

Northeast Trawl Advisory Panel Meeting Summary

- Webinar -

Friday, March 19th, 2021

1:00 p.m. - 4:00 p.m.

I. Participants

A. NTAP Members:

Name	Affiliation
Anthony DiLernia	MAFMC Member
Anna Mercer	NEFSC
Frank Mirarchi	NEFMC Stakeholder
Jim Gartland	MAFMC Scientist
Kathryn Ford	NEFSC
Mike Pol	NEFMC Scientist
Pingguo He	NEFMC Scientist
Phil Politis	NEFSC
Terry Alexander	NEFMC Member- Vice Chair
Tim Miller	NEFSC
Chris Parkins	ASMFC Representative
Vincent Balzano	NEFMC Representative
Robert Ruhle	ASMFC Representative
Bill Gerencer	MAFMC Stakeholder
Michael Sissenwine	NEFMC Scientist

B. Other Participants:

Name	Affiliation
Katie Burchard	NEFSC
Andy Jones	NEFSC
Matt Seeley	MAFMC Staff
Eric Reid	NEFMC
Kelly Whitmore	MA DMF
Ryan Silva	GARFO

II. Summary Discussion Points by Agenda Topic

A. Welcome, Introductions, Logistics

Eric Reid announced that Terry Alexander will be going into semi-retirement on August 10, 2021. The NEFMC will meet at the end of September, where four new Council members will be sworn in. Eric Reid is willing to attend NTAP meetings and fill temporarily as Co-Chair until someone is sworn in.

Anna Mercer announced that she and Kathryn Ford will be leading the topics Jon Hare was assigned on the agenda because he had a last minute conflict and is unable to attend the NTAP meeting.

B. Introduction of Kathryn Ford, PEMAD Chief

Anna Mercer introduced [Kathryn Ford](#) as the new Population and Ecosystems Monitoring and Analysis Division (PEMAD) Chief at the NEFSC. Kathryn started at the NEFSC in May 2021 and over the next year will transition into the lead of NTAP for NEFSC.

Kathryn Ford gave a brief overview of her background. She currently lives in Dartmouth Massachusetts. She has a PhD from the University of Rhode Island Graduate School of Oceanography. She has spent the last 15 years at the Massachusetts Division of Marine Fisheries (DMF) where her research focused on seafloor mapping and looking at eel grass and artificial reefs and other seafloor habitat. She served on the NEFMC Habitat Plan Development Team. Her team at DMF was heavily focused on the impacts of construction activities on fisheries habitats where she has played a large role in offshore wind and the development of wind energy areas. She was also involved in ocean planning, such as the Northeast Regional Ocean Council.

C. Revisions to the NTAP Charter

At the last NTAP meeting ([March 19th, 2021](#)) the panel worked on some revisions to the Charter mainly adding a section titled 'Action Plan'. Following the meeting, Terry Alexander (Co-Chair) distributed the revised Charter to the panel for feedback. He received no feedback. Matt Seeley walked through sections of the Charter focusing particularly on the added pieces. The action plan lays out a logical sequence for the panel to use to assess where they are and assist with deciding what to do next. It was stated that the action plan isn't something the panel isn't necessarily already doing up to this point, but adding it to the Charter will make it easier for us to track our progress. One other added piece to the Charter is the addition of one sentence ("However, the NEFSC should be able to act based on scientific information that is available from NTAP meetings.") in Section 3 'Organizational Structure'. This added sentence streamlines the process for smaller recommendations from the panel to the Science Center that don't necessarily need to go back to the Councils. This addition to the Charter will also allow the Science Center to immediately use information provided by the panel without needing to go through the process of having it reviewed by both Councils first.

The Charter revisions topic was open to everyone for discussion. There was some discussion on language edits for Action Plan #1 and the added sentence in section 3. It was discussed that NTAP collapsed and was 'reestablished' in 2015 and should focus on progress and accomplishment since it was reestablished.

Terry Alexander motioned for the approval of the revised Charter. A majority vote carried the motion. The revised Charter will be presented for approval to the Councils during the September meetings.

Action items:

1. Matt Seeley will distribute the revised Charter with final language immediately following the conclusion of the meeting.
2. NTAP Co-Chairs will present the revised charter to the councils at the next council meetings

D. Working Group Report: [LINK](#)

Jim Gartland as part of the NEAMAP team presented a summary and recommendations from the NTAP Restrictor Rope Research Working Group meeting that was held on July 21, 2021. The objective of the meeting was to start discussing the objectives, timeline, location and applications of the restrictor rope research to be conducted on the F/V Darana R. This research effort was voted as the highest priority at the [March 19, 2021 NTAP meeting](#) and approved by both councils in June 2021.

Gartland started by summarizing the objective of the restrictor rope work: Implement an ABBA experiment design to evaluate possible changes in catch composition, catch rate (CPUE), and size-distribution due to the additions of a restrictor rope between the doors on the 400 x 12cm, three-bridle four-seam survey trawl package used by NEAMAP. He went on to explain three ways that the results from this research might be applied:

1. The results from this research could be used to inform the development of a standardized bottom trawl survey configuration that may be adopted by institutions charged with sampling offshore wind energy project areas located throughout a range of depths in the Mid-Atlantic and Southern New England. Many such surveys are currently using NEAMAP modelled gear. If survey gear is fully standardized, those surveys could be combined with the NEAMAP time-series to better understand cumulative impacts of offshore wind energy development.
2. The research may prove useful to the Northeast Fisheries Science Center as the agency contemplates approaches to more-fully standardize the performance of their bottom trawl survey and considers calibrating their survey gear to NEAMAP and to survey efforts in wind energy project areas.
3. The research may provide an opportunity to analyze the roundfish data from the twin trawl wingspread experiments in 2019, where a restrictor cable was used, to quantitatively evaluate capture efficiency of round fish. During those experiments there was concern of how the restrictor rope was impacting the catch of round fish.

During the WG meeting, the NEAMAP team presented results from the fall 2020 pilot investigation on the impact of a restrictor rope on catch conducted on the F/V Darana R during the NEAMAP Survey. Seven opportunistic paired tows were conducted by NEAMAP, with full net mensuration and catch data collected. The first paired tow was conducted without a restrictor rope and the second paired tow was conducted with a restrictor rope on five of the seven pairs. The gear performance data from these paired tows indicates that the restrictor rope was effective at tightening and maintaining consistent gear performance. More specifically, the headline height, wing spread, and door spread all exhibited appreciably less variability when the restrictor rope was used. The restrictor rope was installed and removed quickly and safely during the opportunistic paired tows, indicating that the gear can be safely deployed on a survey trawl. Finally, the paired tows were conducted opportunistically; the first tow was conducted without the restrictor rope on five of the seven pairs. All second tows caught fewer fish, which may have been due to localized depletion from the first tow. For this reason, it was not possible to disentangle the effect of depletion from the effect of the restrictor rope in these opportunistic paired tows. Thus, the NEAMAP team strongly recommended that the 2022 restrictor rope research employ a balanced sampling design to disentangle the effects of the restrictor rope and the depletion on catch.

After reviewing the pilot restrictor rope investigation, Gartland summarized the remainder of the Working Group meeting for the Panel, as follows.

1. Location: Agreed to focus on NEAMAP Survey Southern New England sampling frame (i.e., Rhode Island Sound, Block Island Sound, and Regions 1-3). This location was selected because NEAMAP already surveys this area and is familiar with the grounds. The consistent depth and bottom type within this area will also allow for consistent trawl performance with and without the restrictor rope, which is critical to isolating the effect of the restrictor rope and enabling NTAP to effectively evaluate the effect of the restrictor rope on catch.
2. Timing: The NEAMAP team is booked in 2021, therefore the research will be conducted in May/June 2022 following the NEAMAP spring survey and in September 2022 before the NEAMAP fall survey. This will leverage the NEAMAP survey and minimize cost for this research.
3. Sampling Intensity: It has been roughly estimated that 130- 140 tows total can be conducted based on funds available and leveraging the NEAMAP Survey. This will equate to 60-70 paired tows for the total experiment.
4. Experimental Design: The paired tows will follow an ABBA design. The working group recommended using an adaptive sampling approach for selecting sampling stations so as to achieve reasonable sample sizes for the target species. There is still work to be done at the next working group meeting to determine the specific spatial and temporal targets, offsets, and directionality of the paired tows. Target species: Will plan to target semi-pelagic species typically encountered in the Southern New England sampling region (butterfish, squid, scup, etc.). Jim Gartland committed to summarizing the NEAMAP catch data from the SNE region to facilitate decisions about target species.

5. Data Collection: For each tow, the sampling team will record aggregate weights and counts (by species), individual weights and lengths, site-level data (position data, date/time, tides, currents, etc), and hydrographic data, and atmospheric data. NEAMAP's trawl monitoring systems will be used to quantify wing spread, door spread, and net height. It was also recommended that the team collect acoustic data, and try to get images of the net with the restrictor rope deployed underwater.
6. Participants: Discussions, which are ongoing, have indicated that the field and analytic component of this research will be collaborative between the NEAMAP team and NEFSC.

One panel member asked for details on the restrictor rope itself. It was answered that the restrictor rope was attached between the doors during the pilot work conducted on the F/V Darana R in the fall of 2020. The rope is made out of 716 Tenex (neutrally buoyant material) and attached with two viking hooks. The height off the seabed is approximately 3 feet. The restrictor rope was set to 33 meters (target door spread) during the fall 2020 pilot tows, but this did not account for the catenary in the rope. During the 2022 experiment, the restrictor rope will be adjusted to achieve the intended door spread.

It was recommended by one panel member that tow speed may have an effect on the rope.

E. Update: Area-swept/Wingspread Assessments

A [memorandum](#) was sent to the Councils in January 2021 stating that the NEFSC will begin to add actual swept-area in the calculation of bottom trawl survey indices from the NOAA ship Henry Bigelow. This effort will occur in two steps. The first step is to make the calculations on an assessment-by-assessment basis starting with some of the stock assessments planned for 2021. Plans for management track assessments will be reviewed by the Assessment Oversight Panel in 2021 and any changes will be worked through the management track process. The second step is to make changes to databases and data systems to include the calculations in the standard generation of trawl survey indices that will enable a more efficient incorporation of the swept area data into the indices. The Science Center has started incorporating actual swept-area into assessments on a species by species basis. The Science Center has also started the database redesign project. A project manager has been hired for this project and a couple project team meetings have occurred in the last couple weeks.

Tim Miller explained that the difficulty with integrating actual area swept for some of the stocks is that their assessments are age based and they hadn't yet flushed out the way that age composition should be calculated using the station-specific swept area. Therefore, the short term solution for incorporating actual swept area hasn't been vetted adequately for all stocks and it will be easier for working groups to incorporate once the second step of making changes to the database and data systems is complete. Tim also noted that some stock assessments such as George's Bank yellowtail flounder were invested in updating the analysis in regards to the Sweep Efficiency Research for this stock assessment, which needed to be peer reviewed and accepted by the TRAC. This lengthy process didn't allow time to also include the station specific swept area for this assessment.

F. Update: Decoupling Time Series

Kathryn Ford began with providing some background on past discussion at the [March 19th NTAP meeting](#) of decoupling /splitting the Albatross and Bigelow time series so that the Bigelow survey is treated as a separate index in stock assessments. She reminded the panel that the Moulton Groundfish Trawl Task Force also recommended splitting the time series. Kathryn went on to say that the Science Center's approach is to follow the recommendations of the Assessment Oversight Panel or each stock assessment working group. It was announced that Steve Cadrin from the University of Massachusetts Dartmouth School for Marine Science and Technology (SMAST) submitted a proposal to the Cooperative Institute for the North Atlantic Region (CINAR) institution to research splitting the time series using a more holistic approach. The Science Center will update the panel with details on this grant process as it evolves.

The Science Center shared that during the haddock research track stock assessment, splitting the time series was thoroughly explored, patterns were significant. It was also mentioned that each species needs a certain number of years of data based on their life history traits (such as whether they are short lived or long lived) to be able to split the time series. How well each species was observed by both vessels differed and that impacts the number of paired observations scientists have to work with.

A panel member commented that from his perspective it didn't seem natural to approach splitting the time series on a species by species basis outside of the difference in the quality of the calibration coefficients. He expressed concern over having a piecemeal approach to the process that wouldn't allow for consistency between species. He went on to say it ought to be about the relative precision and reliability of estimates that are derived from the experiments versus those similarly calculated within the assessment.

The Science Center noted that there has been an effort to draft a document describing some of the decisions on whether to split the time-series or not for individual species. The Science Center will share the document with the panel once finalized.

Another panel member asked about the length of the calibration survey, remembering that it was possibly shorter than intended and whether that impacted the representation of all species and biased the amount of calibration that took place from species to species. The Science Center replied that the calibration study was originally planned to cover both spring and fall for two years, but was reduced to one year during implementation. In 2008, the calibration occurred in the spring and fall and in the summer in between. The summer was focused on conducting additional paired tows to sample the species that were absent or less abundant in the spring and fall when using the random stratified design.

Action Items:

1. The Science Center will share details that evolve on CINAR Grant for investigating splitting the Albatross/Bigelow time series.
2. The Science Center will share documentation on decisions around whether to split or not split time series for individual species.

G. Update: Bottom Longline Survey

Anna Mercer, Chief of NEFSC Cooperative Research Branch (CRB), provided an update on the Gulf of Maine Bottom Long Line Survey (BLLS). The survey was started in 2014 in response to a call from both industry as well as stock assessment scientists who expressed a need for data in areas where it is difficult for mobile gear to survey. For the eight straight year, the Science Center has partnered with commercial fishing vessels Mary Elizabeth and Tenacious II to conduct the BLLS in the Gulf of Maine. The survey design is 45 random-stratified stations in Spring and Fall in Gulf of Maine using tub-trawl bottom longline gear. In addition to collecting standard catch data, the survey also collects a variety of ecosystem data. At each survey station a drop camera is deployed to classify habitat, current meters are deployed to collect bottom current data, and RBR Duet probes are deployed to collect temperature and depth data. The products that the survey produces include indices of abundance for assessments, age and maturity samples, environmental data, live fish samples and peer reviewed publications. The recent haddock research track stock assessment integrated the BLLS stratified mean of abundance at age as an index. BLLS data has also been applied in the white hake, wolffish, Atlantic cod, dogfish, and skate stock assessments. Due to COVID-19, there was no 2020 Spring BLIS, however the fall 2020 and spring 2021 survey were successfully completed. During this time, the team worked to develop and test a new electronic data collection system, transitioning away from paper logs. In early 2021, the Cooperative Research Branch hired a federal employee, Dr. Dave McElroy, to Lead the BLLS. Dave has been working on the survey for many years. Anna listed three publications that the BLLS team has been working on.

1. McElroy, W.D., Blaylock, J., et al. (Accepted) Comparison of a bottom longline survey and a bottom trawl survey for two Gulf of Maine groundfish to evaluate habitat-related availability of large fish. Fishery Bulletin.
2. Kneebone, J., Sulikowski, J., Knotek, McElroy, W.D. et al. 2020. Using conventional and pop-up satellite transmitting tags to assess the horizontal movements and habitat use of thorny skate (*Amblyrraja radiata*) in the Gulf of Maine. ICES journal of Marine Science. doi:10.1093/icesjms/fsaa149.
3. Grieve, B., Jare, J., and McElroy, W.D. 2020. Modeling the impacts of climate change on thorny skate (*Amblyrraja radiata*) on the Northeast US shelf using trawl and longline surveys. Fisheries Oceanography. <https://doi.org/10.1111/fog.12520>

Anna quickly touched on upcoming BLLS Research:

In the fall of 2020 and spring of 2021, CRB partnered with Teem Fish Monitoring to capture video of gear retrieval to evaluate the catch on each hook. These data will be used to assess how hook-specific catch differs among seafloor types, depth, and time of day. Ultimately, these data will be used to refine catch rate estimations derived from the longline survey that are used in stock

assessments. CRB hired a new staff, Lindsey Nelson, who will be working to analyse the camera footage. The cameras were also part of a Plan B in the face of COVID-19. In the case that staff could not sail on the survey, the captains had a sampling flow that with the different camera angle footage would provide a way to quantify the catch.

The Gulf of Maine Research Institute submitted a proposal to CINAR titled: Defining Habitat Characteristics and Spatial Footprints of Key Stocks Using Alternative Approaches. The proposal was reviewed late spring of 2021 and recommended for funding by the Science Center. The objectives of this work are to evaluate habitat use for key stocks using the NEFSC BLLS and other sources of data that are more capable of sampling within structured habitats; and evaluate the spatial footprint of key stocks using fisheries dependent data and determine the degree to which the trawl survey effectively samples within the footprint. This research was identified as a top priority by the Moulton Groundfish Trawl Task Force. It is also research that has been discussed quite a bit in NTAP over the last couple years.

Panel members expressed their gratitude for the diligent work being conducted on the BLLS, especially with adapting to new behavior strategies around COVID-19 as an effort to keep everyone safe. They expressed the importance of the work being done especially in the face of wind farm development and the reduced availability of bottom to mobile gear in the Gulf of Maine.

One panel member asked if the survey is catching halibut and if so are they using halibut indices developed from the survey? Anna answered saying that the survey does encounter halibut, though not in great quantities. CRB does work with the halibut stock assessment scientist and the management lead on halibut to make sure the data from the survey are available.

Another Panel member asked whether CRB has been contacted by the State of Maine to get information on the BLLS in regards to a wind farm area the state is proposing. Anna answered that yes CRB has been contacted. The Northwestern part of the BLLS area overlaps with the proposed wind area in the Gulf of Maine. CRB has shared what data is collected as well as how the survey is executed to facilitate discussions about using a longline approach within that research area.

One Panel member noted that it is interesting that the data tracks age classes and asked whether the difference in patterns over time in catch of different age classes in haddock was considered during the research track assessment. Anna responded saying these patterns were part of the haddock research track stock assessment discussions.

A brief discussion evolved around the possibility of using trap surveys in the Gulf of Maine to help address the problem of reduced availability of bottom for mobile gear. Trap surveys are amenable to automation and occupy little space. The Science Center did put together a survey adaptation plan in the face of offshore wind as a scoping exercise to explore what a survey mitigation effort might cost. A piece of that plan did include a pot survey, however the adaptation plan was designed to develop a budget request for the future, and is not a concrete mitigation plan that is planned for

implementation. The Science Center is not ruling out any type of supplemental survey design or gear type in wind energy areas, but is also not planning for anything specific at this point in time.

H. Other Business

Terry Alexander (Co-Chair) gave a closing statement saying thank you as this is his last NTAP meeting as Co-Chair. He hopes to continue work on the panel as an industry stakeholder. Panel members graciously thanked Terry for his efforts.

Anna Mercer provided an update on the wingspread research publication that was submitted to Fisheries Research. Andy Jones took the lead in writing and submitting the paper. Andy received minor revision suggestions from the journal that are due July 30th.

Tim Miller provided an update on the Sweep Efficiency Research publication. It is in a final draft stage where staff are working to finalize the discussion section. It is getting close to being submitted.

Meeting Adjourned.