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Subject: Northeast Trawl Advisory Panel (NTAP) Report

To: New England Fishery Management Council

From: Terry Alexander, NEFMC NTAP co-chair

1. NTAP met on 1/14/21 mainly to discuss the charter, previous work done by NTAP, and future work we need to do this year. Wes Townsend of the Mid-Atlantic Council and I are the new co-chairs.

The first thing on the agenda was an overview of the [NTAP Charter](#) to see if NTAP was okay with the flexibility of the charter or if we should revisit it and firm up loose ends. As far as the panel was concerned, Mike Sissenwine has taken a stab at simplifying it, which I am going to run by Council leadership first before I send it out to NTAP. Thanks for that Mike. A lot of the conversation revolved around section 3 of the charter. Section 3 states:

“The NTAP will report directly to the Fishery Management Councils and the NTAP's recommendations will be forwarded by the FMC's to the NEFSC only upon approval of both FMC's.”

We have not been following that process at this point. We have recommended the work to the center and they have done it and decided whether or not to use it. I believe all the work we have done thus far has been used in the most recent assessments. In my opinion, it has been working fairly well but that isn't what we are supposed to do according to the charter. It was my duty as co-chair to notify council leadership of this. I have done that and am waiting for an answer. I just wanted the full council to be aware of the issue. The process we have been following is faster for sure, but it may have pitfalls to it.

2. The NTAP working group met 11/24/20 prior to our December council meeting to discuss and set parameters for calibrating the NEAMAP survey boat to the Bigelow. The end result of that meeting was that we should not move ahead with that experiment that was voted on by the full NTAP in August. The rationale for that vote was that we had some money that had to be used by a certain date but because of COVID-19, that wasn't going to happen. So, we scheduled our January meeting to talk about what we should do with that money that needs to be spent.

At the 1/14 meeting, NTAP made up a laundry list of concerns with the NEFSC bottom trawl survey.

- 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

All these concerns prompted lots of conversation. I have attached a copy of the paper that we were working off listing the pros, cons, and hopefully some ideas for solutions to the problem for you to look at and maybe opine on.

3. The end result was the research options, which are listed below and at the end of the attached working paper. I would like to have these options discussed during my January 27th NTAP report at our Council meeting. NTAP is in the process of voting on how to proceed and spend the money that we have now on 1 of these 2 options. We won't know the results until after the Council meeting and NTAP meets in March. I will report back at the April Council meeting.

Research Options

\$170,000 in NTAP research funds available

\$220,000 in research funds on ASMFC grant for survey adaptation for offshore wind

Potential \$500,000 in FY21 budget for offshore-wind survey adaptation

- NTAP Crossroads... Either:
 - 1) Test and change gear to address concerns.
 - Create a trawl system with consistent wingspread and bottom contact to improve confidence (improve precision, reduce bias) in the trawl survey raw data
 - Restrictor cable testing
 - Cost estimate/scope:
 - If there is no/insignificant effect on catch, explore implementation in either BTS or other surveys
 - If impacts catch, would need to re-assess method to address concerns and enhance consistency
 - Phased change if gear changes are demonstrated effective by research and recommended by panel
 - Changes to BTS gear need to be evidence based
 - *Risk: Resources may not be available to implement gear changes if they require calibration*
 - 2) Calibrate and supplement BTS with other surveys; analytical adjustments.
 - Mine existing data and analyze to quantify concerns before moving on (VG)
 - Cost estimate/scope

Northeast Trawl Advisory Panel

January 14, 2021

Concerns with the NEFSC Bottom Trawl Survey

- Gear:
 - Tow time – ability to catch large fish
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- 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

- 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

- Note: Cross-reference this list with Moulton Groundfish Task Force Report

Methods to Address Concerns

- NTAP Crossroads... Either:
 - Test and change gear to address concerns.
 - Calibrate and supplement BTS with other surveys; analytical adjustments.
 - *Note: These options require different levels of resources. And high resource levels may unlikely, especially in near term.*
- Bottom Contact:
 - Implement bottom contact sensors that measure contact time
 - Currently use Scanmar trawleye (acoustic) – on bottom, off bottom
 - Chains to visualize drag of net 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:
 - Maintain consistency of spread and minimize variability in capture efficiency
 - Open opportunities to use consistent gear package in other surveys and as backup plan
 - North Sea uses restrictor wire in deep water (in front of doors) – share information about this with NTAP.
 - 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
 - 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?
 - Cod tagging project – GMRI/SMAST

- 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

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