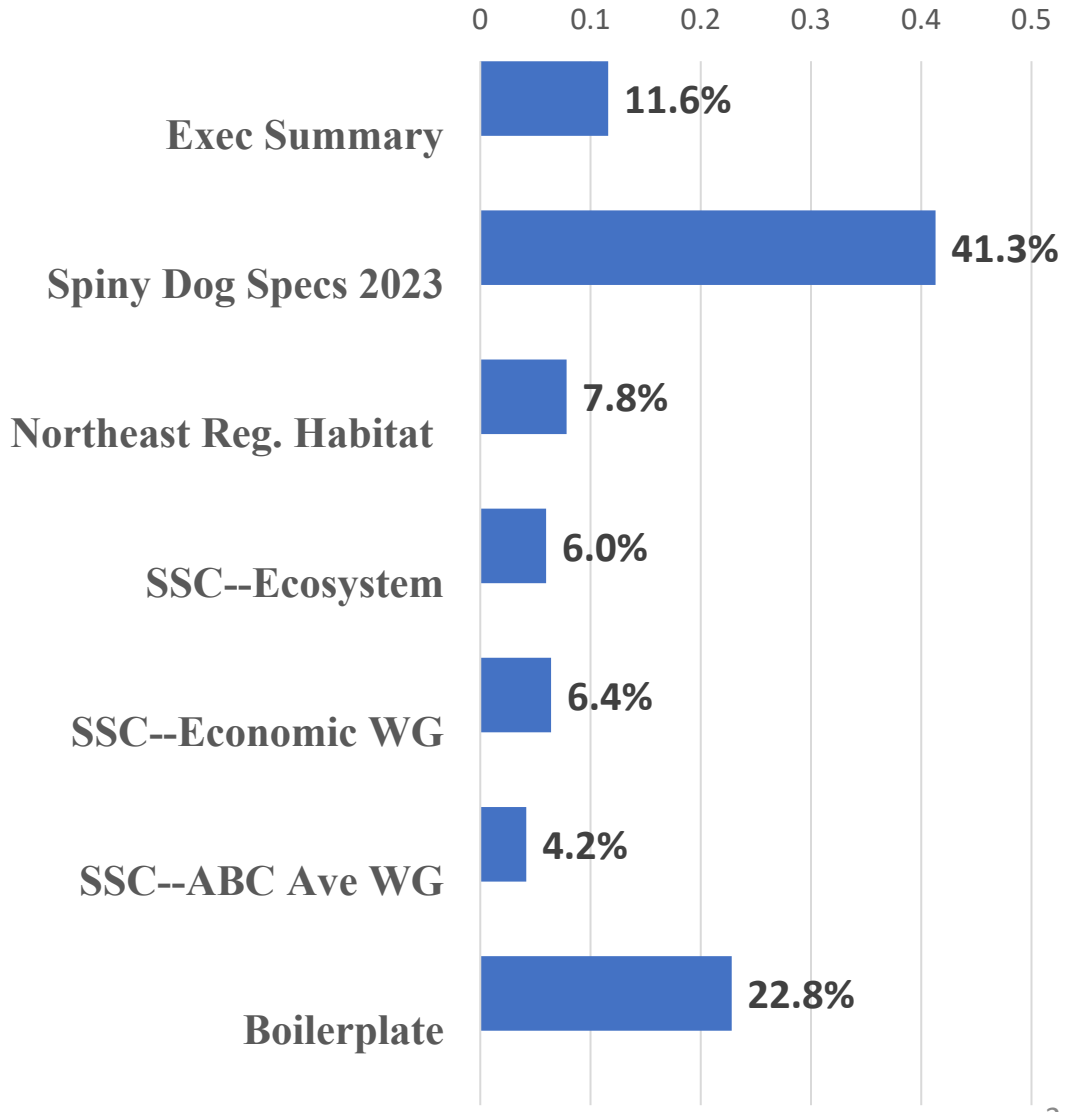
Scientific and Statistical Committee Report of September 13-14, 2022 Meeting

to

Mid-Atlantic Fishery Management Council
October 6, 2022
Tab 13

Primary Topics (Word Count %)

- Executive Summary
- **Spiny Dogfish Specifications--2023**
- Northeast Regional Habitat Assessment
- SSC Ecosystem WG
- SSC Economic WG
- SSC ABC Averaging WG
- Boilerplate



Spiny Dogfish Specifications--2023

- **SSC Recommendation: Greater investment in stock assessment capacity is required**

Northeast Regional Habitat Assessment

- Decision support system for data visualization and summarization to serve scientific and management needs. Supporting unanticipated projects: wind, other energy issues. Integration with EFH, SOE, single species assessments.
- Modeling approaches allow integration of survey + oceanographic + physiology etc.
- SSC seeks clarification on methods for estimating uncertainty, treatment of time series data, and inclusion of both dynamic (e.g., temperature) and static (e.g., bottom type) factors. Averaging over different surveys.
- SSC recommends consideration
  - Earlier life stages, such as data from ECOMON cruises.
  - Size classes or maturation status because physiological requirements change with age.
- SSC supports the conclusions and recommendations of joint review of NRHA by NEFMC and MAFMC SSC
- **Importance of annual data updates**.

SSC Ecosystem Work Group (2022+)

- **Objectives**
  - Expand and clarify the ecosystem portion of the SSC's OFL CV determination process;
  - Develop prototype processes to provide multispecies and system-level scientific advice, especially when there are multispecies and multi-fleet tradeoffs;
  - Collaborate with SSC and stock assessment leads, and appropriate working groups to develop stock-specific Ecosystem and Socio-economic profiles.
- **Ongoing Work**
  - Simulation studies at U Md and Rutgers to simulate environmental effects on stock-recruitment and assessment uncertainty. Research should help inform appropriate OFL CV levels. Builds upon MSE studies for Summer Flounder.
  - Multispecies ecosystem indicators of overfishing. An index method known as "Data Envelopment Analysis" (DEA) has been tested initially, and shows considerable promise.
  - Use of ecosystem models such as Atlantis and others for testing utility of indicators.

SSC Economic Work Group

- **Accomplishments**
  - Evaluation of the potential restart of the Research Set-Aside program. Multiple meetings with the Council's Research Steering Committee.
  - Summer Flounder MSE
  - Review of models for recreational harvest specifications
  - Review of the Recreational Harvest Control Rule
- **Moving Forward**
  - Process driven by the expertise and interests of SSC members and needs of the Council.
    - Further RSA work
    - Support of the Ecosystem WG
    - Potential Updates to the Harvest Control Rule amendment in late 2023.
- **Recommendations**
  - More economic data. E.g., individual bid information, similar to requirements for oil, gas, and timber leasing.
  - Linkages to other SSCs, particularly in the South Atlantic.
  - Contrasting fishery management systems: management via catch shares, quota monitoring, and the role of public vs private influences in management.
  - Partner with SCEMFIS or ASMFC to serve as administrative entities for RSA.

SSC—ABC Averaging WG

- Average ABCs are often considered desirable by both managers and harvesters.
  - BUT averages can be problematic with respect to the Council's Risk Policy and Magnuson-Stevens Act regulations.
  - Depending on the expected trend in biomass and initial population size with respect to B_{msy}, an average of consecutive ABC developed under the P* approach may violate the policy constraints.
- Analyses and simulation studies suggest
  - Constant ABC can be maximized subject to constraints.
    - Will work with Council staff to define appropriate constraints.
  - Preliminary simulation work suggests that multiyear constant ABCs based on the initial projection year may perform as well as more complex ABC averaging schemes.
- Collaboration with NEFSC Population Dynamics Branch is desirable and necessary.
- Increased frequency of MTAs should reduce the need for longer term ABCs since most assessments will be updated every 2 years.

Other Business

- Workshop of the Fishery Management Council's Scientific and Statistical Committees August 15th-17th in Sitka, Alaska. Focus—inclusion of ecosystem information in stock assessments. Five representatives from MAFMC. Highlighted utility of interactions with other Councils' SSCs.
- Brandon Muffley updated the SSC about the effects of recent delays in Research Track Assessments for SSC deliberations. Changes are NOT expected to affect the ability of the SSC to derive ABCs, but interval between completion of the RTA and initiation of the MTA may be undesirably short.
- The July 2023 meeting of the SSC will require ABCs for at least six species, including Atlantic Mackerel, Spiny Dogfish, Summer Flounder, Scup, Black Sea Bass, and Bluefish.

Questions?

SSC Report to MAFMC

ADDITIONAL SLIDES USED IN STAFF PRESENTATIONS

Dogfish Slides for Oct. 5, 2022 MAFMC Council Meeting

SSC Process for ABC Determination

- Key Factors
  - Trends in female spawning stock biomass despite catches below ABC
  - Relatively low incoming pup production
  - Evidence of slower growth from most recent aging study
  - Staff analyses of LPUE trends
  - Literature suggests declines in availability occur when ocean is cooler, but recent trends are warmer
- Adjust ABC or OFL?
- Consistent with Council Risk Policy?
- Transparent, reproducible adjustment to ABC
  - Based on ratio of recent average (2021—2022) to previous average (2016-2018)
  - Trend confirmed by regression analyses

Why use an ad hoc approach?

- Status quo not appropriate given set of signals
- Approach based on ratios is conceptually similar to “Plan B Smooth”
- Complications of delayed Research Track Assessment (RTA)
  - Difficulty of supporting both RTA and MAFMC need for regulations simultaneously
  - Need for advice under MSA

Computation of 2023 ABC= 7,788 mt

- Adjust ABC in 2019 to account for current Council Risk Policy. New value = 12,978 mt
- Compute 2021-2022 female SSB = 61.413
- Compute 2016-2018 female SSB= 102.345
- ABC for 2023= ABC(2019)*SSB(2021-2022/SSB(2016-2018)
- = 12,978 * 61.413/102.345
- **= 7,788 mt**
- **This represents a 55% decrease from the 2022 ABC of 17,498 mt.**

Sources of Uncertainty

- Lack of an updated stock assessment
- Lack of a survey data in 2020 due to COVID
- Changes in size distribution of mature female dogfish may reflect changes in growth and reductions in stock productivity
- **SSC Recommendation: Greater investment in stock assessment capacity is required**