New England Fishery Management Council
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John F. Quinn, J.D., Ph.D., *Chairman* | Thomas A. Nies, *Executive Director*

MEMORANDUM

DATE: January 17, 2018

TO: Executive Committee

FROM: Tom Nies, Executive Director

SUBJECT: **Groundfish Working Group on Fishery Dependent Data**

At the September 2017 Council meeting, the Council passed the following motion that came from the Groundfish Committee:

> to request that the Executive Committee discuss convening a working group to identify and/or improve methods for using monitoring data in stock assessments to estimate stock biomass.

The discussion on the motion was wide-ranging, and it was not clear what the purpose or goal of the workshop would be. The Executive Committee addressed the motion at its November 8, 2017 meeting. The Executive Committee was uncertain on what the outcomes of the workshop were to be, and identified three possible topics:

- A workshop on monitoring: what data would be most valuable for improving the assessments?
- What are the reasons for the disconnect between the assessments and fishermen's perceptions of stock status?
- What data could be used to form an index of abundance that can be used in the assessments? How can CPUE be designed so it can be used in an assessment?

These ideas were discussed by the Council at the December Council meeting. The Council discussion clarified that the Groundfish Committee's interest was more closely aligned with the third bullet: a working group to explore the use of CPUE in stock assessments as an index of abundance. The Council again asked the Executive Committee to discuss the issue. In addition, during the discussion of 2018 priorities, the following motion was adopted (emphasis added):

> to amend the priorities for Groundfish for 2018 to include all regulatory requirements and Amendment 23 and by clarifying that work on Amendment 23 includes utilization of workshops/expanded PDT meetings for development of technical elements i.e. EM, DSM etc. and a **working group to discuss the topic of how fishery dependent data can be used to inform stock abundance**.

There has been considerable exploration of CPUE for several groundfish stocks (GOM cod, GB cod, witch flounder) since 2011, but this does not seem to be widely acknowledged. For example:

- After the 2011 GOM cod assessment, the Scientific and Statistical Committee identified CPUE as one four topics that warranted further investigation. SSC members did not agree on whether CPUE should be used as an index of abundance to tune the stock assessment, with some supporting the idea and others considering it inappropriate. In any case, the GOM cod benchmark assessment included a CPUE working group that was convened in August 2012 in Gloucester, MA. As a result of that meeting several analyses were prepared, including an LPUE index for the commercial fleet and another for the recreational fleet. The working group recommend against using these indices in the SAW 55 assessment model.

- In 2015 the NEFSC partnered with GMRI to hold a series of meetings throughout New England designed to improve the stock assessment process and data streams feeding into the assessments. The series culminated with a workshop in November 2015. One of the outcomes of that workshop was the funding (by the NEFMC, NEFSC, and EDF) of a research project to develop a groundfish CPUE index for the 2016 witch flounder benchmark assessment. Three different researchers presented a variety of CPUE indices to the working group. One was used as a sensitivity run for the analytic SCAA model that was ultimately not accepted by the peer review panel.

Recommendation

The Council and the NEFSC should convene a working group with four main deliverables.

- Explain how fishery dependent and fishery independent data is used in stock assessments. This should include an explanation of how different data elements are used and interact in an age-based analytic assessment.
- Summarize the theoretical utility and limitations of using CPUE/LPUE as an index of abundance for Northeast Multispecies stocks. List recent (GARM III or later) efforts to create a CPUE for any of these stocks and the results of those efforts (i.e. successful/unsuccessful, used in analytic assessment, etc.).
- Without regard to existing fishing practices, regulations, or monitoring systems, identify the fishery factors and fishery dependent data needed to create a CPUE that would be a reliable index of abundance for Northeast Multispecies stocks.
- Compare the desired factors identified with existing conditions and data for the fishery. This should be a gap analysis of factors and data needed, as well as the analytical approaches necessary, to create a CPUE that would be a reliable index of abundance for Northeast Multispecies stocks.

Working group participants should include NMFS and Council staff, industry representatives, and other scientists. The Council and the SSC should each select two external scientists as members. The Council will pay travel costs for external participants. The working group should consist of 8-10 members. The working group should conduct its business as efficiently as possible; if in-person meetings are held they should be open to the public.

The working group should prepare a report that reflects the consensus of the group. If a consensus cannot be reached the report should summarize key differences of opinion. This report should be written in a clear, non-technical manner so that it can be easily understood by the public. The SSC will review the report; after review by the SSC it will be presented to the Council (via the Groundfish Committee) for consideration and possible action.

If at all possible, the work should be completed so that it can be presented to the Groundfish Committee prior to the June Council meeting.