OCEAN PLANNING IN THE NORTHEAST

Fish Work Group Meeting #3
Monday, March 9; 2:00pm – 3:30pm

Participants

Work Group: Daniel Martin (NOAA), Peter Auster (UConn), Jay Odell (TNC), Kathy Mills (GOMRI), Jeremy King (MADMF), Malin Pinsky (Rutgers), Jamie Cournane (NEFMC), Todd Callaghan (MACZM), Prassede Vella (MACZM), Sharri Venno (Houlton Band of Maliseets), Jeff Herter (NY DOS), Mina Innes (NY DOS), Liz Podowski (NY DOS)

Marine Life Data & Analysis Team (MDAT): Pat Halpin, Jesse Cleary, and Corrie Curtice (Duke), Mike Fogarty and Charles Perretti (NOAA)

NROC: Nick Napoli, Emily Shumchenia, Katie Lund

Welcome, introductions, etc.

After roll call, Emily described the process by which NROC and the MDAT team collected feedback from WG members regarding prioritizing species, data product outputs and general methodology. Emily tabulated feedback from the work group and presented it to the MDAT team for incorporation into a draft work plan. The MDAT team has since produced a draft work plan for work group review (included in meeting materials). As with previous calls, we will continue to solicit and gather feedback on this work plan in order to finalize it.

Assessment boundaries

A map of assessment boundaries was developed for all MDAT products (pdf included in meeting materials). This map considers work group feedback on an initial set of study area options, including the extension of the area beyond New England due to ecological factors (i.e., includes the Bay of Fundy and Hudson Canyon based on data availability). It is important to note that these boundaries will be used to clip model outputs and create summary statistics from the data products; these are not regulatory/planning boundaries. From discussions with the Mid-Atlantic Data Portal Team, an assessment area was delineated for any potential marine life products that could be developed for that region. There is an intentional area of overlap between the two regions, which centers around NY waters and out to the EEZ.

Ongoing discussions between NROC, MDAT and the Mid-Atlantic Data Portal Team will determine if it is possible to also develop products for the combined Northeast/Mid-Atlantic area and the Mid-Atlantic area alone, in addition to the Northeast area already underway.

- **Work group to provide final comments on assessment boundaries**

MDAT Fish Work Plan

Mike stated that, of all the species prioritized by the work group, there is only one for which data from the Principal Trawl Datasets are lacking: Atlantic salmon. Mike's team has map-able data on ~70 species; some datasets are more suitable for some species. For example, the inshore trawls (NEAMAP, MA, NH-ME) will likely better represent the distribution and abundance of Atlantic sturgeon and American eel than the NEFSC trawl data.

As a result of discussions with the work group, Mike and Charles provided several clarifications about the draft work plan:

- Although the area surveyed by NEFSC has changed over time (they no longer survey parts of the Scotian Shelf, for example), the tows are standardized by length and time; there have been calibrations between older survey vessels and the newer Bigelow
- Mapped data includes all sizes and life history stages available in the trawl dataset (pooled juveniles and adults) – for some species this includes a very wide range of life history stages
- Final data products will be uniform in terms of survey footprint (in accordance with the MDAT assessment area discussed above); maps/models will not show data/predictions in most estuaries and nearshore embayments
- The next phase of data development will examine the inshore trawls (NEAMAP, MA, NH-ME) which all have different survey vessels, methodologies, and temporal ranges
- Visit www.nefsc.noaa.gov/rcb/_ecosys/ecosys/ for new example maps and animations from Mike's group

Charles showed example map products for Atlantic cod and Atlantic herring derived from the NEFSC trawl surveys from 1970-2013 and the following points were discussed:

Species prioritization

As a result of Call #2, the work group recommended that a subset of species be chosen for presentation to NROC/NERPB. The prioritized species list was created by tabulating the work group's responses to a request to rank the species spreadsheet distributed in October/November. The rationale for choosing a subset of "prioritized" species is to reduce the number of map products that managers and planners would need to initially sort though, given the high number of fish species (~70) and trawl datasets (4) — i.e., to prevent "information overload". The work group agreed that this prioritization is important, and discussed what species in particular would be important to include or remove from the existing list – Haddock and Pollock were nominated for inclusion as priority species.

Mike pointed out that the Appendix in the draft work plan lists all of the species for which maps/models will be developed and that this includes some species that have more southern ranges.

- **Work group will provide final comments on the priority species list (Table 1)**
- **MDAT will add Haddock and Pollock to list of priority species**
- **MDAT will clarify the similarities/differences between Tables 1 & 2 and the Appendix in the work plan text**
- **MDAT/NROC teams will coordinate with NY/Mid-Atlantic partners on species lists that may be of interest to both regions**

Data products

Work group members agreed that the combination of Bubble plots, hexagon plots, IDW maps, and maps of variance were important.

- **MDAT will consider the specific feedback provided by the work group relating to data products:**
  - Use a contrasting color in the legends for "no data", rather than no color
  - Alter the color ramp to be more visible to those with colorblindness
  - Consider adding "n", sample size, to maps to highlight large amount of data
  - Consider a threshold minimum number of tows to be included in each hexagon
  - Consider creating one product with all survey years (1970-2013) and companion plots of the most recent decade (2004-2013) and a past decade (e.g., 1974-1983)

  - Consider clipping historical data products to same extent as current, i.e., clip out Scotian shelf data
  - Consider other metrics of uncertainty or variance such as coefficient of variation
  - Consider using depth as a covariate in modeling fish species distribution
  - Consider a map that shows hexagons that have changed the most over time (e.g., subtract the means from various time periods)
  - Consider types of products that show species persistence; or areas that have had consistently higher abundances for certain species

- **MDAT will develop example data products from the inshore trawl datasets for work group review**
- **Work group will suggest potential sources for maps of Narragansett Bay and Long Island Sound fish distribution/abundance to serve as reference/companion material to this project's outputs**
- **Work group will review MDAT's draft work plan and provide input and comments**

Next work group call

Feedback on the MDAT work plan will be sought out and incorporated prior to the next call.