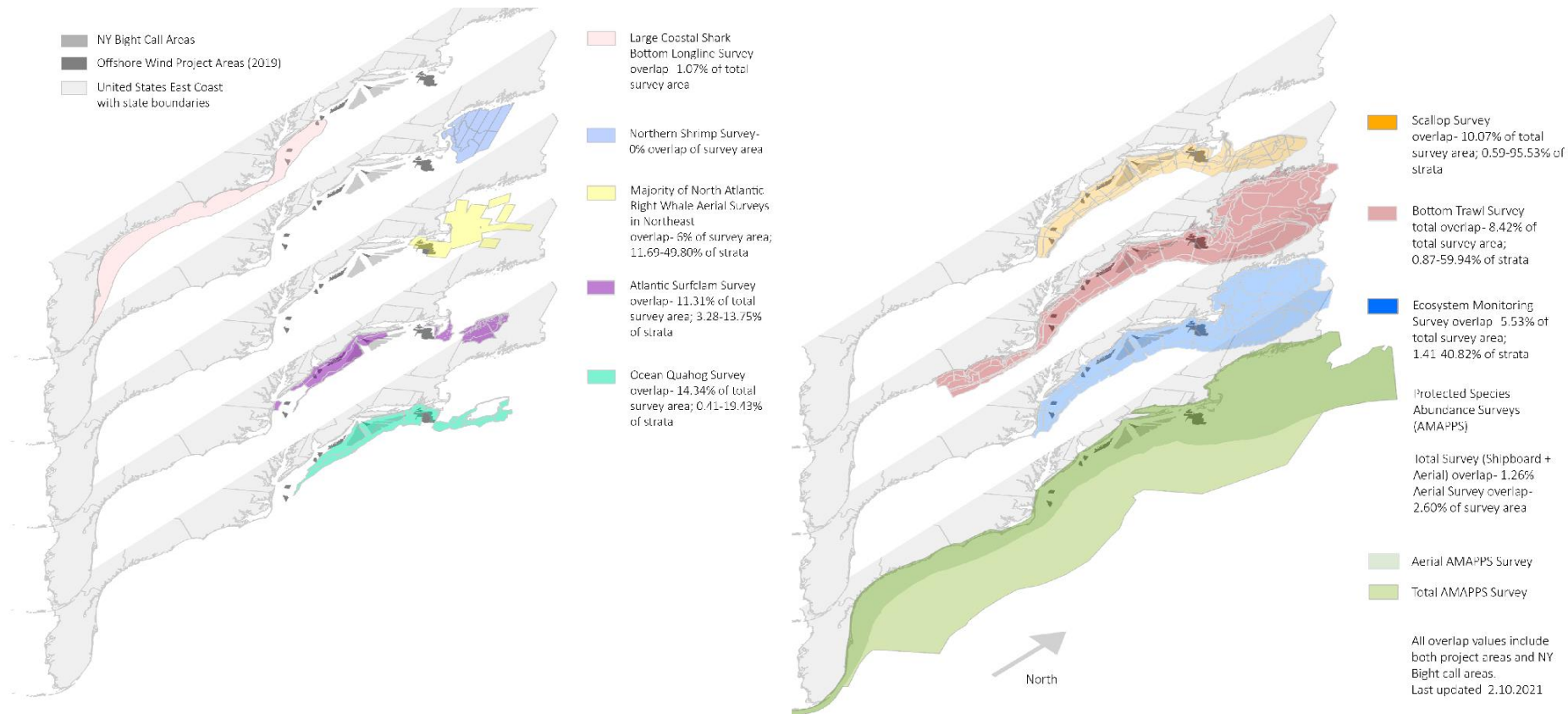
- 1. Support Regulatory Process- MSA, ESA, & MMPA**
- 2. Scientific Support to Regulatory Process**
- 3. Mitigating Impacts to scientific surveys and assessments**
- 4. Advance Scientific Understanding on the interactions of wind with fisheries and protected species & ecosystem**

Offshore Wind & Fisheries Independent Surveys



Survey	Year Started	Survey Design	Major Applications
Autumn Bottom Trawl Survey	1963	Random Stratified Design - North Carolina to Nova Scotia (bottom trawl)	abundance; length, age, sex, weight, diet, maturity samples, distribution, EcoMon
Spring Bottom Trawl Survey	1968	Random Stratified Design - North Carolina to Nova Scotia (bottom trawl)	abundance; length, age, sex, weight, diet, maturity samples, distribution, components of Ecosystem Monitoring survey
Scallop Survey	1979	Random Stratified Design (dredge); line transect (HabCam)	biomass, abundance, distribution, size and sex of sea scallops and other benthic fauna
Atlantic Surfclam and Ocean Quahog Surveys	1980	Random Stratified Design (hydraulic dredge)	biomass, abundance, distribution, size and sex of Atlantic surfclam and ocean quahog
Northern Shrimp Survey	1983	Random Stratified Design (commercial shrimp trawl)	biomass, abundance, length
Gulf of Maine Cooperative Bottom Longline Survey	2014	Randomly Stratified Design (bottom longline)	abundance, biomass, length, age, sex, weight, maturity samples, distribution, habitat data
Ecosystem Monitoring Survey	1977	Random Stratified Design (linked to Trawl Survey Design); fixed stations embedded in design (plankton and oceanographic sampling)	Phyto/nkton, zooplankton, ichthyoplankton, carbonate chemistry, nutrients, marine mammals, sea birds
North Atlantic Right Whale Aerial Surveys	1998	Aerial line transects	Right Whale population estimates; dynamic area management
Marine mammal and sea turtle ship-based and aerial surveys	1991	Line transects for ship and aerial surveys. biological and physical oceanography sampling	Abundance and spatial distribution of marine mammals, sea turtles, and sea birds
Large Coastal Shark Bottom Long-line Survey	1986	Fixed station design in US continental shelf waters from FI to DE with stations ~ 30 nm apart	Abund., distribution, migrations (tagging), and bio-sampling for assessment, EFH designations, and life history studies
Coop. Atlantic States Shark Pupping and Nursery Longline/Gillnet Survey	1998	Random stratified and fixed station (longline and gillnet) surveys in estuarine and nearshore waters from Florida to Delaware	Abundance, distribution, migrations (tagging), and bio-sampling for assessment, EFH, and life history studies

NMFS-Core Surveys in Southern New England & Mid-Atlantic



Does not include Gulf of Maine Cooperative Bottom Long-line Survey Line Survey, Apex Predators Inshore COASTSPAN Survey
Map now out of date with NY Bight WEA's announcement



Wind Energy Actuates Impacts to Scientific Surveys in Four Ways:

1. **Preclusion-** displacement by infrastructure
2. **Impacts to Statistical Survey Design**
3. **Habitat Change** that affect species distribution, abundance, and vital rates within and outside wind energy areas
4. **Impacts to sampling** outside of developments by wind energy- induced transit effects that can result in lost sampling time

Implications of NOAA Fisheries Survey Disruptions

American Public

- Adverse impacts on fishermen and fishing communities and American public who consume seafood and expect recovery and conservation of endangered species and marine mammals

Commercial/Recreational Fishermen & Fishing Communities

- Increase uncertainty in estimates of abundance—through application of the precautionary approach—impacting setting of quotas,
- Increase in more precautionary protected species management measures

Protected Species

- Greater uncertainty in protected species assessments/recovery programs

Non-fishing Sectors-Shipping & Energy

- Uncertainty in protected species information and stock assessments

Federal Agencies

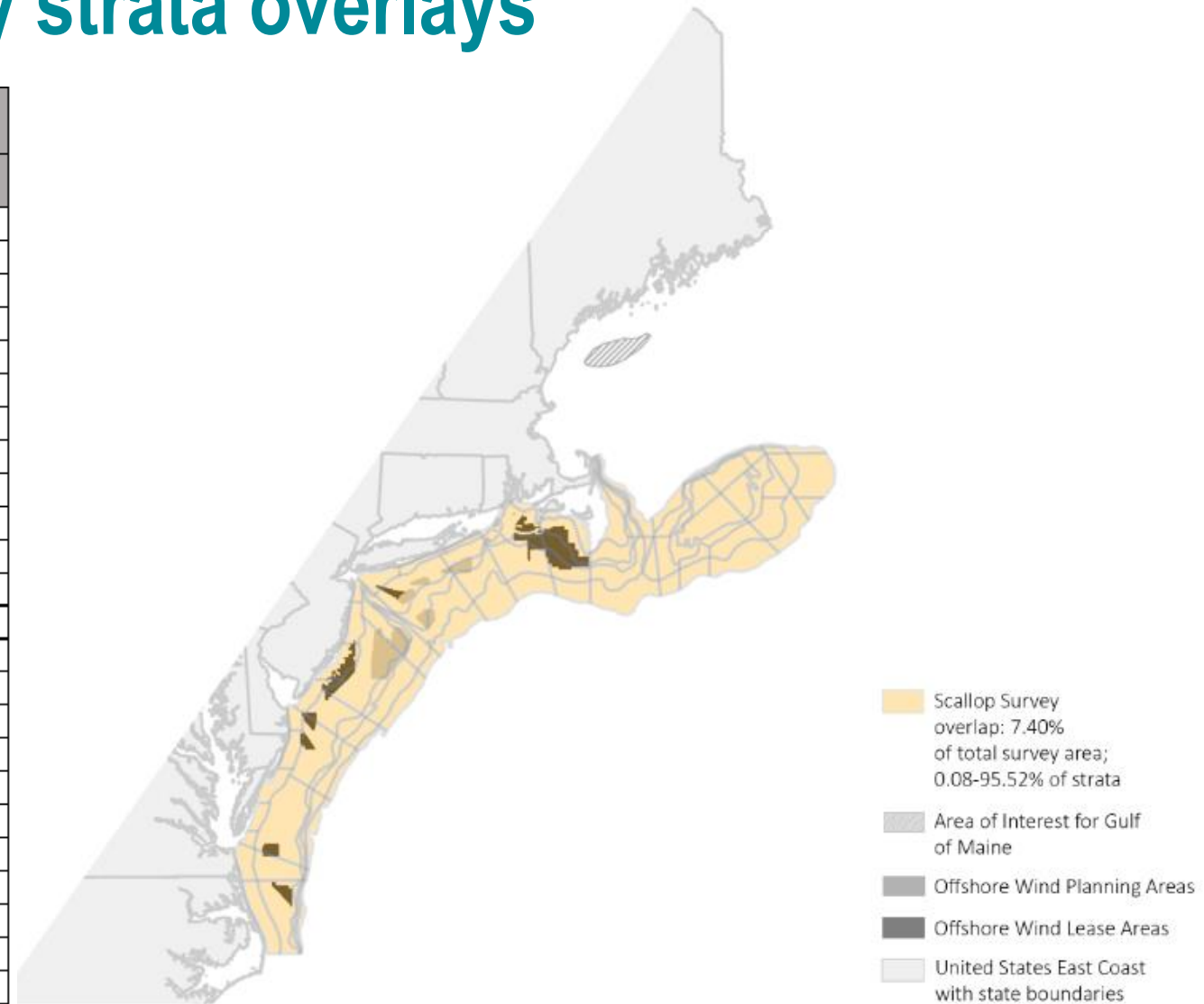
- Harm caused by the need to include more precautionary mitigation measures, e.g., Incidental Take Statements (ITA) through ESA Biological Opinions and MMPA ITAs

Climate Science

- Disruptions of 40+ year time series decreases ability to understand and mitigate the effects of climate change, impacting American Public

Scallop survey strata overlays

Scallop Strata	% Overlap
	Includes total overlap of all Project Areas and NY WEA
6330	0.1
6270	0.1
6350	0.6
6890	0.9
6050	2.5
6910	2.5
6860	2.9
6310	4.3
6390	4.5
6850	6.0
6090	6.2
6170	8.6
6300	9.3
6220	10.3
6130	12.2
6010	12.7
6290	15.9
6870	18.1
6260	19.5
6370	21.4
6250	23.1
6210	33.5
6430	33.5
6880	41.4
6410	42.7
6340	43.0
6380	55.6
6420	95.5



Implementing a Federal Survey Mitigation Program

1. **Evaluate survey designs:** Evaluate and quantify effects and impacts of proposed project-related wind development activities on scientific survey operations and on provision of scientific advice to management.
2. **Identify and develop new survey approaches:** Evaluate or develop appropriate statistical designs, sampling protocols, and methods, while determining if scientific data quality standards for the provision of management advice are maintained.
3. **Calibrate new survey approaches:** Design and carry out necessary calibrations and required monitoring standardization to ensure continuity, interoperability, precision, and accuracy of data collections.
4. **Develop interim provisional survey indices:** Develop interim indices from existing data sets to partially bridge the gap in data quality and availability between pre-construction, and operational periods while new approaches are being identified, tested or calibrated.
5. **Wind energy monitoring to fill regional scientific survey data needs:** Apply new statistical designs and carryout sampling methods to effectively mitigate survey impacts due to offshore wind activities from operations for the 30 year operational life-span of project developments.
6. **Develop and communicate new regional data systems:** New data collections will require new data collection, analysis, management, dissemination and reporting systems. Changes to surveys and new approaches will require substantial collaboration with fishery management, fishing industry, scientific institutions and other partners.

Current Status of Project Level Efforts

- NEFSC is in the *initial* planning phases
- NMFS Inter-agency agreement with BOEM
 - Develop a strategy to mitigate wind energy areas impact on NEFSC Multispecies Bottom Trawl Survey
 - Soliciting contractor & Cooperative Institute for North Atlantic Region support
 - Planning for 2 stakeholder workshops in 2021 to develop modeling framework to evaluate survey impacts and alternative methods through simulation
- Investigating options for supplemental bottom trawl survey efforts on smaller industry vessels capable of operating inside wind energy areas
- Scallop Survey Strategy-**TODAY**

Example Approach: Bottom Trawl Survey Adaptation Strategy

- Determine effects of WEA's on survey data, stock assessments and management measures.
 - Evaluate range of impacts (eg. Eliminate all observations from WEAs and recalculate abundance indices)
 - Must look at over 40 assessed stocks for bottom trawl survey
- Identify potential combination(s) of sampling methodologies and statistical designs for inside WEAs
 - Results should be able to be incorporated with historical and existing sampling for continuity of time-series
- Observing System Simulation Experiments (OSSE) and/or other modeling approaches
 - Stakeholder workshops in 2021
 - Identify impacts of offshore wind energy development on fisheries
 - Impacts on stock assessment and management advice
 - Define the objectives and questions that OSSE needs to answer
 - Design analytic and empirical framework
- Build Model, evaluate alternatives, identify survey adaptation actions



Scallop Survey Strategy & Wind Development Considerations

Understanding interactions of wind and Atlantic scallops/habitat?

- Literature on scallops and offshore wind interactions is thread-thin bare
 - Torre and Chen (2019)--Ensemble Species Distribution modeling framework
 - Chen et al. (2020) Offshore Wind on regional scallop larval and early juvenile transport
- Literature on shellfish and offshore interactions is also relatively small with most focus on lobster/crabs
- Changes in habitat and other impact producing effects on scallop life stages and habitat (oceanography, aggregation effects, benthic habitat changes?)

Advancing new/existing survey designs and methods capable of sampling within wind development areas

Interactions with scallop fisheries- displacement effects



SSWG Discussion - Terms of Reference

- For each TOR:
 - General feedback
 - Capacity: can SSWG address each TOR in project timeline?
 - Sub-group interest
 - Elements:
 - Is the TOR accurate and complete (revisions)?
 - Is anything missing (additions)?
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Term of Reference #1

- Describe current survey (dredge and optical) methods, design, and data products.
- Initial SSWG Input:
 - General
 - Information already exists, SSWG does not need to spend a lot of time on this TOR
 - Capacity
 - TOR can be fully addressed within 12-15 months; use correspondence and existing reports
 - Elements
 - Includes baseline information for comparison to recommendations for other TORs
 - Challenges
 - Need to focus on strengths & weaknesses of overall system, not specific tools
 - Highlighted Topics
 - Spatial coverage – need description of current process
 - Enhancement – consider previous efforts and potential opportunities

Term of Reference #2

- Investigate opportunities for pursuing an overall strategic approach for sea scallop resource assessment surveys.
- **Initial SSWG Input:**
 - General
 - Focus on improving overall survey system without losing successful aspects of current survey system
 - Capacity
 - Most of TOR can be fully addressed within 12-15 months; use sub-groups and prioritize topics
 - Elements
 - Includes most important topics to improve the scallop survey system
 - Challenges
 - Consensus building towards integrated approaches and applying SSWG recommendations
 - Highlighted Topics
 - System: spatial coverage needs, sampling intensity, data standardization, common annotation (optical)
 - Planning: RSA program/planning

New England Fishery Management Council Scallop Survey Working Group

April 9, 2021

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 - Highlighted Topics
 - System: spatial coverage needs, sampling intensity, data standardization, common annotation (optical)
 - Planning: RSA program/planning

Term of Reference #3

- Within the context of an overall strategic approach for sea scallop surveys, identify and recommend existing and new survey methods, tools, and designs to address the impacts of offshore wind and climate change.
- **Initial SSWG Input:**
 - General
 - Opportunity to propose innovative ideas
 - Consider different approaches specific to offshore wind compared to climate change impacts
 - Capacity
 - TOR may be difficult to fully address within 12-15 months; use sub-groups and focus on initial recommendations
 - Elements
 - Suggested topics are starting point, may evolve over course of SSWG process, including longer timeframe
 - Challenges
 - Shifting baselines and lack of currently available information
 - Highlighted Topics
 - New/alternative survey methods, changing resource footprint, impacts on survey time series

Term of Reference #4

- **Identify and catalogue the survey data products needed to support stock assessment approaches in the future.**
- **Initial SSWG Input:**
 - General
 - Current survey system capable of supporting successful assessment/management
 - Consider dynamic scales (time and space) for projection models to support multiple management objectives
 - Capacity
 - TOR possible to address within 12-15 months; use sub-groups and correspondence
 - Elements
 - Need additional information about current and proposed approaches
 - Challenges
 - Lack of understanding of new approaches and required information to meet science/management needs
 - Highlighted Topics
 - Rotational management, multi-stock considerations, age-based models

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Next Steps – TORs and Meetings

- TORs will be finalized post-meeting and sent to Council Executive Director for final approval
- Co-Chairs and facilitators will distribute final TORs, meeting summary, and draft work plan
- Facilitators will contact sub-group leaders and members
- Summer meeting – July (half-day; virtual)
 - Check on progress, questions, etc.
- Next full-day working group meeting in mid/late October
 - Polling for July, October and December meetings will be sent soon

Next Steps - SSWG Sub-Groups

- Sub-group assignments to be determined by Co-Chairs following meeting
 - Work conducted between SSWG meetings with reports/recommendations to full SSWG
 - SSWG will consider sub-group input to develop overall recommendations
- Facilitators will assist sub-groups:
 - Provide assignments and instructions
 - Support communications and correspondence with Co-Chairs and other SSWG members
 - Regular check-ins on progress and needs
 - Ongoing drafting of report sections
- Facilitators will provide instructions for meeting preparations, correspondence, sub-group activities

Thank You for Participating

- Questions/comments/issues:
 - Co-Chairs:
 - Bill DuPaul (dupaul@vims.edu)
 - Pete Chase (peter.chase@noaa.gov)
 - Facilitator:
 - Cate O'Keefe (okeefe@fisheryapps.com)