

**Northeast Trawl Advisory Panel
Working Group Meeting**

Thursday, November 16, 2023

9:00 AM - 12:00 PM

Attendees: Andy Jones (NEFSC), Anna Mercer (NEFSC), Daniel Salerno (NTAP Co-Chair), Jessica Blaylock (NEFSC), Jim Gartland (MAFMC scientist), Jon Hare (NEFSC), Kathryn Ford (NEFSC), Nathan Keith (NEFSC), Peter Chase (NEFSC), Bobby Ruhle (ASMFC representative), Terry Alexander (MAFMC Stakeholder), Vito Giacalone (NEFMC Stakeholder), Tim Miller (NEFSC), Alex Dunn (NEFSC), Katie Burchard (NEFSC), Hannah Hart (MAFMC staff), Dave Goethel (NEFMC stakeholder), Sam Novello (NEFMC stakeholder), Jameson Gregg (Virginia Institute of Marine Science), Gareth Lawson (Conservation Law Foundation), Jerry Leeman (New England Fishermen Stewardship Association)

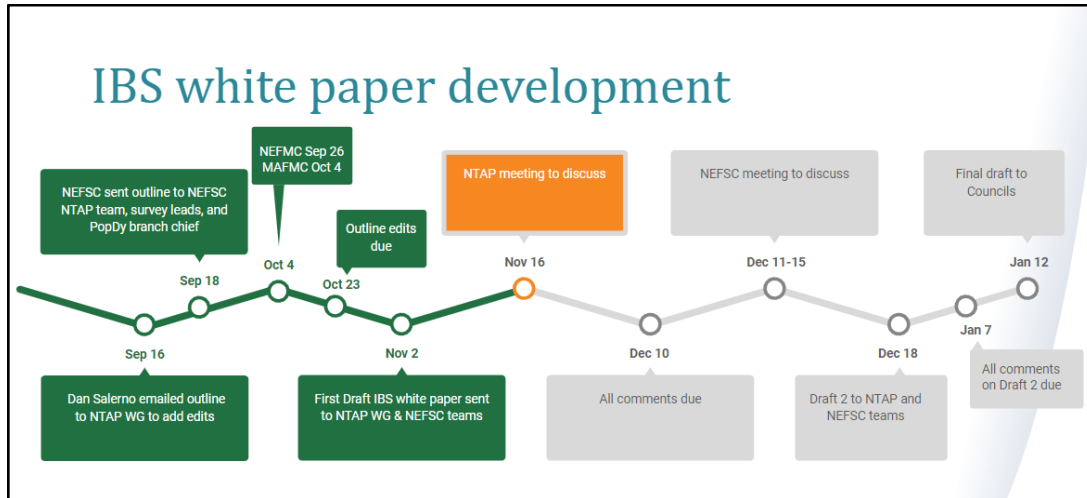
Purpose: Discuss the Industry-Based Survey white paper for a parallel, separate survey to the Bigelow survey and identify the approach to sampling, focusing on logistics.

Meeting minutes:

9:00-9:30 a.m. Welcome, Recap

- Dr. Hare and Mr. Salerno provided introductions:
 - The Northeast Fishery Science Center (NEFSC) recognizes the value of industry-based surveys and the value of cooperative/collaborative research and working with industry.
 - A complementary survey is still going to be a new survey, should be industry and scientist working together; requires trust & transparency.
 - Funding has not been identified:
 - Having a good solid plan proceeds the funding.
 - Once we put together a well thought out, solid collaborative plan we can seek the funding needed thereafter.
 - Jim Gartland: NEAMAP was built this way. Planned out two years prior to survey being funded.
- Dr. Ford went through a slide deck describing the timeline and actions of the working group, the connection of today's discussion to the Bigelow Contingency Plan and the councils' motions made at the September New England Fishery Management Council (NEFMC) and October Mid-Atlantic Fishery Management Council (MAFMC) meetings.
- Council Motions: Both the NEFMC and MAFMC, as well as the Atlantic States Marine Fisheries Commission (ASMFC) requested the NEFSC to develop a white paper to be submitted to both councils and the Commission by January 12, 2024, outlining an industry-based survey that is complementary to the spring and autumn Bottom Trawl Survey.
- The parallel industry-based survey is Bigelow Contingency Plan Option #4.
 - Still working on Pisces and NEFSC vessel options (Options #1 and #2).
- Meeting Goals:
 - Discuss the industry-based survey white paper for a parallel, separate survey to the Bigelow survey.
 - Identify the approach to sampling, focusing on logistics.
 - Other items: Update on progress for other contingency options.

- Timeline:



- Draft industry-based survey white paper:
 - Emailed to NTAP Working group on November 2, 2023. Working document in a google doc.
 - Advised to use suggesting mode (Google doc), track changes (Word), or make a list of changes working group members want to see.
 - Email or call Kathryn to get the Word version, a printed version, or discuss suggestions/edits.
 - Kathryn.Ford@noaa.gov
 - Kathryn's Phone#: 774-279-3695

9:30-11:30 a.m. Industry Based Survey (Dan Salerno & Kathryn Ford)

The presentation was broken into 3 major sections: background/program management, logistics, and gear. These were discussed in turn.

A. Background & program management

- Basic description of the proposed industry-based survey.
 - A multispecies trawl survey using industry boat(s).
 - Does not introduce survey redesign elements or calibration (keep it simple to start).
 - Same geographic range, seasons, strata, and station allocation as NEFSC survey.
 - Starting point is same gear as NEFSC survey.
 - Reduced biological sampling of catch.
 - Not calibrated to Bigelow, parallel separate survey from NEFSC survey.
 - Third-party operated as starting point BUT other options described in the draft & slide presented with those various options.

Discussion/Questions:

- It takes a long time to design a survey. Do we have time after the paper is submitted to dig in and tweak things? A: Yes. This gets us to a collaborative simple approach drafted together, including key recommendations for considering this option. **White paper should frame what the survey would look like and identify the important questions that would need to be answered.**

- As explained by the co-chair: the timeline of January 12 reflects enough time so the council receive the white paper and can distribute it before each council's first meeting in 2024 for discussion.
 - The more fleshed out the better.
 - What can we do that replicates as much of what is done on Bigelow knowing we are on an industry vessel that doesn't have the same capabilities?
- One person indicated that NEAMAP style program management is preferred at this point.
- The Chair of the Pacific Council offered to consult with us. We don't have to reinvent an industry-based survey, there are already examples. Some aspects of the west coast groundfish surveys that we should explore include:
 - They use less staff on board.
 - Well trained fishery observers process the catch.
 - Don't collect as much data as collected on the Bigelow.
 - Focused on size and age of population.
 - What do we do with the fish? Land? Or put back will affect the duration of time we can stay at sea.
- The inshore Cod industry-based survey in Maine is another good example of an industry-based survey that was used in the cod assessment.

B. Logistics

There were several major questions related to operational logistics and gear that were discussed in turn.

- Major questions/needs:
 - Logistics
 - i. 24-hour sampling vs. 12-hour sampling - what is the best approach?
 - ii. Vessel space, crew size, science crew size - how many people will fit? How do we adjust science to meet that cap?
 - What is the necessary science/samples needed- key elements needed to be collected.
 - How many people can we fit on the vessel?
 - Bring catch back to shore to be processed?
 - iii. What is needed in terms of geographic divisions? Can one boat cover whole extent, do we divide it into regions?
 - iv. What is the maximum depth possible? (the NEFSC extent is 200 fm/1,200 feet)
 - v. Will dockage be needed?
 - Gear
 - i. Proposal is to use same gear - are there details that should be discussed here (auto trawl or no, doors/sweep)

24 vs 12-hour sampling & crew sizes, discussion/questions:

There was a lengthy discussion about the value of nighttime sampling, other gear types, and logistical issues. Key recommendations were raised by multiple members: break the area into multiple regions and sample with different gear types in each region and increase the tow length to improve capture of larger, faster fish. The point was made that the further this survey gets from Bigelow standards, the less likely it can be a contingency for the Bigelow.

- NEAMAP has a 5-person science crew and samples daytime only. They know they don't capture horseshoe crabs well. North of SNE nighttime sampling becomes more important.

- Can do day/night sampling with a 12-hour day (noon-midnight, for example).
- Vessel crew can help with catch sorting and sampling.
- Hard to get to crew for 24-hour fishing.
- Survey region should be divided geographically - vessels sampling distinct regions at least south of Cape and north of Cape.
- Can we operationally correct for catchability? Is nighttime sampling/catch important?
 - Conversation ensued - consensus was that Gulf of Maine would have distinct differences between day and night catches (cod, haddock, pollock), so need to sample both; south of Cape maybe not as important. A geographical break in the survey might make sense; could consider different gear and sampling day.
 - A squid assessment does a diurnal calibration, don't think other finfish assessments do that. Sampling day/night keeps the survey consistent over time.
- Use multiple vessels that are operating over 12-hour days.
 - This is an important decision and drives costs. Should be determined with stock assessment scientists. (Another member felt NTAP should make the decision.)
- Consider increasing the tow length.
- Need methods that can be standardized over time and improve over time.
- One person recommended breaking up the area into more regions - 3 to 5 based on ecosystem considerations. Each region has its own survey design to focus on the species in the ecoregion.
- If we create a new survey without having solid ties to current survey protocols, the data will have to be stand alone and cannot be incorporated with any current time series. Any new survey data would not be able to be augmented during the Bigelow refit.

Geographic regions, discussion/questions:

The discussion favored multiple regions with multiple boats to cover the survey area. Existing survey allowances with Canada will likely be extendable to this survey.

Other costs, discussion/questions:

- Major costs are personnel and vessels. Everything else includes one-time costs and/or miscellaneous items that do not add up to much.
- One-time costs include nets and a set of doors per net. 3-meter doors are at least 30K per net.
- Would be difficult for industry to keep and maintain the gear in the off-season but storage options exist (typically outside).
- Don't forget the costs with maintaining electronic data entry systems.
 - Brief discussion of returning to paper - this was not supported by the group because there is so much value to real-time auditing (eliminating any mistakes as they occur), the time and error-prone nature of transcription, and the significantly quicker turnaround of digital data.
- Need to compare the effect of daylight only sampling on the budget.
- Mensuration systems are common; vessels likely already have the capacity to measure gear performance. Net mensuration systems can be portable using a towed hydrophone but towed hydrophone inferior to mounted. It's best to have these systems managed by the program and not individual vessels.
- 2 or 3 of the larger boats in the Mid Atlantic have auto trawl.
- Mapping the bottom to look for obstructions is important. Vessel would need an adequate mapping system on board.

- Discussion about water quality sampling and how to best accommodate it. Need at least temperature. Bongo tows were taken off the table to keep this survey more flexible; but this information is important.
- Need a list of what are the different components of sampling done on the Bigelow now. Put in order of what is most important for the NEFSC Population Dynamics Branch. Figure out where the cut-off is. Analytical and empirical assessments.
 - Weights and numbers regardless. Age structure critical for some assessments. Primary data collected. Maybe some maturity data is necessary.
 - Assess where we need to supplement versus redundant sampling.
 - How much of each species, lengths, individual weights and age are important data elements. [Include a table in the draft plan showing the minimum data requirements needed.](#)
 - Location, date, time, depth, net geometry, vessel speed over ground, heading, winch data and environmental data. [Mapping the bottom beforehand is not currently addressed in the white paper and should be added.](#)
- We cannot just use port sampling program and observer program data because they are from fishery dependent FDD sources vs fishery independent FID sources. Need data from both sources to account for different gear selectivity in using age structure data from both data sources.
- Weight/lengths are a must but may be able to scale back the sample density on hard parts for the initial implementation period unless a change of size at age is detected.
- Any new sampling program needs to have a tangible link between the Bigelow and inshore surveys. Possible for strata to overlap between current surveys before the Bigelow goes offline? Wouldn't that give you a data bridge to current time series as well as serve as an audit system for any new data sources?

C. Gear

- Starting point is NEFSC Bottom Trawl Survey gear:
 - 4-seam, 3-bridle box-net with rockhopper gear
 - Poly-Ice oval doors
 - Auto trawl
 - Same wire and vessel beam, draft, power each survey
 - What has to be reconsidered in an industry-based survey?

Gear, discussion/questions:

- Wire size and length were discussed in depth. Most industry vessels use $\frac{7}{8}$ " wire. It's not common for vessels to fish to 200 fm; the ability exists in the fleet but isn't typical. That requires ~700 fm wire which is on the high side.
 - Look at 160 fm as the maximum depth and see what is lost.
- There are boats in the fleet that can handle the depth, 24-hour sampling, and the larger science crew sizes, but they're expensive.
- Consider a regional component to gear. The ground gear itself could be a regional component.
- Some discussion on the value of standardizing gear - differing opinions about need to standardize all gear components, differing opinions about ability and success of integrating time series with different spatial and temporal extents. Confirm with the west coast how they standardize.

11:30-11:45 a.m. Gloria Michelle replacement & Pisces updates (Nathan Keith)

- Bigelow midlife September 2027 for a complete year.
- Pisces will fill in for 1.5 year. Fall of FY29.
- Realistically won't need Bigelow until Spring of FY2029.
- Bigelow goes into dry dock Fall of 2025 and have Pisces ready to conduct the 2026 Spring survey (March).
- Giving a two-year lag.
- Will provide a timeline and data points.

Discussion/Questions:

- Q: Would this detract from what the Pisces normally does? A: All work they typically do can go on other vessels
- Q: Is there enough time to get Pisces set up? A: The Pisces is currently in dry dock and we hope to address these winch issues- testing wire strength- updating auto trawl asap. Getting ready to go in fall of 2025 as a backup. Staffing has also been an identified issue that is being worked on.

11:45 a.m.-12:00 p.m. Summary and next steps (Kathryn Ford)

- Summary of key points:
 - Day/night sampling. For now, assume a 12-hour window using multiple vessels over a day/night period. Compare costs to that of a 24 hour sampling option.
 - Develop list of minimum biological sampling needed.
 - Will plan on 200 fm depth, but will recommend that we should examine how many stations we would lose over that 160 fathom depth.
 - Integrating surveys could be added as a recommendation.
- Specs for scallop survey have come out and are available. Next steps include issuing vessel specs.
- Next Steps:
 - December 10, 2023 - All comments to draft white paper due.
 - Week of Dec 11, 2023 - NEFSC meeting to discuss assessment and survey groups.
 - December 18, 2023 – Second white paper draft will be sent to the full NTAP, NEFSC teams, and west coast reviewers.
 - January 7, 2024 - All comments on second draft of the white paper are due.
 - January 12, 2024 - Final draft will be sent to the councils.