

**Northeast Trawl Advisory Panel (NTAP)  
DRAFT Meeting Summaries for the  
NTAP Working Group Meeting and Full NTAP Meeting  
June 19, 2018**

This document summarizes the discussions of the Northeast Trawl Advisory Panel Working Group and the NTAP full body that were convened on June 19, 2018 at the Hilton Garden Hotel, Boston, MA from 9 am to 5 pm. A summary of key decisions and recommendations of the full day, meeting summaries for the NTAP Working Group Meeting (9 am- 12 pm) and the full NTAP body (1-5pm), and meeting agenda are presented below. This summary does not capture every individual comment or discussion point.

**Section 1. NTAP Decisions, Recommendations, and Key Outcomes:**

1. NTAP Working Group met to develop regional research plans for next 18 months but focused discussions on prioritizing near term (0-12 month) priorities. As such, there was consensus that NTAP priority is to improve consistency of trawl performance (wing spread) in shallowest and deepest regions. Plan focuses first on understanding and addressing gear performance in shallowest regions of survey, and then addressing gear performance in deepest regions.
2. Plan for the next six months includes field experiments (using an industry vessel) to compare catch rates at different wing spreads seen in the survey, flume tank work to observe gear behavior at different wing spreads, and gear trials during the fall survey, for shallowest regions. This will help refine acceptable tolerance for wing spread, and identify gear configuration to achieve those targets.
3. The panel also recommended testing and procedures for incorporating new otter doors in gear configuration to improve consistent performance of the survey in shoal waters with work to be carried out during the fall 2018 survey. NTAP Panel members are invited to accompany sea trials of improved gear configuration during this time period as scheduling/conditions allow.
4. The panel discussed a number of suggested performance metrics for the survey with an optimal performance standard of 13 meters of wing spread across the depth range of the survey. The panel recommended a lower minimum bound of 12 meters in wing spread and an upper bound to be refined upon review of planned experimental research, gear trials, and flume tank observations. The panel discussed values between 12-15 meters.
5. NTAP Working group will meet to refine and finalize field and flume tank experiments in middle of July—targeting the week of July 17<sup>th</sup>.

6. Industry members have seen increased abundance since the 90s that aren't reflected in survey or assessment trends. These mismatches could be explored through further additional research which may include a broader array of components than survey performance.
7. Panel members were very concerned about the uncertainty of sufficient Bigelow sea days and resources to carry out near term priority research. The panel recommended that sufficient sea day allocations be secured by the Center to support the 2018 fall survey work and in 2019 to continue to carry out gear performance research and gear improvement testing to support joint NTAP research activities.
8. NEFSC will immediately begin operations to design, contract, and secure an industry survey vessel (twin trawler) to carry out gear performance research for the upcoming summer/fall 2018.
9. Panel agreed to develop a joint communication release outlining the specific efforts NTAP and its members have committed to carrying out. This statement would be reviewed by all panel members and agreement reached prior to release.
10. Panel approved the March 2018 Working Group Summary Findings Report, recognizing that some WG recommendations have already begun to be implemented since this meeting, e.g., analyses of gear performance impacts on stock assessments (Summer Flounder, TRAC Assessments).

## **Section II. Working Group Meeting, 9 am - 12pm**

### **Attendees:**

Robert Ruhle - NEAMAP  
Vito Giacalone - NE Seafood Coalition  
Chris Parker- RIDEM  
Emily Keiley-GARFO  
Ryan Silva-GARFO  
Frank Mirarchi-Commercial Fishermen  
Mike Pol - MassDMF  
Tim Miller-NEFSC  
John Manderson-NEFSC  
Terry Stockwell-NEFMC, Chair  
Terry Alexander-NEFMC, NEFMC, Commercial Fisherman  
Paul Rago-Independent Fisheries Scientist  
Wendy Gabriel-NEFSC  
Andy Lipsky-NEFSC  
Philip Politis-NEFSC  
Jessica Blaylock (phone)-NEFSC  
James Gartland - NEAMAP

David Richardson (phone)- NEFSC  
Harvey Walsh (phone)-NEFSC

### **Presentation on Catchability – Tim Miller, NEFSC [Insert Link]**

The contributions of efficiency and availability to empirical estimates of catchability were presented and discussed, as well as the differences between empirical estimates of catchability and statistical estimates of  $q$  in some assessments.

In empirical models, direct estimates of efficiency (and availability) can be used to generate estimates of absolute abundance, together with catch data, depending on the model structure.

The Working Group was interested in details on the use of gear efficiency in TRAC, windowpane and witch flounder assessments, as well as whether we are using the same information or assumptions about survey availability in TRAC assessments, and Canadian approaches to dealing with survey efficiency and availability,.

In statistical models,  $q$  is estimated to generate a relationship between the model's estimate of stock size and the survey's index of relative stock abundance. When assumptions behind the stock size estimate are incorrect (e.g., catch data or natural mortality estimates are not accurate, etc.), the estimate of  $q$  attempts to bridge the potential discrepancy between biased stock size estimates and survey indices. In some cases, this leads to estimates of  $q$  that are greater than 1. It is also possible to fix  $q$  or set initial values for  $q$  based on gear efficiency study results, however.

### **Presentation on Gear Research Work Plan- Wendy Gabriel, NEFSC [Insert Link]**

The Working Group reviewed a series of alternatives and options for future gear research work.

The options include work on an industry vessel to evaluate effects of over- and underspreading. Some members also felt that the options emphasized data rather than gear performance.

Some Working Group members stressed the need to move rapidly to improve gear performance to meet gear design specifications and features, and get the net fishing as designed: some Working Group and Panel members are distancing themselves from the process because they don't see action. Fishermen lose money coming to these meetings, and need to see progress and direct commitments.

Robert Ruhle and James Gartland proposed a way to rapidly address issues. Covering inshore NEFSC strata through NEAMAP would free up Bigelow survey sea days this fall for gear trials; implementing a restrictor cable when sampling deep water stations this fall would quickly and

directly address overspreading at depth. The sea days can be used to test performance metrics of the survey, the effects of autotrawl, door changes and restrictor cables. The proposal was to not drop inshore strata in the Gulf of Maine from the survey, because funding and sweep differences would become important. However, any inshore sampling by the Darana R would require substantial efficiency/calibration work between the two surveys, to address a range of issues including day/night sampling, availability, sweep differences, and other gear issues. It would also change the area sampled by the NEFSC survey, with changes in availability. Making a change right away, without calibration similar to Bigelow-Albatross, the data will not make it through the peer-review process. To make something useful in the assessment model, we need to relate the new and old information together, and do some homework on implications and feasibility.

Another alternative would be to simply suspend all or part of survey operations for a season, and work on gear performance. This could work for model based assessments, but empirical assessments such as Georges Bank yellowtail, Gulf of Maine winter flounder and witch flounder are affected much more significantly by missing surveys.

The need to “fix the doors” first was expressed, but was augmented by concerns that improving the gear efficiency would require calibration; and after calibration removed the effect of the efficiency change on relative abundance, could ultimately have no effect on improving the stock assessment. An industry member raised the concern if we get better at catching fish with improved gear performance, but do not improve accuracy of stock assessments, it would be a waste.

An alternative to additional calibration to use NEAMAP data in place of NEFSC trawl survey data would be to pursue twin trawl experiments for shallow water now. This could be possible before 2019, and would address gear performance issues.

In those experiments, one Bigelow net would be fished at different wingspreads and catches compared to catches from a Bigelow net fished at target wingspread. (Wingspreads would be obtained through use of restrictor cables). Initially, work would focus on shoal water effects. A range of experiments with underspreading would enable development of a functional relationship between efficiency and wingspread. Although the restrictor cable may affect roundfish catches, focus on flatfish would inform calibration requirements. There was a question about the clump configuration in the twin trawl: would that change how the gear would fish, as the two trawls are not independent? There was overall consensus that this twin trawl experiment would be the best option for use of funds available from the cancellation of the Nobska contract. [D. Goethel and C. Roebuck were unable to attend this meeting but communicated their support of this option beforehand.] Should experienced twin trawl capacity be unavailable, an alternative design (e.g., “ABBA” alternate tows) could be implemented, although this would cut the number of treatments and/or increase variability in results.

In order to further address gear performance, we need to know what are the target metrics for performance. We can initially fix inshore performance if we know those targets are.

Wingspread was cited as the key variable to focus on, rather than bridle angle or other metrics. However, it was noted that efficiency is not linearly related to wingspread, because the footrope shape is a parabola, with complex behavior. This can be modelled mathematically, or through flume tank testing, although the latter does not address tension on gear, and sweep-bottom interactions.

Acceptable ranges for wingspread of 12-15 m were proposed, with a target of 13 m. Additional data from flume tank experiments, input from net designers and results of the twin trawl experiments may refine those targets. For shoal water experiments, 12 m. should be the minimum wingspread tolerance. On completion of the shoal water component, we would shift focus to deep water.

As described in the NTAP WG March meeting summary and reiterated by panel members, our efforts should work towards the goal of performance of gear consistent across all habitats and depths (vs. minimizing the variation from the optimal configuration). Improvement would be a stable configuration, and accepting that as good, vs. getting maximum catch. It may be that with the correct door in shoal water, the variability in performance may decrease. One approach would be to set a narrow range to start, and see what happens when potential solutions are implemented.

Door testing on Bigelow could be started in fall 2018, especially if extra Bigelow days can be obtained during that time. Some extra time may also be available during the regular survey period, if weather is good and no mechanical issues emerge. One candidate door (Thyboron) is in hand for shoal water performance; another candidate door would require purchase.

Moving forward, success would be understanding of the relationship between efficiency with wingspread, incorporation of improvements into future surveys, and application of results to future stock assessments. The question was raised if in the future, old data would be adjusted based on calibration, and/or whether new data would serve as basis moving forward [but see earlier discussion on calibration]. Given improvements in door technology over the past 10 years, we have new options available to us.

**Group Decision:**

- Undertake a twin trawl experiment to evaluate changes in efficiency with wingspread (“Option 1”) in shallow water.
- Allow extra Bigelow days for shallow water work this fall (2018).
- Target 13 m. as optimal wingspread, with tolerance between 12 – 15 m. Do not accept below 12 m.
- The Working Group will reconvene to design the twin trawl experiment.
- On completion of shallow water component, shift focus to deep water.

## **Flume Tank Discussion**

Some flume tank data are available, but would not reflect modifications made to the sweep since initial flume tank experiments. In addition to observing the configuration of the gear at different wingspreads (acknowledging that evaluating overspread may be difficult to simulate given tank size), it would also be valuable to look at net performance in offset configuration (although the tank cannot simulate autotrawl operation), or with restrictor cables.

**Group Decision:** There is value to flume trials and could help design of “Option 1” twin trawl experiments on changing efficiency with wingspread.

## **Section III. 12pm- 5 Pm Northeast Trawl Advisory Panel Full Meeting**

### **Attendees:**

Robert Ruhle - NEAMAP  
Vito Giacalone - NE Seafood Coalition  
Chris Parker- RIDEM  
Emily Keiley-GARFO  
Ryan Silva-GARFO  
Frank Mirarchi-Commercial Fishermen  
Mike Pol - MassDMF  
Tim Miller-NEFSC  
John Manderson-NEFSC  
Terry Stockwell-NEFMC, Chair  
Terry Alexander-NEFMC, NEFMC, Commercial Fisherman  
Paul Rago-Independent Fisheries Scientist  
Wendy Gabriel-NEFSC  
Andy Lipsky-NEFSC  
Philip Politis-NEFSC  
Jessica Blaylock (phone)-NEFSC  
James Gartland - NEAMAP  
David Richardson (phone)- NEFSC  
Harvey Walsh (phone)-NEFSC  
Ariele Baker-NEFSC  
Michael Luisi-MAMFC, Chair

## **Schedule Discussion**

Within this year’s budget, there is approximately \$30K available to fund the current meeting and future meetings into the year. About \$20K has been used to support 3 meetings.

**Group Decision:**

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- The Working Group will meet in July 2018 as soon as possible to design the experiment to evaluate changes in efficiency with wingspread. It would be important to get input from Chris Roebuck on experimental set-up, regardless of the actual form of the experiment (twin trawl or ABBA).
- We can set up webinar meetings.
- The full NTAP will meet December 17, 2018.
- Future meetings will be scheduled at the December meeting, depending on opportunities and challenges at that point.

### **Calibration Presentation- Tim Miller [Link to presentation]**

Analysis of sensitivity of assessment results to splitting Albatross/Bigelow time series have been conducted. If there is a change in results depending on whether the series is split or not, it is not necessarily due to the calibration factor, and could be due to something else.

In the case of witch flounder, results were significantly different depending on whether Bigelow results were adjusted to match Albatross or separated. One concern with splitting the series is timing of the split. If you split surveys, you won't get a stock size estimate that is independent from the Albatross. There may be other problems in the model that lead to different results for witch.

Regionally, fishermen report increases in stock size since the 1990s, yet stock assessments and surveys show low abundance levels. It isn't clear what is causing the disconnect, but hypotheses include calibration effects, targeting, random selection, blockage of strata by fixed gear in the Gulf of Maine, or other factors. Erratic performance of the gear may have been a factor, but we are trying to address that now.

Depending on whether missed strata were unusual with respect to dogfish distribution, missing stations may or may not affect survey indices that influence monitoring of dogfish abundance trajectory.

### **Incorporating Efficiency Experiment Results and Net Spread Issues- Tim Miller, NEFSC [Link to presentation]**

There was discussion related to the status of incorporating sweep study results into current assessments such as Summer Flounder. One question was focused on the potential impacts of new recreational catch estimates. If new recreational data show much larger catches than previously, this will scale up the population estimates.

### **2018 Spring Survey Update- Phil Politis, NOAA NEFSC [Link to presentation]**

Mechanics and weather delayed the spring 2018 survey. All strata were sampled, and 254/381 stations were completed. All oceanographic sampling at those stations was completed; There were gaps in spatial coverage within strata in the Gulf of Maine. The current draft vessel schedule has dedicated time for Bigelow sea day work in the summer 2019, and the work will be based on NTAP recommendations.

### **Review WG Recommendations**

In summary, the Working Group recommended that:

- We will focus on fixing door spread in shoal water first.
- Working Group would establish wing spread effects to be evaluated in twin trawl experiment.
- Secure and use any additional days in fall 2018 on Bigelow to test new doors in shoal water, targeting 13 m wing spread with minimum of 12 m for shoal-water.

There is an assumption that changing out doors will not affect catchability/efficiency as much as varying wing spread, and it was observed that the Center is usually cautious about making these changes. Even if we don't lock in the doors on shoal water this fall, we will be ahead in the game, and can update protocols and thresholds in 2019 and have more answers for next year.

It was proposed to use a scheduled NTAP field day in the fall schedule to allow for door change sea trials and include NTAP members. NTAP recommends addition of 4-5 days for the fall survey. If time is not available on the Bigelow, time on the Pisces would also be useful. Ship time needs should be addressed as soon as possible.

Although the short term work addresses gear performance in shallow water, the longer-term work plan would be to address performance in deeper water.

The Panel discussed contingency plans in case a twin trawler was not available for the planned experiment. Because getting some estimates of efficiency of different gear configurations is beneficial, we would pursue experiment following a different less optimal design, e.g., limit number of treatments; samples using either a single vessel or paired experiment (less favorable)

**Group Decision:** NTAP March 2018 Working Group Recommendations were accepted by full panel.

Andy Lipsky solicited agreement to develop a joint communication product or statement of some type from NTAP outlining what we are working on and commitments moving forward, and the Panel concurred, as long as members had an opportunity to review and approve the statement. Coordination with Councils and ASMFC communications staff would provide a vehicle for development and review.

