Ideas for Workplan 2019 and Beyond

What long-term contexts do we need to consider beyond 2019?

Recent Research Foci: trawl efficiency

- Comparison of rockhopper and cookie sweep relative efficiency
- Estimates of Bigelow trawl efficiency (chain sweep studies)
  - Yellowtail, witch, winter flounder, summer flounder assessments

2019 Research Focus: wingspread consistency

- Analyses of effect of variable area swept on survey index trends, assessment impacts (nearing completion)
- Identify criteria for acceptable wingspread ranges (gear performance characteristics)

2019 Research Focus: wingspread consistency

- Observe trawl behavior as a function of wingspread via flume tank experiments (February (?), 2019)
- Pilot field study to identify functional relationship between catch rates and wingspread (Fall, 2019)
  - Identify scope of problem for target species
  - Focus on changes in efficiency due to wingspread, not area swept
- Test doors to identify potential operational solutions (Spring, summer 2019)

2019 Research Focus: potential implications and contexts

- What is effect of calculating survey indices based on tow-by-tow area swept, to take into account the historically observed variability in wingspread? (nearing completion)
  - No significant change in trend? No need to apply adjustment if it has no effect
  - Significant change in trend? Use tow-by-tow estimates – does this reduce variance?

2019 Research Focus: potential implications and contexts

- What is effect of different wingspreads on catch rates, beyond area swept? (twin trawl experiment this summer/fall)
  - No significant difference in catch rates over a range of wingspreads from x meters to y meters, which includes optimal wingspread?
    - Use that range as the range of acceptable gear performance?
    - Focus future work on wingspreads outside of that range?

2019 Research Focus: potential implications and contexts

- Significant difference in catch rates outside the range of x meters to y meters?
  - How to address that difference?
    - Door change?
      - What is an effective gear configuration?
      - Full or partial range of survey?
      - What is potential impact of change?
        - Expensive calibration?
        - 5-10 year gap in time series (new series)?
    - Develop wingspread – catch rate relationship?
    - Reject tows outside range?

2019 Research Focus: potential longer term actions

- Develop a shared pool of information for decision making
- Information is developed based on approaches/designs that are seen as legitimate and agreed by all interests
  - We are assuming that “all interests” are represented through the NTAP, its working group, and our internal working group.
- Peer review of results, potential future designs (SSCs or other independent panel)
- Agency will make decision based on scientific research results, input from NTAP and input from SSCs
- Decision making may be based on a form of cost/benefit or risk analysis
  - Cost/benefit dimensions yet to be identified but could include
    - Impact on scientific data quality
    - Impact on assessment outcomes
    - Budget or operational constraints
  - Risks may not be quantifiable beyond positive or negative
  - May be hybrid rather than either/or

2019 Research Focus: changing availability

- Evaluate potential changes in Gulf of Maine flatfish distributions, and possible impacts to availability to fishery independent surveys

Out-year Research Focus: changing availability, expanded efficiency studies, other topics?

- Evaluate potential changes in other species distributions, and possible impacts to availability to fishery independent surveys?
- Expand the number of species for which efficiency estimates are available?
- Start to consider target species in context of new NRCC model

2019 Workplan Candidates

- Process to determine performance criteria for door/wingspread
  - Objectives
  - Operational metrics
- Roadmap re: improving performance for stock assessment data reliability

- Flume tank experiments (February)
- Paired trawl experiments (August-September): refine experimental design
- Door testing (Spring/Summer)