

Northeast Trawl Advisory Panel Meeting

-Webinar-

January 14th, 2021

10:00 a.m. - 3:00 p.m.

This document summarizes the discussions of the Northeast Trawl Advisory Panel (NTAP) which convened via webinar on January 14th, 2021. A summary of key discussion points, recommendations, and action items is included. This summary does not capture every comment or discussion point, and included comments may not represent consensus.

I. Participants

A. NTAP Members

Name	Affiliation
Anna Mercer	NEFSC
Vincent Balzano	NEFMC
Terry Alexander	NEFMC Vice Chair
Bill Gerencer	MAFMC Stakeholder
Vito Giacalone	NEFMC Stakeholder
Robert Ruhle	ASMFC Representative
Frank Mirarchi	NEFMC Stakeholder
Mike Sissenwine	NEFMC
Wes Townsend	MAFMC Vice Chair
David Goethel	NEFMC Stakeholder
Anthony DiLernia	MAFMC Member
Pingguo He	NEFMC Scientist
Mike Pol	NEFMC Scientist
Dustin Gregg	MAFMC Scientist
Phil Politis	NEFSC
Tim Miller	NEFSC
Jim Gartland	MAFMC Scientist
Chris Parkins	ASMFC Representative
Jon Hare	NEFSC Lead

B. Other Participants

Name	Affiliation
Paul Rago	MAFMC SSC
Matt Seeley	MAFMC Staff
Andy Jones	NEFSC Staff
Katie Burchard	NEFSC Staff
Ryan Silva	GARFO
Andrew Lipsky	NEFSC
Kelly Whitmore	
Lou Montgomery	
Eric Reid	NEFMC Chair

II. Summary Discussion Points by Agenda Topic

A. Welcome, Introductions, Logistics

- Led by Wes Townsend (MAFMC Co-Chair) and Terry Alexander (NEFMC Co-Chair).

The meeting began with the new NTAP Co-chairs introducing themselves. Wes Townsend (MAFMC Co-chair) announced that he was new to NTAP and welcomed anyone to contact him anytime. The best way to reach him is via phone, and his number can be found on the MAFMC website. Terry Alexander introduced himself and suggested due to the amount of people on the meeting and the full agenda that we would skip individual introductions, rather encouraging people to introduce themselves as they speak throughout the meeting.

B. Overview of NTAP Charter - Led by Jon Hare. Supporting Document: [NTAP-Charter-2019.pdf](#).

The meeting started with a review of the NTAP Charter and an opportunity for members to voice their opinion on whether they are interested in making any changes to the Charter. Section 1, 'Panel purpose' was read and discussed. Several panel members shared what they recall as being what was agreed upon as the purpose from the first meetings of NTAP. Perspective varied some among panel members.

During the charter topic the following were discussed:

- There were several viewpoints discussed around the statement made that the Survey was 'incorrect' or broken. Several members expressed that they felt there were still some major gear performance issues with the survey they felt needed to be addressed. Other members expressed discomfort with the premise that the survey is incorrect and needs to be fixed. Multiple members expressed their support for the work that has been done so far by the panel to identify and explore concerns and methods to mitigate those concerns and think there is still work to be done.
- One member, with support from multiple members, stated that their concern with the survey is its growing inability to see the whole picture in terms of consistency over time of spatial coverage for all species, due to loss of area to fixed gear and to wind farms, as well as temporal coverage due to loss of sea days and the dependence on one vessel. They went on to explain that the NEFSC should transition from using one vessel/survey's observations to connecting the results from multiple surveys from multiple times to get a better picture. Another member who supported this suggested identifying alternative approaches such as fishery dependent data to deal with expanding spatial and temporal coverage concerns. Another member suggested we move forward on a species-by-species basis and address concerns listed in the Moulton Groundfish Trawl Task Force Report.
- It was stated, and supported by several members, that it is important for the panel to recognize that the use and dependence of the trawl survey has heightened over time, with the resolution of data needed to input into models and the increased frequency of

stock assessments for a growing number of species. That maybe we are expecting too much from it based on what it was intentionally designed for.

Panel Conclusion:

There was interest in revisiting the Charter, identifying strength and weakness, and plans for action to correct the weaknesses. The next step would be for the Co-Chairs to report back to the council about revisiting the charter. It was agreed that further charter discussion would continue outside from this meeting.

Action: Terry Alexander will draft up some language for changes in the NTAP Charter with help from Mike Sissenwine

C. Center Perspective - Recent Communications led by Jon Hare.

Jon explained the center's perspective of NTAP relative to some recent communications and feedback he received from Panel members. He started by stating the NEFSC's commitment to working with NTAP to help set priorities. He thanked and showed his appreciation for Wendy Gabriel and her leadership of the Centers participation in the group. Jon announced that he has agreed to fill in for Wendy for the time being to help lead NTAP until there is a replacement. He acknowledged that progress within NTAP has been slow and attributed that to lack of funding, constraints on days at sea on NOAA ship Henry B. Bigelow, and our slow but improving communications with the panel as a group but also slow with communicating effort that we are making with NTAP. He went on to say these challenges do not reflect a lack of commitment to the purpose of this group. He identified two approaches for moving forward with improving the bottom trawl survey. Analytical approach, in terms of how the data is used and an operational approach, improvements to the survey itself in terms of the ways the data is collected. Analytical improvements can be made incrementally. However, if there is going to be physical changes to the NEFSC Trawl Survey gear it needs to be as one package at one time so we can calibrate current gear to this future package. One of the key attributes to the bottom trawl survey is the time-series and consistency of sampling over time. He made a point to mention that an operational approach with calibration is more resource intensive.

During the center perspective topic the following were discussed:

- Answering a panel member's questions regarding alternative approaches, Jon stated that the Bottom Longline Survey approach could be expanded, with planning and necessary resources. There are also activities underway in terms of the use of fishery dependent data to support stock assessments. Jon concluded saying he sees the purpose of NTAP being primarily focused on the bottom trawl survey and fishery independent survey work.
- One panel member suggested the idea of having a fresh set of eyes and a review of NTAPs past projects and recommendations forward. It was agreed by many that having a fresh set of eyes would be beneficial.

- Another member pointed out that there is a formal organizational structure identified in section 3 of the charter that the panel hasn't utilized lately. The group agreed to use this organization structure process going forward in hopes to help with formality and justifying the allocation of funding. At the same time realizing that utilizing this process may slow the process of making recommendations to the center and would need to be cognizant of this timeliness issue relative to resource availability. It was also noted it would be good timing to implement this recommendation process now (getting ahead of the Center's procurement process) with potentially limited field work this year.

Action: Terry Alexander will email council leadership and see what they think about utilizing this organizational structure process. Seeking information on pitfalls of utilizing and not utilizing the process.

D. Recap use of Sweep Efficiency Work - Led by Tim Miller. supporting documents: [2020 Sweep Efficiency Use Table.pdf](#). Tim walked everyone through the Sweep Efficiency data use table. The Sweep Efficiency research data was looked at for eight different stocks during the 2020 fall assessments and information was used in seven. There was some difficulty in using the research data for winter flounder because the fish are much larger than average on Georges Bank. He noted that the Sweep Efficiency Study data is being used whenever possible.

During this Sweep Efficiency Work topic, the following were discussed:

- A panel member asked if there was concern from the assessment scientist in using the Sweep Efficiency data due to the use of a restrictor cable with the Red Hake because not bottom dwelling species. Tim answered saying the effect of the restrictor cable was discussed and everyone was comfortable with it realizing the studies data was better than no data.
- It was discussed that using the Sweep Efficiency Study data in assessments is an example of an analytical approach being used to address a concern with the bottom trawl survey, a big success of work done in NTAP. It was asked by an NTAP member if people want the panel to continue this type of work to support this approach.
- There was concern expressed that the bottom trawl survey doesn't tow long enough to catch larger fish who can outswim the gear. It was noted that some research done by SMAST revealed some evidence, though not enough to statistically demonstrate that some shorter tows did not catch larger fish. Industry members also noted that they have seen size composition changes in cod and pollock when shortening tow duration. Another panel member reminded the group that this concern was discussed in the past and it was decided that too many variables in the functionality of a gear to tease out this concern and should address the geometry uncertainty issues first. It was suggested that the panel look at past research/existing data to investigate this concern.

E. Recap use of swept area in assessments, wingspread study - Led by Tim Miller. Supporting document: [NTAP Bottom Trawl Survey Indices Letter.pdf](#), Tim presented results from the Wingspread Research conducted in 2019. Wingspread varies with depth and the panel was interested to research how that changes efficiency. The field study and analysis did not provide evidence that wingspread impacts catch efficiency but did show a change in total catch with wingspread. Jon Hare sent a letter to the Councils affirming the NEFSC's commitment to phase in the use of swept area to account for this, as recommended by NTAP. In the short term, an interface has been created for analysts using R Shiny App. It allows analysts to determine which strata are included and conversion from the Albatross/Bigelow comparison. In the long term, the NEFSC has a standardized software called Assessment Data Input and Output System (ADIOS), which serves and standardizes bottom trawl survey data seasonally and annually. It will take longer and more resources for the swept area standardization to be incorporated in the ADIOS software. Tim went into some detail about how analysts are incorporating the actual observed area swept into models. Standardizing catch data. $n^* = n \times (\text{standard swept area}) / (\text{station swept area})$. Then stratified indices are calculated with scaled catch per tow.

Tim concluded with a report out (listed below) of what 2021 assessments will be able to incorporate actual area swept.

Use of Actual Observed Area Swept in 2021 Assessments

Species	Track	Use	Use Notes
Atlantic Mackerel	Management	No	Schooling species
Bluefish	Management	Yes	
Fluke	Management	Yes	
Scup	Management	No	Level 1 assessment, where no changes
Tilefish	Management	No	No Bottom Trawl Survey indices
Black Sea Bass	Management	No	Level 1 assessment, where no changes
Butterfish	Research	Yes	
Shortfin Squid	Research	Yes	
GB Haccok	Research	TBD	
GOM Haddock	Research	TDB	
Eastern Georges Bank Cod	TRAC*	TBD	Working paper to be presented at next TRAC meeting
Eastern Georges Bank Haddock	TRAC	TBD	Working paper to be presented at next TRAC meeting
Georges Bank Yellowtail	TRAC	TBD	Working paper to be presented at next TRAC meeting

* Transboundary Resources Assessment Committee

During this observed area swept topic the following were discussed:

- It was asked that although the overall catch per unit effort was the same across wingspread was there some differences in individual species. Tim answered that there was some variability, but there were no cases (significant) where there was a clear difference. One member showed some concern around Yellowtail flounder. The results from the study will be presented to the TRAC and there was some sensitivity analysis done on the issue related to yellowtail flounder before the study.
- Jon Hare noted how in the new assessment process there are different levels of review which allows for more flexibility to incorporate modernized data.
- Jon Hare mentioned that we didn't utilize the process in the Charter where NTAP suggests and submits a recommendation to the Council and then the Council makes the recommendation to the Center. Rather, NEFSC NTAP representatives came back to the Center with the recommendation from a meeting and the Center decided to go ahead with making those changes. He proceeded by asking whether the panel thought we jumped the gun of proceeding with the recommendation without using the formal process of panel reporting to the Council and the Council to the Center. Several members expressed that they feel we didn't jump the gun, although we didn't use the process in the Charter we shouldn't move backwards. The process in the Charter was simply overlooked and we should try using moving forward.
- It was asked how in light of what was presented by Tim, are we going to deal with what we generally consider shoaling species. Maybe we should think about having a peer review of the results from this experiment and its applicability before applying it. A member chimed in saying the problem with schooling fish is high variance and the only way to address that is increased sample size. Should do power analysis to make sure we have a large enough sample size.

F. Recap NTAP research vote, outcome of Working Group meeting - Led by Matt Seeley. Supporting document: [2020 Research Priority Voting.pdf](#). Matt explained and shared the methods and results from research priority voting that occurred in both January and August of 2020. Matt also briefly explained that the research priority with the most votes, which was to conduct side by side tows of NEAMAP and the NOAA Ship Henry B. Bigelow, was realized as a nonviable option at this time at a virtual working group meeting in November 2020. Working Group members further added that the tow-by-tow research was non-viable at this time because some members felt there were lingering concerns with the survey gear that should be addressed first. Adding it would not be wise to calibrate to survey we might change going forward. It was realized that there was some diversity across the panel on NTAPs direction forward and that the group had to focus on a collective way forward. A member expressed that he believes the vote swayed the way it did due to the fact that the BTS didn't get off the dock for the year and asked if there is planning to be a spring survey. Jon Hare answered that yes, the Center is planning and everything is lined up to execute a spring

survey. It was brought to everyone's attention that there is a lot of diversity in how people are feeling this group should move forward. No pure agreement in the voting, and it was suggested that in the afternoon we are honest with what the true solutions are that everyone is looking for.

G. Document and discuss concerns with NEFSC Bottom Trawl Survey - Led by Matt Seeley and Anna Mercer. Supporting document: [MoultonGroundfishTrawlTaskForce.pdf](#)

The panel voiced all their concerns with the NEFSC Bottom Trawl Survey relative to the gear, the approach, and the use of the data from the survey. It was suggested that the completed list formed (below), be cross-referenced for overlap with recommendations reported in the Moulton Groundfish Trawl Task Force Report.

Concerns with gear:

- Tow time – ability to catch large fish
- Bottom contact – difference in wear of BTS net and commercial net after a tow
- Wingspread at depth – impacts on capture efficiency
- Harmonics of rockhopper sweep
- Mismatch between size of vessel and size of net/gear package
 - Vessel is not just horsepower
- Vessel effects (Albatross, Bigelow)
- Consistency in gear performance (over space, depth, time)
- Gear efficiency
- Sweep – assumption of 100% efficiency of chain sweep

Concerns with survey approach:

- Inability of NEFSC BTS to operate on schedule due to vessel mechanical issues and pandemic, etc.
 - No “back up plan”
- Not able to tow/survey in area where there is lobster/fixed gear (Gulf of Maine)
- Strata of BTS do not cover areas that stocks are shifting to as ocean climate changes
- Inability of trawl gear to survey in complex/rough bottom
- Spatial (complex habitats, gear conflict) and temporal (spring/fall) limitations of survey
 - Availability of species to survey in time and space
- Need for multiple surveys

Concerns with survey data use:

- Greater reliance on BTS index in assessments
 - Note: This is different for each species/assessment
- Combining FID and FDD in assessments
- Integration of offshore wind survey data with BTS data to provide regional/cumulative impact perspective.
- Acceptable range in BTS gear is not aligned with recommended ranges from gear manufacturers
- Albatross-Bigelow calibration - concern about use of existing calibration coefficient
- Evaluation of calibration experiment and analytical derived calibration

Some discussion/comments that occurred around these concerns:

- Panel members who also participated in the NEAMAP survey explained that during the last NEAMAP survey they made twenty 20-minute paired tows using a restrictor cable to start to get at whether it had an effect on catch. They said there was minimal effect. They went on to say the benefit to using a restrictor cable is it keeps the gear package consistent, to which it can be standardized and potentially put on any boat platform with the required horsepower capable of towing a net. It takes away a lot of uncertainty because you know the gear is always going to be fishing consistently. Therefore, outside of it possibly fixing spread concern on Bigelow it is also an opportunity to expand survey using a standardized gear package. They believed there is enough data from the pilot work NEAMAP conducted on restrictor cable to investigate if it's a viable way forward. This member went on further to say that if there is an effect on catch due to restrictor cable it may be weaker than the underlying concern of inconsistent wingspread. A second member agreed saying the idea of standardization of the tows with fixed width and ground contact would have a huge impact with minimal change. Another panel member expressed that you need to take into account the vessel in a survey, not just the standardized gear. Important factors of the vessel include horsepower, mass and inertia, and it's need to be powerful enough to move the gear through the water/against tides efficiently.
- The idea of dropping the calibration coefficient due to it hindering the current trawl survey. The Bigelow has a time series on its own and it's time to use it. Another member mentioned that from his opinion the calibration of the Albatross/Bigelow is too significant and has too big of an impact to write it off. However, does support that the Bigelow has enough of a time series to not be using the calibration.
- It was asked what was the status of the BTS gear package when it was doing the side by side tows. The gear package now is identical to 2008 when the Center did the calibration between the Albatross and the Bigelow. The survey's spread tolerance is based off the gear performance done during the calibration. The current gear is standardized to the performance of the calibration not standardized to the design optimal spread. A panel member remarked that knowing this was eye opening and a huge point. It may change the way we think about the pitches and wedges we want to put into this gear. One panel member felt that it would be best to just leave it alone, nothing's perfect.
- One panel member expressed that we are demanding too much from the survey. It was designed to show trends in abundance. Not to calculate the finite amount of each species. We should try to define the footprint of a few important species and supplement with FDD data and/or replace some of randomized tows and add to randomized tows some dedicated tows.
- Another panel member noted that we should move lobster gear at bottom trawl survey stations, because sampling only where lobster gear isn't is not remotely representative of what is in the Gulf of Maine.

- Another panel member felt that we should re-stratify the deep water strata. Fish are moving to the north and east which is in deeper water. Basins have huge depth ranges and having only 1 or 2 tows in that depth range isn't representative.
- The idea of slowly implementing a change to the time series as an alternative to calibration was briefly discussed. It was noted that this method is described in ICES SGSTS (Study Group on Survey Trawl Standardization) 2005 report.

H. Discuss ways to address concerns with NEFSC Bottom Trawl Survey - facilitated by Matt Seeley and Anna Mercer. The panel discussed various changes to the gear package that could be researched as well as ways past research data could be looked at and possibly utilized to investigate and address concerns with the survey.

A complete list of ways to address specific concerns discussed are listed below.

- Bottom Contact:
 - Implement bottom contact sensors that measure contact time
 - Currently use Scanmar trawleye (acoustic) – on bottom, off bottom at one point on the sweep
 - Industry uses chains that wear as they drag along seabed
 - Hang chain in two corners of net and assess shine on chain after a tow
 - Investigate proportion of tows that are “off bottom” in a given survey season
- Wingspread consistency:
 - Restrictor cable/rope experiments
 - Test effect of using restrictor cable/rope on spread and catch
 - Benefits:
 1. Maintain consistency of spread and minimize variability in capture efficiency
 2. Open opportunities to use consistent gear package in other surveys and as backup plan
 3. North Sea uses restrictor wire in deep water (in front of doors) – share information about this with NTAP.
 4. 20 restrictor tows conducted during fall NEAMAP – JG results.
 - Experiment shortening extension wires on doors – could this be used as a technique to maintain wingspread consistency across depth?
 - Door changes to achieve consistent spread at shallow depth (avoid underspread)
 - Scope changes
- Albatross/Bigelow Calibration
 - Separate Albatross and Bigelow time series (stop using calibration coefficient)
 - Use information from Albatross/Bigelow calibration experiment to expand spread effect as a covariate
 - Evaluate Albatross/Bigelow calibration experiment and analytical derived calibration
 - Use calibration as informed prior in Bayesian approach (this has been done for butterfish)

- Review existing data to investigate concerns quantitatively
 - Tow time
 - Wingspread
 - Bottom contact
 - Possible data source: Cod tagging project – GMRI/SMASST
- Phased change approach, if implementing a logistical adjustment to survey
 - Use new gear/adjustment once every 5 tows in the first year, increase going forward

- I. Develop list of NTAP research priorities to vote on, current budget status** - Led by Anna Mercer
 NTAP has \$170,000 in research funds available that need to be allocated by April 2021. Jon Hare noted that there is language in FY21 budget for addressing the cod task recommendation with up to \$500,000 available for that. Therefore, the NEFSC is looking to address the high-level recommendations from the Cod Task Force as well.

It was realized that before the panel could vote on the next research priority the group had to come to a consensus on a direction forward. Based on the various concerns with the bottom trawl survey discussed and the agreed upon purpose of NTAP laid out in the Charter the panel agreed they needed to decide whether to move forward by 1) testing and researching possible changes to the survey gear package to address concerns (realizing this option could lead to the need to calibrate to preserve the time series) or 2) calibrate and supplement the bottom trawl survey with other surveys while doing analytical adjustment to improve use of the survey data. The panel agreed to vote on these two direction options in the coming weeks through an email process.

Action:

- 1) Anna will draft language for the vote on direction forward with cost estimates and send to Matt
- 2) Matt will send out email with voting options and collect and report back out to panel voting results.

- J. Other Business** - Led by Terry Alexander and Wes Townsend
 The timing of the next full NTAP meeting was briefly discussed. It was agreed that the timeline for the next meeting would be sometime in March 2021.