




Mid-Atlantic Fishery Management Council
800 North State Street, Suite 201, Dover, DE 19901
Phone: 302-674-2331 | FAX: 302-674-5399 | www.mafmc.org
Michael P. Luisi, Chairman | P. Weston Townsend, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: May 25, 2023
To: Michael P. Luisi, Chairman, MAFMC
From:  Paul J. Rago, Ph.D., Chair, MAFMC Scientific and Statistical Committee (SSC)
Subject: Report of the May 9-10, 2023 SSC Meeting

Executive Summary

CAMS Project Summary

The SSC received a summary of the most recent developments in the Mid-Atlantic/New England Catch Accounting and Monitoring System (CAMS), including results of a review by the Center for Independent Experts (CIE). Progress towards a common database for catch accounting is occurring, but the SSC expressed several concerns regarding comparisons with previous methods and requested additional information on the algorithms used to estimate landings and discards in real time. Estimates based on the new CAMS data will be used in 2023 Management Track Assessments in July and September.

Spiny Dogfish

Results of the recently completed Research Track Assessment (RTA) were reviewed. A size and sex-based model was developed, natural mortality and maturation rates were revised, and fishery selectivity was estimated. Results suggest lower productivity than previously estimated. Reliable estimation of current age and growth rates remains a concern. A Management Track Assessment incorporating these changes will be reviewed in September and considered by the SSC at a to-be-determined meeting later this fall.

Bluefish

As part of the recent RTA, a new state-space model was developed that allowed for incorporation of ecosystem information in model formulation. Major changes include use of age-specific natural mortality rates, improved estimation of discard weights in recreational fisheries, and new biological reference points. Recreational CPUE was

improved significantly by including consideration of trips that included closely related species. A Management Track Assessment incorporating these changes will be reviewed in June and considered by the SSC in July.

Surfclam and Ocean Quahog

Surfclam biomass remains above target levels and fishing mortality remains well below target values. Despite some warning signs in stock trends, the SSC concluded **that no changes were necessary for the previously approved ABC of 40,946 mt for Surfclam in 2024.**

In view of the high stock biomass, low fishing mortality, and absence of any trends in indicators, **the SSC concluded that no changes were necessary for the previously approved ABC of 44,065 mt for Ocean Quahog in 2024.**

Butterfish

Review of the recent data did not suggest that modification of the projected quotas was warranted. **The SSC recommended continuation of the previously recommended ABC of 15,764 mt in 2024 for Butterfish.**

Chub Mackerel

In view of the low commercial catches, scanty discard information, low and likely imprecise recreational catches, and absence of any reliable indicators of relative abundance, **the SSC recommended continuation of the current ABC of 2,300 mt in 2024.**

Golden and Blueline Tilefish

The Golden Tilefish population generally appears to be at equilibrium. Two fishery independent longline surveys will be conducted in 2023, and an RTA in 2024 will likely provide a comprehensive summary of current stock conditions and an improved basis for future catch limits. **The SSC affirmed its previously recommended ABC of 891 mt for 2024.**

Blueline tilefish will be assessed in a SEDAR benchmark assessment in 2024/5 and an expansion of a South Atlantic fishery independent deepwater longline survey will be conducted in 2023. In view of the low catches and the absence of any measures of relative abundance, **the SSC recommended continuation of the previously approved ABC of 45.6 mt (100,520 lb) for 2024.**

Guidance for Constant Average ABC

The SSC recommended continuation of current computational methods and collaboration with the Center to ensure that projections from WHAM satisfy the SSC's methodology for computing time-varying risks of overfishing. Consultation with other Councils' SSCs on this topic is recommended.

Updates to OFL CV

The SSC recommended review of the OFL CV process after the July SSC meeting. OFL CVs will be determined for a number of the species reviewed at that meeting. The review will consider the complexity of the process and the consistency of application, and transparency and communication of results.

Background

The SSC met in person in Baltimore and via webinar from 9th – 10th May 2023, addressing the following topics:

- Receive updates on recently completed peer reviews of
 - CAMS
 - Spiny Dogfish Research Track Assessment
 - Bluefish Research Track Assessment
- Receive reports of SSC Subcommittees on
 - Constant Average ABC calculations
 - Updates to OFL CV guidance document
- Review previously recommended ABCs for 2024 for the following species
 - Atlantic Surfclam and Ocean Quahog
 - Butterfish
 - Chub Mackerel
 - Golden and Blueline Tilefish
- Conduct other business

See Attachment 1 for the meeting’s agenda. An Executive Summary provides a quick summary of the primary conclusions of the SSC.

About half of the SSC members were able to participate in person for both days of the meeting (Attachment 2). Other participants included Council members, Council staff, NEFSC and GARFO staff, and representatives of industry, stakeholder groups, and the general public. Council staff provided outstanding technical support throughout the process. The SSC benefited from preparations prior to the meeting; presentations and supporting documents were relevant and high quality. A special thanks to Brandon Muffley who guided the SSC’s work before, during, and after the meeting. I thank Sarah Gaichas and Brandon Muffley for their excellent meeting notes, and members of the SSC and Council staff for their comments on an earlier draft of this report.

All documents referenced in this report can be accessed via the SSC’s meeting website <https://www.mafmc.org/ssc-meetings/2023/may9-10>. This report uses many acronyms: a comprehensive list is in Attachment 3.

CAMS Review

The Greater Atlantic Region Fisheries Office (GARFO) and the Northeast Science Center (NEFSC) have been working jointly on the Mid-Atlantic/New England Catch Accounting and Monitoring System (CAMS) since 2019. The objective of CAMS is to develop a common approach to estimate landings and discards for both real-time monitoring and stock assessments. Owing to the difficulties of obtaining landings data from varying sources and deriving discard estimates, a comprehensive summary of total removals by stock has generally occurred after the end of the fishing year. Such estimates historically have been derived at NEFSC by the “Area Allocation” (AA) method, which uses the full year’s data to link databases. The objective of CAMS is to improve data quality during the fishing year and accelerate the acquisition of landings and observer data to estimate landings and discards in real time. CAMS is designed to be the single source of landings and discard data for quota monitoring, stock assessments, protected species, ecosystem modeling, and so forth.

In January 2023, CAMS was reviewed by participants from the CIE and chaired by Cate O’Keefe, New England SSC vice-chair. Michael Lanning (GARFO) presented an overview of the CAMS to the SSC and recommendations of the CIE reviewers. Much, if not most, of the work thus far has focused on the development of support tables for database management. Discard estimation methodology is continuing and expected to be completed by September. The review panel did not examine the underlying source code or the methodologies for imputation. As one of the reviewers noted, the compressed time frame and sheer volume of material required the reviewers to “focus on systems and procedures more than technical details.” Instead, it focused on broader considerations of system performance and potential improvements. One such measure endorsed strongly by the CIE reviewers was a “Change Control Board” to oversee, review, and document proposed methodological changes in the coming years.

CAMS estimates are updated weekly and contain data from 1996 onward. Side-by-side estimates from AA and CAMS will continue through September 2023. After that, all estimates will be based on CAMS. Comparisons of AA and CAMS estimates for 2019 only were considered by the reviewers. Comparisons with other years are now underway. Dr. Lanning reported that a comprehensive internal review of the methodology for CAMS is scheduled for later this year. CAMS landings estimates will be used in the June and September Management Track Assessments (MTA), but CAMS discard estimates are less likely to be used until the side-by-side comparisons are complete.

A major concern is the absence of unique trip identifiers to link data streams from Vessel Trip Reports (VTR), Dealer, Observer, and sampling. As a result, a time-consuming process of linking records based on date, vessel number, location, and other factors is required. Improvements in quality assurance methods have reduced, but not eliminated the need for various imputation methods. A primary goal of CAMS is to implement a Universal Trip Identifier (UTID) that can be used across all databases. CAMS, *per se*, is not responsible for design of the UTID, but will be one of the primary beneficiaries of this link. It is estimated that this work is 80-90% complete. The SSC strongly encouraged the implementation of a UTID and echoed the recommendations of the CIE review panel.

The concerns and recommendations of the SSC include:

- Overlap with the ACCSP activities should be clarified. State data obtained by dealer records are included in CAMS, but other state landings would need to be specifically requested to ensure that all removals were included in the stock assessments.
- It is not clear how Study Fleet data have or will be used in CAMS.
- CAMS does not include standardized methods for estimation of age-specific landings or discards. An overview of current methods from NEFSC scientists would be desirable.
- Archiving of component data bases, as well as historical estimates, is essential. Current concerns about limitations of data storage should be addressed immediately.
- Changes in estimation methodology over time must also be documented.
- Use of data from electronic discard monitoring programs (i.e., camera systems for discard estimation and compliance) needs to be clarified.
- After CAMS is implemented, it will be important to characterize the uncertainty of the estimates.
- While the primary focus of CAMS is catch accounting for quota monitoring and stock assessments, additional efforts to summarize total landings and estimate total discards by geographic regions are important for ecosystem considerations.
- Additional clarification on details may be necessary at the July meeting of the SSC. Demonstration of side-by-side differences for a representative species would be useful. Several members requested additional details on the matching algorithms and other implementation details.

Spiny Dogfish Research Track Assessment Update

Deborah Hart (NEFSC) provided a detailed overview of the results of the Research Track Assessment (RTA) recently completed in December 2022. The purpose of the presentation was to inform the SSC of new scientific advances prior to the MTA, which will occur later in 2023. The most significant accomplishment was the implementation of a sex-specific length-based model in Stock Synthesis 3 (SS3). A similar model is used for Pacific spiny dogfish. Previously, stock status was evaluated by using a stochastic estimator based on between and within year uncertainty in the survey indices, gear efficiency, and discard estimates. Projections were based on expected growth rates from a study conducted in 1985. The new model allows for more generality of growth, addition of additional fleets, and explicit fitting of model parameters to length frequency distributions. Additionally, the new model allows for within model testing of alternative stock recruitment hypotheses. Attempts to update the growth model were informative but insufficient to change the earlier basis because of the paucity of the very large female fish in recent decades. Recent analyses suggest a maximum average size of 91 cm vs earlier estimates of 105 cm.

Model-based inferences are generally consistent with earlier interpretations regarding the sharp decline in large female fish during the peak of the fishery, the resulting reduction in pup abundance, and the recovery following the period of severe quota restrictions. Abundance of the lightly-fished male spiny dogfish stock remains high. Changes in size at maturity have been documented with reproduction occurring at smaller sizes. It is not known if potential reductions in size at age are related to earlier maturation. The joint effects of decreased abundance of larger

fish, reduced size at maturation, decreased size at entry into the fishery, and increased natural mortality rate have reduced the productivity of the resource. An SPR of 60% is now recommended as a biological reference point; the resulting F on fully recruited sizes is now 0.03 vs 0.11 in the earlier assessment when size at entry to the fishery was larger. The stock has been declining since about 2012.

Questions from the SSC focused on the potential interrelations among growth, fishery selectivity, and maturation. Selectivity is modeled as two blocks breaking in 2010 with a highest mortality on the largest females. SSC members noted the shifting spatial distribution of the population. With a sizable fraction of the population in Canadian waters during the summer and fall, the NEFSC fall bottom trawl survey is not a useful indicator of relative abundance. Attempts to apply an alternative estimator of relative abundance (VAST) using environmental drivers was unsuccessful.

Several members of the SSC noted the importance of archival samples and recommended exploring aging techniques used for spiny dogfish in the Northeast Atlantic. Dave Secor offered to facilitate exchange of samples and methods with European scientists. Other SSC members noted the importance of contemporary growth data and the modelling challenges of simultaneous changes in growth, maturation, pups per female spawner, natural mortality, and selectivity.

The SSC will likely require a separate meeting later in the fall to address the results of the MTA.

Bluefish RTA Update

NEFSC and ASMFC staff gave four presentations on the scientific advances from the December 2022 RTA and peer review. Tony Wood (NEFSC) highlighted major changes in the assessment model, which included the transition from ASAP to the state space model WHAM. A notable feature of WHAM is its ability to incorporate environmental data. Many technical innovations were incorporated into the assessment and numerous (>40) alternative model formulations were evaluated. Key changes included:

- Revised estimators of recreational discards by geographic region. New approach will be used by both the NEFSC and GARFO, eliminating an earlier difference in estimation methods.
- New discard mortality rate.
- Additional state survey indices included in model formulation.
- Much higher age-based natural mortality rates with an average of 0.32 vs a previously used value of 0.2.
- Revised measures of recreational CPUE based on effort metrics from similar species (guild based).
- Updated parameters for length-weight relationship.
- Reduced retrospective patterns.
- Use of WHAM for catch projections vs previous AGEPRO model.

- The biological reference points for biomass declined from 201,729 mt to 91,849 mt and the F_{msy} proxy increased from 0.181 to 0.248. Both yield per recruit and spawning biomass per recruit declined substantially from previous estimates.

The WHAM model had a negligible retrospective pattern. The state space model's flexibility is desirable, particularly with respect to inclusion of ancillary data.

Sarah Gaichas reported on efforts to estimate forage fish trends in space and time as a potential mechanism explaining bluefish availability to survey and recreational fishery indices used in the assessment. The forage index was included in a companion model to the research track final model Abby Tyrell (NEFSC) summarized results of an Ecosystem and Socio-Economic Profile (ESP) for Bluefish. The ESP is a comprehensive synthesis of information coupled with a conceptual model of the major drivers of stock dynamics and harvesting patterns.

Research Track Assessments also review historical data, incorporate results of field studies, and recent advances reported in the literature. These in-depth reviews often lead to important advances. For example, discovery of regional differences in discarding patterns led to a reconciliation of recreational discard estimation approaches between managers and scientists. Katie Drew (ASMSC) reported on major changes in the computation of recreational catch per unit effort indices wherein "effort" was redefined as the number of trips for related species caught with similar gear. Previously, "Bluefish trips" were defined as those in which Bluefish were caught; this clearly underestimates the measurement of fishing effort. Current analyses include trips that caught Black Sea Bass, Striped Bass, Spanish Mackerel, Summer Flounder, and Weakfish. Estimates of total fishing effort for bluefish have increased by about 200% in recent years.

The RTA model will be updated at the upcoming Management Track Assessment (MTA) later this summer. Based on the RTA model, the stock is considered not overfished and overfishing is not occurring. Recruitment appears to have been below average in the last 12 years.

The SSC appreciated the thoroughness of the presentations and documentation, and congratulated all Working Group members for their significant advances. Questions (and answers) included:

- Q. Can the multiple models evaluated by the WG be used to inform the range of likely candidate models to inform application of the OFL CV? *A. Not yet. Multi-model inference is not yet sufficiently developed.*
- Q. Is there any evidence to support prior hypotheses of reciprocal changes in Bluefish due to Striped Bass abundance? *A. No, and a paper by Anne Richards had previously found little evidence to support this hypothesis in recent years.*
- Q. Fishermen report seeing larger fish offshore than in prior years. Does the model support these observations? *A. Yes, some evidence of declining availability and/or catchability for older fish. Forage index changes support reduction in nearshore abundance of prey species.*
- Q. Is there any evidence of nutritional deficiency in Bluefish owing to differences in availability of forage? *A. No. Condition factor for large Bluefish is improving.*

- Q. Will the projections based on WHAM be able to mimic the complexity of scenarios incorporated into AGEPRO? *A. Yes. Full compatibility is expected.*
- Q. What was the basis for major changes in age-specific natural mortality? *A. Documentation provided in a working paper based on empirical relationship between *M* and weight at age (Lorenzen method). Model fit is much better with this change and results are more consistent with recent observations.*
- Q. Bluefish occur worldwide except in the Eastern Pacific. Were these studies, particularly in the Gulf of Mexico, incorporated into the ESP? *A. Focus of ESP was on research in Northwestern Atlantic. Nearly 400 papers were examined. Relatively little data from the Gulf of Mexico was included, but may be considered in a future update. Such data may be important with respect to interpreting distributional responses to increased temperatures in the Mid Atlantic.*

SSC members cautioned that post stratification of MRIP data implies changes in measures of uncertainty that should be carried forward to the guild-based estimators of CPUE. Correlation patterns across years are likely to yield spurious correlations; multivariate methods may be helpful in this regard. Similarly, differences of guild associations among states and changes over time should be investigated further. The SSC concluded by noting that ESP and MRIP information will be helpful for characterizing the appropriate measures of uncertainty for calculation of ABCs.

Update on Surfclam and Ocean Quahog

Jessica Coakley (MAFMC) provided a comprehensive overview of current stock status, recent trends in the fishery, and a comparison of differences between historical and CAMS-based estimates for Surfclams and Ocean Quahogs. Surfclams were most recently assessed via a Level 3 MTA in 2020; Ocean Quahogs were last assessed in the same year as a Level 1 assessment. ABCs were set for both species for the 2021-2026 period.

Measures of Surfclam abundance continue to show long-term declines, including commercial LPUE. In part, these changes reflect ongoing shifts in spatial patterns of the fleet. The fraction of undersized clams in landings has been increasing recently with current estimates between 25.4% and 29.8%, just below the 30% trigger limit in the Management Plan. Mixed catches with Ocean Quahog remain a concern for both fisheries. A pilot study will be conducted this summer to investigate potential methods for separating species at sea. Biotxin levels from algal blooms are preventing access to some areas on Georges Bank and industry has expressed a need for clarification of policy and funding of monitoring efforts. Industry has also requested access to the Great South Channel Habitat Management Area.

The SSC expressed concern about the differences between CAMS estimates of total catch historically and previous methods. Dan Hennen noted that such differences were unexpected and not currently understood, but that differences in recent years were much smaller. Moreover, CAMS data would be used moving forward from 2019 and not retroactively applied in the assessments.

SSC members discussed trends in markets and prices and suggested getting more information on trades of permits and quota. Following a gap in 2021 due to Covid, a phase of the cooperative survey with industry was conducted in 2022 and the next phase is expected later this year. Because of costs and limited resources, the survey is conducted in phases over multiple years. Survey-based biomass and size estimates are derived as the sum of observations of multiple years.

The presence of commercially viable areas of small Surfclams in southern areas was attributed to strong recruitment but slow growth due to temperatures. Bioenergetic data suggest the asymptotic sizes are smaller at higher temperatures.

Despite some warning signs in stock trends, the SSC concluded that no changes were necessary for the previously-approved ABC of 40,946 mt for Surfclam in 2024.

Genetics research on both species will continue in 2023 with the collection of additional samples that could not be obtained during the Covid pandemic.

Jessica Coakley also summarized the recent information on Ocean Quahogs. No new fishery independent information was available for review, but a summary of previous information on stock status did not raise any concerns by the SSC. Model-based estimates of abundance do not reveal any significant trends. Year-to-date catches are approximately equal to patterns observed in 2022. As with Surfclams, the total catches of Ocean Quahogs are expected to be well below the ABCs.

In view of the high stock biomass, low fishing mortality and absence of any trends in indicators, SSC concluded that no changes were necessary for the previously-approved ABC of 44,065 mt or Ocean Quahog in 2024.

Update on Butterfish

Jason Didden summarized the recent fishery information on Butterfish. The stock was last assessed in 2022 via a Level 1 MTA in 2022; a RTA was completed early in 2022. The stock was well above the biomass target and fishing mortality was low. The SSC set ABCs for 2023-24 at its July 2022 meeting. Landings and revenue were down slightly in 2022. ABCs are projected to decrease in 2024. Relative biomass estimates in 2022 were the highest in the Bigelow time series for both the spring and fall bottom trawl surveys.

Review of the recent data did not suggest that modification of the projected quotas was warranted. **The SSC recommended continuation of the previously-recommended ABC of 15,764 mt in 2024 for Butterfish.**

Update on Chub Mackerel

Julia Beaty (MAFMC) provided an overview of the Chub Mackerel fishery in 2022. Catches of 36 mt remain well below the ABC of 2,300 mt. It was noted that Chub Mackerel is an alternative species in the *Illex* fishery and is not pursued unless *Illex* catches are poor. Economic conditions in recent years that may have reduced landings include high success rates for both *Illex* and Longfin Squid, high fuel prices, and low market prices for Chub Mackerel. Discard estimates are not available since only eight observer trips have occurred on vessels landing 40,000 lbs or more of Chub Mackerel since 1999. Recreational catches have trended upwards, but part of this trend may be increased awareness of Chub Mackerel within the APAIS. PSEs were not reported but are expected to be very high.

An industry advisor noted that most of the Chub Mackerel are sold for bait. Individual states have offered licenses for bait dealers. While over 2400 licenses have been sold in Massachusetts, there has been virtually no reporting.

SSC members commented on the different spatial patterns of recreational and commercial catches in recent years. Occasional presence of Chub Mackerel very close to shore is thought to be responsible for this pattern. Recreational vessels have the advantage under these conditions.

In view of the low commercial catches, scanty discard information, low and likely imprecise recreational catches, and absence of any reliable indicators of relative abundance, the SSC recommended continuation of the current ABC of 2,300 mt in 2024.

Update on Golden and Blueline Tilefish

Golden Tilefish

Jose Montañez (MAFMC) summarized recent information on Golden Tilefish. The stock is not overfished and overfishing is not occurring. Size frequency data and fishermen reports suggest a better than average 2017 year class. Landings have been stable for the past five years. Both commercial and recreational harvesters reported reduced fishing opportunities because of greater frequency of high wind days. An incidental quota of 75K lbs is applied to non-IFQ fisheries. Reported incidental harvests were less than 36% of this quota in 2022. Golden Tilefish recreational catches for party/charter and private mode trips are intermittent, low, and imprecisely measured.

SSC discussions and concerns included:

- Changes in wind patterns are reported to have reduced fishery LPUE. Such changes are consistent with predictions related to reduced size of the Mid Atlantic Cold Pool.
- Requests for changes in recreational fisheries for larger bag limits on longer trips (especially overnight). Increased catch rates provide some evidence of a strong 2017 year class. On a cautionary note, the SSC highlighted that, although over 1500 incidental permits have been issued, there have been very few reports submitted. The SSC recommended consideration of these observations at the RTA.

- The overall low levels of port monitoring were noted and measures to improve coverage rates were recommended. Options to potentially include observations from biological observers and party charter fishers should be considered.
- The SSC noted that the reductions for management uncertainty for specification of commercial quotas seem small. The basis for the small magnitude of such changes should be reviewed. Staff noted that discards by Golden Tilefish permit holders only occur when caught fish are damaged. Golden Tilefish are rarely encountered in mobile gear.

While the stock has shown periodic changes in age composition over the past 20 years, the population generally appears to be at equilibrium. The fishery independent golden tilefish longline survey will be conducted in 2023, and an RTA in 2024 will likely provide a comprehensive summary of current stock conditions and an improved basis for future catch limits. After discussion, **the SSC affirmed its previously recommended ABC for 2024 of 891 mt.**

Blueline Tilefish

Hannah Hart (MAFMC) provided a summary of the most recent information on Blueline Tilefish. The stock is primarily found in the South Atlantic and assessed under the SEDAR process. The status of the stock north of Cape Hatteras is currently unknown. The next operational assessment of Blueline Tilefish, scheduled for 2024, will be available for management in 2025. Total catches peaked in 2014 at 215,928 lb (98 mt). Catches have been below 31,000 lb and well below the ABC of 100,520 lb since 2016

Although reporting by recreational permit holders is required, compliance has been low with MRIP estimates exceeding reported catches by two orders of magnitude. Underlying causes of the low reporting rates are unknown. A member of the public strongly urged government agencies to enforce the current mandatory requirements. It is not known if any citations for nonreporting have been issued. Intercepts of Blueline Tilefish are rare and PSEs generally exceed 70% under MRIP. Catches in the commercial fishery are primarily incidental takes in trawl and longline fisheries.

Concerns expressed by the SSC included:

- Average weight (3.65 lb) is low relative to sampling conducted in other projects where fish ranged from 3 to 8 lb.
- Different catch patterns for Blueline vs Golden Tilefish. Blueline Tilefish are more frequently caught in trawl fisheries; this pattern has been observed since the start of the fishery in the Mid Atlantic. A directed longline fishery began off the NJ coast in 2013-15. Restrictions in the South Atlantic led to a northward shift of the longline fishery.
- Private angler mode catches are imputed as 105% of the Charter VTR catches based on a Delphi Process. An update or review of this methodology is warranted.
- Lack of reporting under the recreational permit system. Since 2020, 1994 permits have been issued, but only 75 trips have been reported with total landings of 799 fish.
- Involvement of NOAA Fisheries Leadership and MRIP regarding reporting issues and potential for incorporating such data into the overall MRIP program.

- Public commenters noted that commercial harvesters are required to report; the apparent lack of reporting by recreational harvesters is irresponsible. The disparity between the number of permits issued and reports received is striking.

The South Atlantic Deepwater Longline survey will be extended to Wilmington Canyon in 2023 and is likely to provide additional information on Blueline Tilefish distribution. In addition, a benchmark assessment under SEDAR will be conducted in 2024. **In view of the low catches, and the absence of any measures of relative abundance, the SSC recommended continuation of the previously-approved ABC of 46 mt (100,520 lb) for 2024.**

Progress of SSC Working Groups

Constant/Average ABC Working Group

For purposes of economic stability and regulatory stability, the Council often prefers multi-year specification of constant ABCs. These approaches can be problematic with respect to the Council's risk policy, especially if the population is trending downward from a high level. A simple average of the realized sequence of ABC estimates may not satisfy risk policy constraints in all projection years. Michael Wilberg reported on the progress of the Working Group which proposed three options:

1. Continue with *status quo* procedures of iterative solutions to find the maximum average. This process is time consuming, complex, and approximate, depending upon the desired resolution of the ABC.
2. Implement optimization software that would operate in conjunction with the existing AGEPRO projection software
3. Use only the first-year projection as the basis for multi-year average ABCs.

The SSC discussed these options extensively. Option 1 puts the burden of estimation and reporting on the stock assessment lead at NEFSC, the Council staff liaison, and monitoring/FMAT/technical committees. Council and SSC demands on these groups can be problematic when multiple catch options are requested. Option 2 is desirable from a quality assurance perspective because it builds upon well tested projection software. However, it also requires investment of programmer staff time by NEFSC, which is currently unavailable. Moreover, NEFSC is transitioning many assessments to the state-space model WHAM, which will have different algorithms for population projection and catch forecasts. Investment in ensuring such projections satisfy the risk policy of the Council may be a better use of programming resources.

Option 3 is enticing in its simplicity, and simulation work to date suggests it performs as well as or better than more refined methods. One argument for using such an approach is that three-year and longer projections for many Mid-Atlantic stocks are less necessary than in the past because many stocks are now updated every other year. SSC supported further work on this approach, but noted that additional justification would be required to offset perceptions that information on

future status was not being fully considered. It was noted that deviations about the projected ABCs is often less than 10%, a value much lower than the uncertainty of the projections themselves. A comprehensive review of past projection performance might also be helpful to support this approach.

After considerable debate, the SSC recommended continuation of Option 1 and recommended further collaboration with the Center to ensure that projections from WHAM would satisfy the SSC's methodology for computing time-varying risks of overfishing. Consultation with other Councils' SSCs would also be useful. Socio-economic consequences of fixed vs time-varying quotas should be considered.

OFL CV Working Group

One of the primary functions of the SSC is to identify an appropriate level of uncertainty associated with setting ABCs. The translation of Overfishing Limits derived from stock assessments to Acceptable Biological Catches (ABC) is done by considering multiple factors as described in the [OFL CV guidance document](#). The process has evolved over the past few years and become more complex as more factors have been included. Every attempt has been made to ensure that all SSC members have the opportunity to provide input and participate in an open, deliberative process. Following plenary discussions and public input, a summary narrative is prepared to capture the conclusions of the SSC. Following my presentation of the process and a list of key questions, the SSC made the following points:

- The process is becoming very complex and may be reaching the point of diminishing returns as further refinements are contemplated.
- Improved documentation and review of past decisions would be valuable. Does the current process ensure that all concerns are raised and considered?
- The OFL CV subgroup will develop a plan for evaluating the efficacy of current procedures and suggest appropriate reviews of historical applications.
 - Unlike approaches that attempt to quantify uncertainty in physical events (e.g., hurricane paths), the true state of the population is never known.
- Are we capturing the uncertainty induced by multiple candidate models when only one model is used? The magnitude of the CV accommodates this concern to some extent as does the comprehensive model-building process used in RTAs.
- Given the complexity of the OFL CV matrix, it is important to ensure that factors that increase uncertainty are not double counted. For example, changes in recent average recruitment or decreased average size at age may be used in the specification of short-term forecasts and as evidence of ecosystem changes or changes in early life history mortality.
- Comparisons with approaches used by other Councils' SSC would be helpful. A recent comparative report prepared by the NEFMC (found [here](#)) is informative.

Following these discussions, the SSC recommended a more thorough review of the OFL CV process after the July SSC meeting. OFL CVs will be determined for a number of the species reviewed at that meeting. The review would not only consider the complexity of the process, but also the consistency of application, and transparency and communication of results.

Other Business

- The New England Fishery Management Council will host the 2024 meeting of the Scientific Coordination Subcommittee. An initial meeting of the SCS steering committee indicated broad support for the theme of applying ABC control rules in a changing environment. Challenges include characterization of uncertainty, balancing long vs short-term objectives in rebuilding programs, and how reference points can be responsive to climate change. Subtheme considerations include the social and economic effects on communities and how to incorporate such concerns into ABC recommendations. The CCC will make final recommendations, but the broad theme seems likely to accommodate many concerns (including wind energy development).
- A recurring theme of previous SCS meetings included the need for increased interactions among SSCs to ensure awareness of common themes and potential solutions to common problems. A simple proposed solution would be virtual participation by SSC members at other council's SSC meetings. The CCC maintains a calendar of SSC meetings for all Councils (<https://www.fisherycouncils.org>) which could be used as a starting point. It was noted that several MAFMC SSC members had attended or made presentations to other SSCs. Council-level support for "prisoner exchanges" might facilitate this process. One example might be intersessional meetings on specific topics with the broader scientific community. A discussion with the PFMC SSC on spiny dogfish was suggested as a possible example.
- The SSC's OFL CV working group will convene before the next SSC meeting to review current status of the OFL CV guidelines and check for consistency of applications.
- A public commenter inquired whether industry should be concerned about the transition of all catch monitoring to CAMS. It was noted that current comparisons between CAMS and the AA method generally suggest single digit percentage differences between the two methods. Changes comparable to those experienced in recreational catches when MRIP estimates were recalibrated are not expected. There is currently no evidence of increased retrospective patterns due to CAMS-based estimates. Comparisons between estimates are continuing as part of the CAMS implementation and will be reported in subsequent reports from GARFO and NEFSC.
- Other public comments provided in the "chat" comments included several concerns about spiny dogfish including: consideration of a male only dogfish fishery, the potential for increased consumption of dogfish by revising the market name, concern that observed size composition changes may be a function of catchability differences by the FSV Bigelow.
- SSC volunteers are needed for several upcoming assessments, as well as participation in a review of recent NRHA advances for an Essential Fish Habitat (EFH) Amendment.

- The July 24-26, 2023 meeting of the SSC will be an in-person meeting, with a remote option, in Philadelphia, PA. The agenda will include assessment updates and specification of 2024 ABCs for Longfin Squid, Atlantic Mackerel, Summer Flounder, Scup, Black Sea Bass, and Bluefish. An update on CAMS progress and overall implications for these stocks may be warranted.

Attachment 1



Mid-Atlantic Fishery Management Council Scientific and Statistical Committee Meeting

May 9 - 10, 2023

Canopy by Hilton Baltimore Harbor Point (1215 Wills Street, Baltimore, MD)
or via Webex webinar

This will be an in-person meeting with a virtual option. SSC members, other invited meeting participants, and members of the public will have the option to participate in person at the Hilton Baltimore Harbor Point or virtually via Webex webinar. Webinar connection instructions and briefing materials will be available at Council's website: <https://www.mafmc.org/council-events/2023/may-2023-ssc-meeting>.

AGENDA

Tuesday, May 9, 2023

- 9:30 Welcome/Overview of meeting agenda (P. Rago)
- 9:35 Overview of the Mid-Atlantic/New England Catch Accounting and Monitoring System (CAMS) (M. Lanning, GARFO)
- Overview of CAMS landings and discards estimation procedure; differences between CAMS and previous catch estimates; peer review findings
- 11:00 Break
- 11:15 Introductory overview of the Spiny Dogfish Research Track stock assessment information (C. McManus, RI DEM)
- Overview of Stock Synthesis 3 and comparison to previous assessment method
 - Finding of new spiny dogfish ageing information
- 12:30 Lunch
- 1:30 Introductory overview of the Bluefish Research Track stock assessment
- Overview and development of Woods Hole Assessment Model for Bluefish; new dead discard estimation method (T. Wood, NEFSC)

- MRIP evaluation and updates to the MRIP index (K. Drew, ASMFC)
- Bluefish forage index (S. Gaichas, NEFSC)
- Bluefish Ecosystem and Socio-Economic Profile (A. Tyrell, NEFSC)

3:30 Break

3:45 Guidance for constant/average ABC calculations

- Review of approach(es) developed by SSC sub-group
- Provide recommendations for Council consideration

4:30 Potential updates to the OFL CV guidance document

- Review suggested changes and modifications by SSC sub-group
- Provide recommendations for Council consideration

5:30 Adjourn

Wednesday, May 10, 2023

8:30 Atlantic Surfclam and Ocean Quahog data and fishery update: review of previously recommended 2024 ABCs (J. Coakley)

9:30 Butterfish data and fishery update: review of previously recommended 2024 ABC (J. Didden)

10:15 Break

10:30 Chub Mackerel data and fishery update: review of previously recommended 2024 ABC (J. Beaty)

11:15 Golden and Blueline Tilefish data and fishery update: review previously recommended 2024 ABCs (J. Montañez and H. Hart)

- Update on 2023 fishery-independent tilefish surveys

12:45 Other Business

- Scientific Coordination Sub-Committee update

1:15 Adjourn

Note: agenda topic times are approximate and subject to change

Attachment 2

MAFMC Scientific and Statistical Committee

May 9-10, 2023

Meeting Attendance in Person and via Webinar

Name

Affiliation

SSC Members in Attendance:

Paul Rago (SSC Chairman)	NOAA Fisheries (retired)
Tom Miller	University of Maryland – CBL
Ed Houde	University of Maryland – CBL (emeritus)
Dave Secor	University of Maryland – CBL
John Boreman	NOAA Fisheries (retired)
Jorge Holzer	University of Maryland
Yan Jiao	Virginia Tech University
Sarah Gaichas	NOAA Fisheries NEFSC
Wendy Gabriel	NOAA Fisheries (retired)
Mike Wilberg (Vice-Chairman)	University of Maryland – CBL
Cynthia Jones	Old Dominion University
Gavin Fay	U. Massachusetts-Dartmouth
Alexei Sharov	Maryland Dept. of Natural Resources
Geret DePiper	NOAA Fisheries NEFSC
Andrew Scheld	Virginia Institute of Marine Sciences
Mark Holliday	NOAA Fisheries (retired)
Mike Frisk	Stony Brook University

Others in attendance (only includes presenters and members of public who spoke):

Michael Lanning (May 9 th only)	GARFO
Jason Didden	MAFMC staff
Brandon Muffley	MAFMC staff
Tony Wood (May 9 th only)	NEFSC
Abby Tyrell	NEFSC
Dvora Hart (May 9 th only)	NEFSC
Katie Drew (May 9 th only)	ASMFC
Samantha Werner (May 9 th only)	NEFSC
Michelle Passerotti (May 9 th only)	NEFSC
Lee Anderson	Former SSC and Council member
Rich Wong	DE DFW
James Fletcher	United National Fisherman's Assoc.
Conor McManus (May 9 th only)	RI DEM
Julia Beaty	MAFMC staff
Jessica Coakley	MAFMC staff
Hannah Hart	MAFMC staff
Jose Montañez	MAFMC staff
Dan Hennen	NEFSC
Greg DiDomenico	Lund's Fisheries

Attachment 3. Glossary

AA—Area Allocation Approach
ABC—Acceptable Biological Catch
ACCSP—Atlantic Coastal Cooperative Statistics Program
AGEPRO—Age Projection software
APAIS—Access Point Angler Intercept Survey
ASMFC—Atlantic States Marine Fisheries Commission
 B_{msy} —Biomass at maximum sustainable yield
CAMS—Catch Accounting and Monitoring System
CCC—Council Coordination Committee
CIE—Center for Independent Experts
CPUE—Catch Per Unit Effort (Catch=Landings+ Discards)
CV—Coefficient of Variation
ESP—Ecosystem and Socio-economic Profiles
FSV—Fishery Survey Vessel
FMAT—Fishery Management Action Team
GARFO—Greater Atlantic Region Fisheries Office
HCR—Harvest Control Rule
LPUE—Landings per Unit Effort
M—Instantaneous rate of natural mortality
MRIP—Marine Recreational Information Program
MTA—Management Track Assessment
MSE—Management Strategy Evaluation
NEFSC—Northeast Fisheries Science Center
NRHA—Northeast Regional Habitat Assessment
OFL—Overfishing Limit
P*—Probability of overfishing
PSE—Proportional Standard Error
RHL—Recreational Harvest Limit
RTA—Research Track Assessment
R/V—Research Vessel
SCS—Scientific Coordination Subcommittee
SEDAR—Southeast Data, Assessment, and Review
 SSB_{msy} —Spawning stock biomass at maximum sustainable yield
SSC—Scientific and Statistical Committee
UTID-- Universal Trip Identifier
VAST—Vector Autoregressive Spatio-Temporal
WHAM—Woods Hole Assessment Model



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Michael P. Luisi, Chairman | P. Weston Townsend, Vice Chairman

Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: May 26, 2023
To: Council
From: Brandon Muffley and Julia Beaty, staff
Subject: Ecosystem and Ocean Planning Committee report

On June 8, 2023, the Council will receive an update on recent meetings of the Ecosystem and Ocean Planning (EOP) Committee and Advisory Panel (AP) on two topics. The following materials are provided behind this tab for the Council's consideration.

Ecosystem Approach to Fisheries Management (EAFM) Risk Assessment

- 1) Summary of April 27, 2023 EOP Committee and AP meeting
- 2) April 19, 2023 staff memo with background and information on risk element feedback

Policy/Process for Council Review of Exempted Fishing Permit (EFP) Applications for Forage Amendment Ecosystem Component Species

- 3) Summary of May 15, 2023 EOP AP meeting
- 4) Summary of April 27, 2023 EOP Committee meeting
- 5) April 19, 2023 staff memo with background and recommendations for next steps



Ecosystem and Ocean Planning Committee and Advisory Panel Meeting

Meeting Summary

April 27, 2023

The Mid-Atlantic Fishery Management Council's (Council) Ecosystem and Ocean Planning (EOP) Committee and Advisory Panel (AP) met on Thursday, April 27th from 9:30 a.m. to 4:00 p.m. The morning session was an EOP Committee only meeting and was focused on the development of a Council policy/process for review of exempted fishing permit (EFP) applications for species designated as ecosystem components (ECs) under the Council's Unmanaged Forage Omnibus Amendment (Forage Amendment). A summary of that session of the meeting can be found [here](#).

The afternoon session was a joint meeting of the EOP Committee and AP in which they continued their comprehensive review of the Council's Ecosystem Approach to Fisheries Management (EAFM) risk assessment. The Committee and AP reviewed and provided feedback on existing and potentially new risk elements and their definitions for inclusion in an updated risk assessment.

EOP Committee Attendees: M. Duval (Committee Chair), A. Nowalsky, D. Stormer, K. Kuhn, S. Winslow (Committee Vice-Chair), S. Lenox, T. Schlichter, E. Keiley

EOP Advisory Panel Attendees: F. Akers, M. Binsted J. Deem, J. Firestone, F. Hogan, M. Lapp, C. LoBue, P. Lyons Gromen, P. Simon, P. deFur, J. Hancher

Other Attendees: S. Gaichas, G. DePiper, B. Muffley, G. DiDomenico, Karla, R. Malinowski, K. Dancy

The meeting started with an overview of what risk elements are and how they are determined. Risk elements identify what we are measuring, and their definitions specify why we are measuring it. In the current risk assessment, the risk elements are framed around the risks to meeting the Council's management objectives associated with optimum yield, seafood production, recreational opportunities, community and fishery resilience, bycatch, and protected species interactions.

Review of Existing Risk Elements:

In preparation for the meeting, EOP Committee and AP members were asked to provide their initial feedback on the existing risk elements – keep as is, keep but modify, or delete. Staff

summarized the feedback received and the suggested edits recommended by Committee and AP members. It was noted that a final list of risk elements was not needed at this point. If the group was interested in a particular risk element or something is worth measuring, even if unclear what data might be available to evaluate it or how we might specify risk, the element should stay on the list for now. The group will review all of the components that comprise each element (i.e., definition, data, ranking criteria) over the next several meetings and can make decisions about the final list of risk elements at a later date.

The group then discussed the initial feedback, made recommendations to keep/delete, and identified any additional suggested modifications for each element. Below is a summary of the broader Committee and AP discussion and general recommendations (note: feedback on every risk element is not included).

- 14 of the 24 existing risk elements were identified as “keep as is” (i.e., no change to the risk element or its definition).
 - The group did suggest some edits to the definitions and those edits will be reviewed at the next EOP Committee and AP meeting.
- The remaining 10 existing risk elements were identified as “keep but with modifications”. None of the existing risk elements were recommended to be deleted.
- For some of the **Recreational Fishery related elements** (e.g., recreational angler days/trips), the group recognized the importance of tracking the economic, social, and food production components of the recreational fishery but felt the current elements, metrics and/or proxies may not be appropriately capturing the intended risks.
 - The group offered some potential considerations for further development and review at the next meeting.
- The group offered edits to clarify the definitions to the three different **Food Web risk elements** and suggested taking a fresh look for potential modifications to the indicators and the risk ranking criteria to make these elements more useful and informative.
- The group offered a variety of suggested edits to a number of the **Management Elements**, specifically **Management Control, Other Ocean Uses, and Allocation**. Most of the suggestions were to provide clarity or specificity to the definitions to ensure it’s clear what risk the element is tracking.

Review of Potentially New Risk Elements:

Similar to the approach taken with the existing risk elements, EOP Committee and AP members provided feedback in advance on potentially new risk elements. These new elements came from a variety of sources: previously considered during the 2017 risk assessment, identified by the EOP Committee and AP during their November 2022 meeting, from the [2023 Mid-Atlantic State of the Ecosystem report](#) , or new options provided by Committee and AP members prior to meeting.

Below is a summary of the broader Committee and AP discussion and general recommendations (note: feedback on every risk element is not included).

- In general, the group was supportive of developing and adding a risk element for **Offshore Wind**. This risk element could include the risks to fish stocks, fisheries, science, and

ecosystem. There is a lot of new and additional information available (e.g., State of the Science report) to evaluate an offshore wind risk element.

- If a separate offshore wind risk element is developed, reviewing and refining the scope of what gets evaluated in the Other Ocean Uses risk element is needed (e.g., aquaculture, sand mining, homeland security, telecommunication cables etc.).
- **Offshore Habitat and Population Diversity** risk elements were considered during the initial risk assessment but were put aside given data availability or indicator information. Since then, a significant amount of new information is available and the group expressed interest in revisiting these risk elements.
- The group indicated **Fishery Resilience** indicators are worthy for management consideration. However, the group expressed the current fishery resilience risk elements are somewhat problematic but supported reconsidering a number of different fishery resilience risk elements, even possibly combining these elements into one broader, more comprehensive resilience risk element.
 - For example, resilience to a variety of different business/economic pressures is a real risk and worth tracking and seeing how these are changing over time. Factors such as access to capital, inflationary pressures, gas, obtaining insurance are example factors that could be considered.
- In group also noted that many existing risk elements could be refined and updated and potentially new risk elements could be developed with new information available in the Mid-Atlantic State of the Ecosystem report and recently completed [NMFS vulnerability assessments](#). In particular, information on habitat, forage, economic, and social indicators should be considered.
- There was interest by the group to revisit and further explore information and possible indicators (or proxies) for the **Commercial and Recreational Employment risk elements**.
- The group was interested in potentially developing another **Food Web risk element** that considered seabird and HMS species interactions. Similar to comments raised for the existing Food Web risk elements, the group suggested taking a comprehensive look at the information available to inform these elements and even look to overlap between these different risk elements and see how they might be combined.

Next Steps:

- The next meeting will be scheduled for late June/early July.
- During the next meeting, the Committee and AP will revisit the list of possible risk elements and definitions and then consider the risk indicators and risk ranking criteria.
 - The group thought a similar structured approach from this meeting would be good way to review everything at the next meeting.
- Staff will work with Committee leadership to determine if/what pre-meeting preparation and possible homework could be conducted to help streamline and maximize the next meeting discussion.



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Michael P. Luisi, Chairman | P. Weston Townsend, Vice Chairman

Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: April 19, 2023

To: Ecosystem and Ocean Planning Committee and Advisory Panel

From: Brandon Muffley, Council staff

Subject: EAFM Risk Assessment Review: Summary of Risk Element Feedback

In November 2022, the Ecosystem and Ocean Planning (EOP) Committee and Advisory Panel (AP) initiated a comprehensive review of the Mid-Atlantic Council's Ecosystem Approach to Fisheries Management (EAFM) risk assessment. The initial EAFM risk assessment was completed in 2017 and has been updated annually using the utilizing information from the NEFSC Mid-Atlantic State of the Ecosystem Report to provide a snapshot of the current risks to meeting the Council's management objectives.

As part of the initial review meeting, the EOP Committee and AP agreed to the following process and timeline for conducting the review in 2023:

- **Meeting 1 (late winter/early spring) – consider risk elements and definitions**
- Meeting 2 (early summer) – consider indicators and risk ranking criteria
- Meeting 3 (late summer/early fall) – review updated risk assessment components and application(s) for Council needs
- Present updated risk assessment to Council in fall 2023

On April 27, 2023, the EOP Committee and AP will hold **Meeting 1** and, as outlined above, will review and potentially modify and update the risk elements and their definitions for inclusion in a revised risk assessment. To help prepare and streamline the risk element discussion, EOP Committee and AP members were asked to provide their initial feedback on the existing risk elements currently included in the risk assessment and on potentially new elements to be added to the risk assessment.

Below is a high-level summary of the feedback received from 18 EOP Committee and AP members regarding the existing and potentially new risk elements (Tables 1-3). Staff will provide a summary analysis and review the feedback in greater detail during the meeting. This information will be used to help focus the discussion and identify those risk elements we need to spend more time on as a group discussing – ie., those recommended for change, deletion, or addition. By the end of the meeting, the group should identify a working list of specific risk

elements to be considered for further evaluation and review at Meetings 2 and 3. A final list of risk elements is not needed at this point, but the number and scope of the risk elements for further consideration should be kept in mind to ensure priority risks are fully evaluated.

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Table 1. Current EAFM risk elements, their definitions, and the proportion of EOP Committee and AP members that recommended keeping, keeping but with modifications (modify), or removing (delete).

Risk Element	Definition: Risk to What?	Proportion of Responses		
		Keep	Modify	Delete
<i>Ecological Elements</i>				
Stock Assessment Performance	Risk of not achieving OY due to analytical limitations	0.87	0.13	0.00
F Status	Risk of not achieving OY due to overfishing	1.00	0.00	0.00
B Status	Risk of not achieving OY due to depleted stock	1.00	0.00	0.00
Food Web (MAFMC Predator)	Risk of not achieving OY due to MAFMC managed species interactions	0.93	0.07	0.00
Food Web (MAFMC Prey)	Risk of not achieving OY due to MAFMC managed species interactions	0.93	0.07	0.00
Food Web (Protected Species Prey)	Risk of not achieving protected species objectives due to species interactions	0.73	0.27	0.00
Ecosystem Productivity	Risk of not achieving OY due to changing system productivity	0.93	0.07	0.00
Climate	Risk of not achieving OY due to climate vulnerability	0.60	0.33	0.07
Distribution Shifts	Risk of not achieving OY due to climate-driven distribution shifts	0.75	0.25	0.00
Estuarine habitat	Risk of not achieving OY due to threats to estuarine/nursery habitat	1.00	0.00	0.00
<i>Economic Elements</i>				
Commercial Revenue	Risk of not maximizing fishery value	0.80	0.13	0.07
Recreational Angler Days/Trips	Risk of not maximizing fishery value	0.87	0.07	0.07
Commercial Fishery Resilience (Revenue Diversity)	Risk of reduced fishery business resilience	1.00	0.00	0.00
Commercial Fishery Resilience (Shoreside Support)	Risk of reduced fishery business resilience due to shoreside support infrastructure	0.93	0.07	0.00
<i>Social Elements</i>				
Fleet Resilience	Risk of reduced fishery resilience (number and diversity of fleet)	0.86	0.14	0.00
Social-Cultural	Risk of reduced community resilience (vulnerability, reliance, engagement)	0.93	0.00	0.07
<i>Food Production Elements</i>				
Commercial	Risk of not optimizing seafood production	0.93	0.07	0.00
Recreational	Risk of not maintaining personal food production	0.60	0.20	0.20
<i>Management Elements</i>				
Control	Risk of not achieving OY due to inadequate control	0.63	0.38	0.00
Interactions	Risk of not achieving OY due to interactions with species managed by other entities	0.87	0.07	0.07
Other Ocean Uses	Risk of not achieving OY due to other human uses	0.73	0.27	0.00
Regulatory Complexity	Risk of not achieving compliance due to complexity	0.93	0.07	0.00
Discards	Risk of not minimizing bycatch to extent practicable	0.86	0.14	0.00
Allocation	Risk of not achieving OY due to spatial mismatch of stocks and management	0.75	0.25	0.00

Table 2. Potentially new EAFM risk elements, their definitions, and the proportion of EOP Committee and AP members that recommended keeping, keeping but with modifications (modify), or removing (delete). These risk elements were previously considered during the development of the initial risk assessment in 2017 or suggested during the November 2022 EOP Committee and AP meeting.

Risk Element	Definition: Risk to What?	Proportion of Responses		
		Keep	Modify	Delete
<i>Tabled Elements from 2017 Risk Assessment</i>		Keep	Modify	Delete
Offshore Habitat	Risk of not achieving OY due to changing offshore habitat	0.81	0.06	0.13
Population Diversity	Risk of not achieving OY due to reduced diversity (size, sex, genetic)	0.81	0.06	0.13
Ecological Diversity	Risk of not achieving OY due to reduced diversity (species)	0.63	0.06	0.31
Fishery Resilience (2)	Risk of reduced business resilience due to access to capital	0.50	0.06	0.44
Fishery Resilience (3)	Risk of reduced business resilience due to insurance availability	0.40	0.07	0.53
Fishery Resilience (5)	Risk of reduced business resilience due to access to emerging markets/opportunities	0.50	0.13	0.38
Commercial Employment	Risk of not optimizing employment opportunities	0.44	0.19	0.38
Recreational Employment	Risk of not optimizing employment opportunities	0.44	0.19	0.38
Seafood Safety	Risk of not maintaining market access, human health	0.50	0.13	0.38
<i>Potential Elements identified during November 2022 EOP webinar</i>				
Other Food Web Interactions (HMS, Seabird)	Risk of not achieving OY due to MAFMC managed species interactions	0.67	0.11	0.22
Offshore Wind (1) (separate from Other Ocean Uses)	Risk of not achieving OY due to biological impacts to stock productivity	0.71	0.06	0.24
Offshore Wind (2) (separate from Other Ocean Uses)	Risk of not achieving OY due to fishery impacts to due access, stock availability	0.71	0.06	0.24
Invasive Species	Risk of not achieving OY due to interactions with MAFMC managed species	0.40	0.13	0.47

Table 3. Potentially new EAFM risk elements and their definitions identified by EOP Committee or AP members as part of the pre-meeting feedback process. Risk elements were binned into existing risk element categories that seemed most appropriate.

Risk Element	Definition: Risk to What?
<i>Ecological Related Elements</i>	
Overfished Stocks	Risk of not timely rebuilding overfished stocks
EFH Identification	Risk of not identifying essential fish habitat
EFH Protection	Risk of not assuring protection of essential fish habitat
Nearshore habitat	Risk of not achieving OY due to threats to nearshore habitat (sand mining, beach replenishment, etc.)
Aggregate Forage Base	Risk of negatively impacting the integrity of the forage base.
Recruitment	Risk of not achieving OY due to reduced juvenile abundance
<i>Economic Related Elements</i>	
Commercial Fishery Resilience	Risk of reduced business resilience due to access to support businesses (i.e., local processors)
Recreational Fishery Resilience (Shoreside Support)	Risk of reduced fishery business resilience due to shoreside support infrastructure (marinas, bait and tackle shops, etc.)
<i>Social Related Elements</i>	
Recreational fleet diversity	Risk of reduced recreational fishery business resilience
Commercial Fishing	Risk of not maximizing commercial fishing labor
Foreign Interference	Risk of not achieving OY due to foreign fishing vessel fleets
<i>Management Related Elements</i>	
Stock Assessment Performance	Risk of not achieving OY due to reduced survey access/modified survey design/survey calibration methodology due to offshore wind
Offshore energy	Risks from other energy production not as habitat beneficial as offshore wind turbines
Aquaculture	Risks from escapes, contamination of native populations



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Ecosystem and Ocean Planning Advisory Panel Meeting

Policy/Process for Review of EFPs for Forage Amendment EC Species

May 15, 2023
Meeting Summary

Meeting Objective

The Mid-Atlantic Fishery Management Council's (Council's) Ecosystem and Ocean Planning (EOP) Advisory Panel (AP) met via webinar to discuss development of a policy/process for Council review of exempted fishing permit (EFP) applications for species listed as ecosystem components (EC) under the Unmanaged Forage Omnibus Amendment (Forage Amendment).

EOP AP members in attendance: Fred Akers, Eleanor Bochenek, Bonnie Brady, Jeff Deem, Zachary Greenberg, Jeremy Hancher, Peter Himchak, Fiona Hogan, Jeff Kaelin, Meghan Lapp, Carl LoBue, Pam Lyons Gromen, Philip Simon, George Topping, Judith Weis

Others in attendance: Katie Almeida, Julia Beaty, Rujia Bi, Alan Bianchi, Greg DiDomenico, James Fletcher, Zach Schuller, Anna Weinstein, Kate Wilke

Four advisors, including two who were unable to attend the meeting, provided comments in writing. These comments are appended to this meeting summary. Instances where these comments support other statements made during the meeting are indicated in the summary below.

Please note: Advisor comments summarized below are not consensus or majority statements.

Summary of AP Discussion

Key Points

- Five advisors expressed support for using the Pacific Council's COP 24 as a template for the Mid-Atlantic Council to help ensure consideration of ecosystem impacts.
- One advisor expressed support for developing a Mid-Atlantic Council process but did not express an opinion on COP 24 as a template.
- Three advisors expressed opposition to using COP 24 as a template given its complexity.
- Six advisors expressed concerns that a complex process would serve as a barrier to obtaining EFPs, especially for small businesses.
- Three advisors emphasized the need for clear guidelines on the types of analysis needed to support issuance of EFPs.
- Three advisors said the Council should support opportunities for development of new sustainable fisheries.

Thread Herring EFP

Advisors discussed an ongoing thread herring EFP application and considered how it can inform the process for review of future EFP applications for EC species. This application proposes to use purse seine gear to target thread herring in federal waters. Two advisors clarified that purse seine gear has been used in federal waters for many years by vessels participating in the menhaden fishery and operating out of New Jersey and Virginia. These vessels sometimes fish in federal waters off New Jersey, Delaware, and Maryland. However, these vessels do not have federal permits and therefore are not covered by existing analyses for federally managed fisheries. Therefore, the National Marine Fisheries Service Greater Atlantic Regional Fisheries Office (GARFO) is requiring substantial additional analysis to support this EFP.

GARFO is especially interested in additional analysis of potential bycatch of sea turtles and Atlantic sturgeon. One advisor said over a five-year period of observer coverage in the Mid-Atlantic menhaden purse seine fishery (2007-2012) for meal and oil, there were 29 observed trips and only two sea turtles caught. Both turtles were released alive. They also noted that encounters with sturgeon are extremely rare as purse seines aren't designed to contact the bottom. It is likely that any encountered sturgeon could be released alive. Another advisor said it is easy to let sea turtles escape purse seines unharmed by lowering the cork line.

One advisor said there is limited observer coverage of the Mid-Atlantic menhaden purse seine fishery, and no coverage in many years, because it does not qualify for coverage under the Standardized Bycatch Reporting Methodology as the vessels do not have federal permits. In addition, this fishery is categorized as a category II fishery under the Marine Mammal Protection Act (MMPA),¹ which results in a lower allocation of MMPA funding for observer coverage than higher risk fisheries. For example, under current funding levels, gillnet trips are being prioritized over purse seine trips.

The EFP applicants are committed to evaluating the data that are available to analyze the potential impacts. One advisor said Lund's Fisheries' entire annual contribution to the Science Center for Marine Fisheries (SCMFIS) has been allocated to fund development of an environmental assessment for the exempted thread herring fishery application. This advisor said this funding could have been used to provide for observer coverage on the thread herring trips and support additional data collection on the resource, but instead will be used to cover the additional analysis required by GARFO.

Another advisor expressed concern that an analysis focused on sea turtles and sturgeon may not fully satisfy all the necessary environmental analysis requirements. This advisor said GARFO and the Council should more clearly define the go/no go criteria for this EFP, including the specific issues to be resolved and the specific data required.

One advisor noted that the same nets used in the menhaden fishery are not expected to efficiently harvest thread herring as thread herring do not bunch together as tightly as menhaden and are more likely to bolt when the net encircles them. For these reasons, larger purse seine nets will be built for this experimental thread herring fishery. This is part of the economic justification provided by the

¹ A category II fishery is expected to have occasional incidental mortality and serious injury of marine mammals (i.e., annual mortality and serious injury is greater than 1 percent and less than 50 percent of the potential biological removal level).

applicants for the requested 6.6 million pounds of annual harvest. It is not a high value species, but there are market opportunities for recreational bait and zoo and aquaria feed. There is a purse seine fishery for this species in Florida. Thread herring are also imported from a fishery in Mexico.

Unmanaged Forage Omnibus Amendment

The Forage Amendment requires EFP applications to be sent to the Council prior to formal submission to GARFO. One advisor said they did not support this approach and preferred that EFP applications be sent to both the Council and GARFO at the same time to allow for more efficiency. They also supported the standard EFP review process outlined in the federal regulations, where the Council reviews the applications and can provide comments after GARFO publishes a federal register notice indicating the application is complete. This is the process used by the New England Council.

This advisor also noted that the Forage Amendment allowed for the possibility of expanded directed fisheries; however, these potential fisheries were not analyzed in an environmental assessment. This has resulted in substantial additional analysis being required of EFP applicants.

Another advisor noted that the intent of the Forage Amendment was not just to guide the development of new fisheries, but also to consider the ecosystem impacts of harvesting forage species. Given that the goal of many EFPs will be to consider the potential for a longer term directed fishery, the Council should use the EFP process as an opportunity to specify what information will be needed to consider potential future management of new directed fisheries for forage species, including ecosystem impacts.

Pacific Council Operating Procedure 24 (COP 24)

As described in more detail in the [summary of the April 27, 2023 EOP Committee meeting](#), the EOP Committee recommended using the [Pacific Council's COP 24](#) as a template for a Mid-Atlantic Council policy/process, with some revisions. Five advisors expressed support for this recommendation (including three advisors who submitted written comments) and three advisors expressed opposition. Advisors speaking in favor of this process said it would help ensure consideration of ecosystem impacts. Advisors speaking in opposition said the process is unnecessarily complex and creates barriers to participation. These concerns are described in more detail in the next section as they were not always specific to COP 24.

One advisor said although the Pacific Council has received no EFP applications under COP 24, they receive multiple proposals a year for highly migratory species EFPs. Those EFPs fall under a different operating procedure which is extremely similar to COP 24. According to this advisor, this illustrates that the Pacific Council process provides effective guidance for applicants. They also noted that the priorities listed in COP 24 are modeled off the purpose and need of Pacific Council's Comprehensive Ecosystem Based Amendment 1. The Mid-Atlantic Council should look to the purpose and need of the Forage Amendment when drafting a similar section for their policy.

Barriers to Use of EFPs

Six advisors expressed concerns about creating a complex process that effectively serves as a barrier to obtaining EFPs. Three of these six advisors emphasized that if EFP applicants are required to complete a similar level of analysis as is being required of the thread herring EFP, then

small businesses and individual owner/operators will not be able to participate, which raises concerns about discrimination and fairness.

For example, it was noted that Lund's Fisheries first submitted the thread herring EFP application to the Council in April 2021. Two years later, significant work remains to be done to satisfy GARFO's analysis requirements. These specific requirements were not communicated until after Lund's submitted a revised application in December 2022. Lund's worked closely with scientists when developing their first draft of the EFP application and have committed \$52,000 to develop an environmental assessment this year. A few advisors praised Lund's for their commitment to the science but stressed that this level of funding is unreasonable to expect of smaller companies and individual owner/operators. If a similar process is required for future EFP applications, only large companies will be able to participate. One advisor said this would essentially create a "pay to play" situation and is against the spirit of the Forage Amendment. Another advisor expressed agreement and made comparisons to Marine Stewardship Council certification as another example of a process that is prohibitively expensive for small companies.

The group discussed that the goal of EFPs is often to carry out experimental fishing to determine if a larger, directed commercial fishery could be viable. One advisor emphasized that a lot of hard work goes into developing markets for new fisheries. If the process for developing a new fishery is too convoluted, drawn out, and expensive, it will be much harder to develop markets. Markets benefit from a predictable, steady supply of product.

Three advisors emphasized the need for clear guidelines on the types of analysis that would be sufficient to support future EFPs, including clear criteria for determining when the proposed fishing activity is different enough from existing managed fisheries that substantial additional analysis such as an environmental assessment is required, what specific types of analysis are required, and greater clarification on the process and the roles of the Council and GARFO.

Ecosystem Considerations

One advisor emphasized that the ecosystem impacts of harvesting forage species must be considered. Removing too many forage fish from the ecosystem could negatively impact predator species, including commercially and recreationally important species, as well as protected species like the critically endangered North Atlantic right whale.

Another advisor noted that when the Council's Scientific and Statistical Committee (SSC) reviewed the thread herring EFP, they did not express concerns about the ecosystem impacts of the proposed level of annual harvest. The SSC supported an experimental, monitored fishery, as proposed by the applicants, prior to development of a directed fishery. This advisor also noted that the thread herring stock is widely distributed throughout the South Atlantic and in the Gulf of Mexico, and it is becoming increasingly abundant in this region with warming water temperatures.

Another advisor said if the SSC reviews EFP applications and does not have concerns about the ecosystem impacts of the proposed activity, then the Council should not have those concerns either. This advisor also said the thread herring example shows that the burden of proof is too great to demonstrate that an experimental fishery will not impact the ecosystem. In this advisor's opinion, the proposed harvest levels are low enough that they will not have noteworthy ecosystem impacts; however, a very detailed and costly analysis is being required of the applicants. Another advisor said they agreed that the harvest levels proposed are unlikely to harm the environment.

EFPs as a Step Towards Directed Fisheries

One advisor discussed how the criteria for obtaining an EFP are not the same as the criteria for establishing a managed directed fishery. However, the goal of many of these EFPs will be to assess the viability of new directed fisheries. The thread herring EFP demonstrates that applicants may make significant financial investments and will therefore have a desire to pursue a longer-term directed fishery to justify that investment. The Council should communicate their criteria for considering managing directed fisheries to allow applicants to consider this when deciding whether to make significant investments in experimental fisheries.

Another advisor reminded the group that approval of an EFP does not guarantee approval of a longer term directed fishery. The data collected through the EFP will help determine if the types or amounts of bycatch would prevent the Council or GARFO from approving a directed fishery. This advisor saw no reason to prevent EFPs as long as approved data collection mechanisms are in place. The Forage Amendment EC species are data poor and EFPs can help collect needed data.

Three advisors said the Council should support opportunities for new sustainable fisheries, especially as new species become more available with climate change and the fisheries face other challenges such as regulations, changing species distributions, and offshore wind energy development.

One advisor expressed frustration that when fishermen work to start new fisheries, government regulations eventually destroy the market or put fishermen out of business. Fishermen are trying to adapt, but the government is preventing this adaptation with too many regulations.

One advisor said the Council should give priority consideration to EFP applications which respond to the regulations in [subsection 648.12 \(experimental fishing\)](#), which state “The Regional Administrator may exempt any person or vessel from the requirements of subpart... P (Mid-Atlantic forage species) of this part for the conduct of experimental fishing beneficial to the management of the resources or fishery managed under that subpart. The Regional Administrator shall consult with the Executive Director of the MAFMC before approving any exemptions ... for experimental fishing contributing to the development of new or expansion of existing fisheries for Mid-Atlantic forage species.”

Other Staff and EOP Committee Recommendations

One advisor expressed opposition to the staff recommendation for incremental increases in landings. Customers, for example bait shops, will only be interested in purchasing a species if they know a sufficient supply will be available. Low product availability may be undesirable to potential customers. This advisor said they would instead support a high cap on the level of catch allowed through EFPs.

One advisor said the staff recommendation to submit EFPs to the Council one year prior to the desired start of exempted fishing may not allow enough time to complete the lengthy review process that is proposed, as illustrated by the thread herring EFP application.

Another advisor said they support all staff and EOP Committee recommendations.

Other Comments

One advisor expressed general support for the Council developing a policy/process for reviewing EFP applications for EC species but did not provide specific recommendations for the details of that process.

One advisor asked what would happen if the Council or GARFO required electronic monitoring of the exempted fishing activity, but the Northeast Fisheries Science Center did not have the resources to process those data. This advisor noted that the New England Council's Industry Funded Monitoring Amendment demonstrated that monitoring requirements can become complicated.

One advisor noted that the thread herring EFP applicants are funding and writing their own environmental assessment. GARFO indicated the agency does not have resources to dedicate to this analysis. This advisor expressed concern with this concept because scientific analyses, especially those used to advise management decisions and actions, should be objective and unbiased. This advisor questioned how objectivity would be maintained when the party funding the research has a direct financial interest in the outcome of that work. The advisor asked if this is a typical process for EFPs. Staff indicated that GARFO still needs to review and approve the documentation to ensure compliance with applicable laws before issuing the necessary approvals to allow the exempted fishery to take place.

Public Comments

One individual cautioned against modeling a Mid-Atlantic Council process off a Pacific Council process due to many differences between the two regions. They also asked when the Council would focus on increasing commercial fisheries production, rather than limiting it. They noted that many concerns about bycatch could be addressed by allowing retention and sale of that bycatch and recommended allowing for total retention of all catch. They agreed with the advisor who spoke in opposition to the staff recommendation for incremental increases in landings and instead supported a high cap on allowable catch under EFPs.

Another individual asked the group to think about the socioeconomic benefits of allowing new fisheries. They said the commercial fishery stakeholders involved in the thread herring EFP application have followed all the regulations and have dedicated resources to improve the science. Using EFPs as a first step towards developing a new fishery is a way to increase flexibility and resilience and to support coastal communities, while still protecting forage species.

15 May 2023

Michelle Duval
EOP Chair
MAFMC

Dear Michelle,

Thank you for the opportunity to provide input on the Council's proposed process for addressing species covered by the Unmanaged Forage Amendment via an EFP. The Unmanaged Forage Amendment is an important action take by the MAFMC to maintain sustainable and healthy fish stocks in the Mid-Atlantic and I am pleased that I was able to be part of that process.

MAFMC staff and Council members have taken a prudent and sensible step in developing an EFP process beginning with the existing action taken by the Pacific Council. Over the year, staff and Council members of the MAFMC have learned from the other Councils around the nation, as our Council has aided the other 7. This action is a perfect example. The AP and Committee and then Council will be wise to start this process by using the Pacific Council's action as a template and example of how to accomplish this step. The Council needs to be involved in the EFP review process and at a sufficiently early stage to engage any resources necessary to complete the review.

During the development of the original Forage amendment, Council obtained the input and participation from a range of stakeholders who devoted significant time and energy to insuring that the Forage Amendment would best protect and sustain the stocks and populations on which so much depends. This next action acknowledges the important of the Forage AM, the species protected, the stakeholder input and the important role of the Council in all aspects of implementing the Forage AM.

I regret that I cannot attend the May 15, 2023 AP meeting due to a personal event schedule conflict and will follow-up with staff with any questions.

Yours truly,

A handwritten signature in black ink that reads "Peter L. deFur". The signature is written in a cursive style with a large, stylized initial 'P'.

Peter L. deFur

From: [Fred Akers](#)
To: [Beaty, Julia](#)
Subject: EOP AP EFP Comments
Date: Monday, May 15, 2023 6:06:11 PM

Hi Julia,

I support the Council's development of a policy for reviewing EFP applications for fish listed under the Unmanaged Forage Fish Amendment. I also support the staff recommendations and using a modified COP 24 as a template for the new MAFMC policy.

My main concern is the determination of the potential negative impact of the removal of forage species on the marine ecosystem and other managed species. I don't think it is unreasonable to put the burden of proof for the determination of the potential negative impacts on the applicants who are proposing the EFP to achieve a new fishery. If they do not have the resources or the expertise to prove no negative impacts, then they are not qualified to apply.

I think that there is also a risk that applicants for EFPs who invest very substantial sums of money for an EFP could bias the scientific outcomes by the economic harm to them from a negative determination. The term "pay to play" came up at the AP meeting today and that could be a potential problem from high capital investments in EFPs.

Perhaps the Council should include a "no guarantee" disclaimer in its EFP policy that a new fishery would automatically occur no matter what the scientific results of the EFP were.

I think that the Council should be cautious that the GARFO EFP approval process is robust enough to both thoroughly protect the marine ecosystem and enable industry profits. The story of river herring and shad is one example of many of a failure for both commerce and fishery protections.

Regarding the complaints about regulations, I would point to the new Blueline Tilefish fishery as a very positive example of how quickly the MAFMC can create a new fishery that does not involve protected forage fish. Perhaps an example of a new opportunity due to climate change in the ocean.

It seems that there is a continued trend to "fish down the food chain" as managed species are overfished, and I urge the Council to pay extra attention to continue to protect the Unmanaged Forage Fish.

Thank You for your work on these issues and the opportunity to provide feedback today.

Fred Akers, EOP AP Member.

From: [Phil Simon](#)
To: [Beaty, Julia](#)
Subject: Re: EOP AP meeting summary for your review by next Wednesday - May 24
Date: Thursday, May 18, 2023 10:52:32 AM

Hi Julia,

For clarification, I was concerned that Lund's Seafood proposed study, which appears to be focused on the sea turtles and sturgeon impacts, was too narrow to satisfy the environmental concerns surrounding the EFP that were expressed by GARFO. The Lund rep on the AP stated that the sea turtle/sturgeon question was the only concern that they needed to address. Reading the letter from Mike Pentony I have a different view. I think GARFO and the Council need to spell out exactly as possible the go/no go criteria for this proposed study, and exactly what other issues they need resolved, and with what kind of data. Otherwise it could end up as a go/no stop decision point. I also have to say that the \$50K price tag for the study is either really cheap for this kind of work, or the study is quite limited. I am doubtful that the data it produces would satisfy anyone looking for a clear answer. I'd rather see Lund invest the money in one new net, run the trial fishery at a lower catch rate, collect the data on bycatch as well as yield, and use that to allow (or not) the full EFP study to proceed.

Thanks,

Phil

From: [Firestone, Jeremy](#)
To: [Beaty, Julia](#)
Subject: Re: EOP AP meeting summary for your review by next Wednesday - May 24
Date: Thursday, May 18, 2023 11:38:28 AM

Hi Julia,

Thank you for the detailed summary of the meeting. It was very helpful to me, as earlier noted, I was unable to attend.

I also want to share my views.

1. As a general matter I support use of the Pacific Council's COP24 process, as it will help to ensure consideration of ecosystem impacts; it only seems prudent (precautionary approach) to consider them now, and would be consistent with the philosophy of NEPA that we make decisions with an understanding of the environmental effects.
 - a. It seems like a good place to start; if the process is found to not be optimal given, e.g., differences between the Pacific and mid-Atlantic fisheries, changes can be made going forward.
2. While high standards should be employed, I am supportive of giving these applications priority as far as staff resources to review given the potential benefits of new fisheries. At the same time, reviews should not be rushed by artificial deadlines (the one-year prior submission).
3. It is not atypical for applicants to fund research to satisfy ESA, or NEPA for that matter. I am sympathetic to the concerns that it may be cost prohibitive for smaller operators. Thus, would be beneficial if there were government resources to fund these activities. I appreciate that is however difficult in a situation like the commercial fish industry finds itself in given that it does not generally provide rents/royalties, etc. to the government for catch of fish, which are a common public resource.

Thank you, Jeremy

Jeremy Firestone
Professor, School of Marine Science and Policy & Biden School
Faculty Director, CEOE Master's in Environmental Science and Management Program
University of Delaware
Newark, DE (USA) 19716
jf@udel.edu
www.crew.udel.edu
www.udel.edu/academics/colleges/ceoe/departments/smsp/faculty/jeremy-firestone/
<https://scholar.google.com/citations?user=831LSZ8AAAAJ&hl=en&oi=ao>



Mid-Atlantic Fishery Management Council

800 North State Street, Suite 201, Dover, DE 19901

Phone: 302-674-2331 | FAX: 302-674-5399 | www.mafmc.org

Michael P. Luisi, Chairman | P. Weston Townsend, Vice Chairman

Christopher M. Moore, Ph.D., Executive Director

Ecosystem and Ocean Planning Committee Meeting Policy/Process for Review of EFPs for Forage Amendment EC Species

April 27, 2023
Meeting Summary

Meeting Objective

The Mid-Atlantic Fishery Management Council's (Council's) Ecosystem and Ocean Planning (EOP) Committee met via webinar to discuss development of a Council policy/process for review of exempted fishing permit (EFP) applications for species designated as ecosystem components (ECs) under the Council's Unmanaged Forage Omnibus Amendment (Forage Amendment). The objectives of this meeting were for the Committee to review relevant outcomes from the Forage Amendment, lessons learned from a recent thread herring EFP application, the Pacific Council's process for reviewing EFP applications for their ECs, and staff recommendations for next steps. The Committee was also tasked with providing guidance to staff on development of a draft policy/process.

For the second half of the day, the Committee met jointly with the EOP Advisory Panel (AP) to discuss the ongoing review of the Council's Ecosystem Approach to Fisheries Management risk assessment. This part of the meeting will be summarized in a separate document.

EOP Committee members in attendance: Michelle Duval (Committee Chair), Sara Winslow (Committee Vice Chair), Bob Beal, Emily Keiley, Kris Kuhn, Scott Lenox, Adam Nowalsky, Tom Schlichter, David Stormer

Others in attendance: Fred Akers,* Carly Bari, Julia Beaty, Carl LoBue,* Kiley Dancy, Greg DiDomenico, Maria Fenton, James Fletcher, Fiona Hogan, Meghan Lapp,* Brandon Muffley, Michael Luisi, Pam Lyons Gromen,* Phil Simon,* Ryan Silva, Anna Weinstein, Kate Wilke

*EOP Advisory Panel member

Summary of Committee Discussion

Summary of Committee Recommendations

As described in more detail below, the Committee recommended use of the Pacific Council's Operating Procedure 24 (COP 24) as a template for a Mid-Atlantic Council policy and process, with some revisions. They supported addition of all staff recommendations outlined in the [briefing materials](#), as well as guidelines for terms of reference (TORs) for Scientific and Statistical Committee (SSC) review. They also agreed to consider a decision tree approach where the Council would determine if each relevant EFP application warrants a full review by the SSC, Committee, AP, and Council, or if fewer review steps could suffice for certain EFP applications.

Discussion of Current Process

The Committee discussed the current process for issuance of EFPs. Greater Atlantic Regional Fisheries Office (GARFO) staff noted that threshold levels can be established for catch of target species and bycatch. This is evaluated through the National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA) process before the agency decides whether to approve an EFP application.

GARFO staff explained that although EFPs are issued for one year at a time, they are often renewed so they can be used over multiple years. The renewal process requires repeating the same steps as for issuing the EFP, including evaluating the expected impacts under NEPA and the ESA and soliciting public comments before making a determination on renewal.

GARFO staff also reminded the Committee that the national level regulations at [50 CFR 600.745](#) define the process for EFP application submission, review, and decision making. Due to these regulations, the Council cannot require that applicants submit EFP applications to the Council prior to formal submission to GARFO. The regulations outline the steps GARFO must take after receiving an application; therefore, if an application is formally submitted to GARFO prior to the Council, GARFO may not be able to delay initiating their review to wait for Council review.

Pacific Council Process and Use of COP 24 as a Template

The Committee agreed that the [Pacific Council's COP 24](#), which outlines the process for Pacific Council review of EFP applications for their EC species, is a good template for a Mid-Atlantic Council policy/process, but some revisions are needed. The Committee supported addition of all staff recommendations which are outlined in the [briefing materials](#) and not repeated here.

The Committee noted that many sections of COP 24 are redundant with the federal regulations at [50 CFR 600.745](#). However, they agreed that this redundancy could be helpful for EFP applicants by listing most of the relevant information in one place.

The Committee agreed that Section D of COP 24 (“Other Considerations”) is not necessary to include in a Mid-Atlantic Council document. This section specifies certain thresholds of past commercial fishing regulation violations which may result in denial of an EFP request. The Committee agreed that this is not necessary to include as GARFO already reviews all EFP applications for considerations related to past fishing regulation violations and they follow a specific policy for doing so. The Council’s policy could reference the existing GARFO policy and process for considering past violations. In addition, one Committee member noted that the Council does not have access to information needed to review past violations.

The GARFO representative on the Committee expressed concern that a process like COP 24 would add complexity to the EFP review process. It is helpful to have Council, SSC, and AP review of EFP applications for novel activities, outside the scope of existing managed fisheries. However, some EFP applications, even for EC species, may be much simpler and more straightforward. GARFO staff are concerned that in such cases, review by the Council, SSC, and AP may not add much value to the already robust GARFO review process required by the federal regulations.

Other Committee members reiterated that Council review of EFPs for ECs prior to formal submission to GARFO is part of the Forage Amendment and there is no intent to change that. This only applies to the Forage Amendment ECs. It does not apply to EFPs requesting exemptions from

other Mid-Atlantic Council regulations. Multiple Committee members agreed that a more detailed policy or process is needed to guide future Council reviews of EFP applications for ECs.

To address GARFO's concerns about complexity, some Committee members expressed a willingness to consider a decision tree approach where the EFP applications would first be reviewed by the Council. The Council would then determine if the application should proceed to review by the SSC, Committee, and AP or if further review is not warranted. Further review may not be warranted if the application is simple and straightforward or if the Council is opposed to the application and does not need further review to inform their position.

A Committee member asked if the Pacific Council has ever received an EFP application which they felt did not warrant the full review process outlined in their COPs. Staff said they would look into this and follow up with more information. It was noted that the Pacific Council has received no EFP applications for their EC species; however, they follow a very similar process for review of EFPs for all their managed species.

SSC Review of EFPs for ECs

The Committee agreed that development of TORs for SSC review of EFP applications may be beneficial to ensure that all relevant EFP applications are evaluated against a similar set of criteria. For example, these criteria could task the SSC with considering the adequacy of the sampling program and whether the EFP can help address questions related to ecosystem considerations. Staff suggested that the Council policy/process could include guidelines for such TORs; however, specific TORs should be tailored to each relevant EFP application. The Committee agreed with this suggestion.

Public Comments

One member of the EOP AP said the COP 24 process seems overly complex. From their perspective, the process that was followed for review of the recent thread herring EFP application worked well and additional complexity may not be warranted. They also cautioned that COP 24 has not been tested as the Pacific Council has received no EFP applications for EC species.

Another EOP AP member supported use of COP 24 as a template with modifications. This advisor expressed concern about the decision tree approach described above as they would like the AP to review all EFP applications for ECs. They also requested more information from GARFO on their process for reviewing EFP applications, beyond what is listed in the regulations. For example, it is not clear if consideration of impacts to the ecosystem and food webs are part of the existing process.

Another individual expressed doubts about modeling a process off a document developed for the west coast, where they said over 30% of harvest is exported. They asked if anything is known about the total biomass of species like thread herring. They expressed concern that the thread herring EFP could ultimately lead to another situation like chub mackerel, where the Council took on management of a new fishery for a species that is, for the most part, only harvested by a few companies. This advisor did not think this was a good use of Council resources and efforts should instead be focused on other Council-managed species such as summer flounder, scup, and black sea bass, for example by considering how to increase their biomass and reduce their exposure to harmful chemicals.

Another individual asked if the Council intended to apply their new policy/process to the thread herring EFP or if it would only apply to future EFP applications. The Committee chair said it may be unfair to retroactively apply a policy that has yet to develop to the thread herring EFP given that there has already been significant communication between those applicants, the Council, the EOP Committee, the SSC, and GARFO.



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Michael P. Luisi, Chairman | P. Weston Townsend, Vice Chairman

Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: April 19, 2023
To: Chris Moore, Executive Director
From: Julia Beaty, Staff
Subject: Policy/Process for Council Review of Exempted Fishing Permit Applications for Forage Amendment Ecosystem Component Species

Background

In August 2016, the Mid-Atlantic Fishery Management Council (Council) took final action on the [Unmanaged Forage Omnibus Amendment](#) (Forage Amendment). This amendment implemented a 1,700 pound possession limit for over 50 forage species which were previously unmanaged in Mid-Atlantic Federal waters (Table 1). These species were designated as ecosystem component (EC) species in all the Council's Fishery Management Plans (FMPs). The possession limit applies to combined landings of all EC species. The goal of the Forage Amendment was to prohibit the development of new and expansion of existing directed commercial fisheries for unmanaged forage species until the Council has had an adequate opportunity to assess the scientific information relating to any new or expanded directed fisheries and consider potential impacts to existing fisheries, fishing communities, and the marine ecosystem.

In taking final action on the Forage Amendment, the Council agreed that use of an exempted fishing permit (EFP) should be the first step towards considering allowing landings beyond the 1,700 pound possession limit. The Council also agreed that they should review these EFP applications prior to review by the NOAA Fisheries Greater Atlantic Regional Fisheries Office (GARFO). Given the national regulations at [50 CFR 600.745](#), the Council cannot require that EFP applications be sent to the Council prior to GARFO; however, they can recommend that applicants do so.

The Council considered the first EFP application for a Forage Amendment EC species in 2021 when they reviewed an EFP application for Atlantic thread herring (*Opisthonema oglinum*, also referred to as threadfin herring). As a result of this review, the Council agreed to develop a policy/process to guide their review of future EFP applications for EC species.

This document provides background information and staff recommendations for next steps to assist the Council's Ecosystem and Ocean Planning (EOP) Committee, EOP Advisory Panel, and the Council in developing a process for review of EFP applications for Forage Amendment EC species.

Table 1: Taxa designated as ecosystem components by the Council through the Unmanaged Forage Omnibus Amendment.¹ The federal regulations at [50 CFR 648.2](#) (definition for “Mid-Atlantic forage species”) further enumerate this list to the species level.

Anchovies (Family Engraulidae)
Argentines (Family Argentinidae)
Greeneyes (Family Chlorophthalmidae)
Halfbeaks (Family Hemiramphidae)
Herrings, sardines (Family Clupeidae)
Lanternfish (Family Myctophidae)
Pearlsides (Family Sternoptychidae)
Sand lances (Family Ammodytidae)
Silversides (Family Atherinopsidae)
Cusk-eels (Order Ophidiiformes)
Atlantic saury (<i>Scomberesox saurus</i>)
Pelagic mollusks except sharptail shortfin squid (<i>Illex oxygonius</i>)
Copepods, Krill, Amphipods & other species under 1 inch as adults

Federal Regulations and Process for EFPs

The federal regulations regarding EFPs are found at [50 CFR 600.745](#). An EFP exempts a vessel from certain specified fishing regulations. All other regulations remain in effect. EFPs may be used for purposes such as data collection, exploratory fishing, market research, product development, and other reasons.

EFPs are issued by the NOAA Fisheries regional offices. The regulations at [50 CFR 600.745\(b\)\(2\)](#) list required contents of EFP applications. The Regional Administrator may also request additional information. EFPs must comply with all applicable laws, including the National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA). Therefore, depending on the characteristics of the proposed fishing activity, EFPs may require additional NEPA analysis and/or additional ESA consultations beyond the existing analysis for managed fisheries.

If the Regional Administrator determines that an EFP application warrants further consideration and contains all relevant information, a notification will be published in the Federal Register with a brief description of the proposal and there will be a 15 to 45 day public comment period. Councils are notified of applications which request exemptions from their FMPs regulations and the Councils may provide comments during the public comment period.

The regulations note that EFP applications may be denied for a number of reasons, including, but not limited to, concerns about detrimental impacts to managed species, protected species, or essential fish habitat (EFH) according to the best scientific information available; economic allocation as the sole purpose of the EFP; inconsistency of the EFP with FMP objectives and applicable laws; failure to provide an adequate justification for the exemption; and enforcement concerns.

The Regional Administrator may attach terms and conditions to the EFP. This may include, but is not limited to, maximum harvest levels, observer requirements, and data reporting

¹ The Council also approved inclusion of bullet mackerel (*Auxis rochei*) and frigate mackerel (*Auxis thazard*) on the list of EC species; however, NOAA Fisheries disapproved inclusion of these two species, arguing that they should not be classified as forage species due to their size and their typical prey.

requirements. EFPs are typically valid for one year, but can be renewed. A report summarizing catches and any other required information must be submitted to the Regional Administrator no later than six months after concluding the fishing activity authorized by the EFP.

Thread Herring EFP

Summary of Proposal

In the spring of 2021, Lund's Fisheries, Inc.; H&L Axelsson, Inc.; and Axelsson Seiner, Inc. developed an EFP application for an experimental purse seine fishery for Atlantic thread herring.² They provided this application to the Council and GARFO for preliminary review, following the process adopted by the Council through the Forage Amendment, with the goal of considering any preliminary input and revising the application as needed before formal submission to GARFO.

The applicants requested the ability to catch up to 3,000 MT (6.6 million pounds) of thread herring in federal waters between May 1 and November 1, 2022. The goal was to demonstrate the potential for a commercial thread herring purse seine fishery in federal waters. The applicants aimed to carry out this experimental fishery over multiple years to justify investments in gear and to maximize biological data collection. Up to four purse seine and four carrier vessels would have operated under the EFP and would have landed their catch at the Lund's plant in Cape May, New Jersey. The vessels expected to participate are also permitted in New Jersey's limited access individual transferable quota (ITQ) menhaden fishery. Given that thread herring are found at deeper depths than menhaden, larger nets would need to be built to target thread herring (e.g., 2,000 feet long, 180 feet deep, 1-inch mesh compared to 900 maximum feet in length for the New Jersey menhaden fishery). Data on length, age, maturity, and bycatch would be collected.

SSC Review

The Council requested that the Scientific and Statistical Committee (SSC) review the thread herring EFP application and provide input on scientific and biological considerations, including the proposed data collection program. The SSC reviewed the application in September 2021³ and found no scientific basis for opposing the proposal. They agreed that collection of biological and fine-scale fishery performance information prior to the start of a directed fishery is valuable for future scientific management. They also noted that this data collection would be consistent with the proposed National Standard 1 guidelines for Data Limited stocks. They also agreed that careful consideration should be given to designing a basis for estimation of scientific uncertainty and future management of this resource. The SSC supported the proposal for portside monitoring of bycatch but expressed some concern about the anticipated low at-sea observer coverage. The SSC also encouraged monitoring of bycatch of birds and marine mammals. The SSC also suggested collecting data on body fat content to compare with trends seen in other forage species.

EOP Committee Review

The EOP Committee reviewed the thread herring EFP application and the SSC's feedback in October 2021.⁴ Some EOP Committee members expressed concern about the proposed 3,000 MT catch limit and questioned whether it was scientifically determined and if it could be lowered. It was noted this catch limit appears to be double the recent commercial thread herring

² The application is available at <https://www.mafmc.org/council-events/2021/ecosystem-and-ocean-planning-committee-meeting>.

³ Meeting materials are available at <https://www.mafmc.org/ssc-meetings/2021/september-7-8>.

⁴ Meeting materials are available at <https://www.mafmc.org/council-events/2021/ecosystem-and-ocean-planning-committee-meeting>.

landings in the Gulf of Mexico and nearly equivalent to the peak commercial landings in the mid-1990's along the Atlantic coast.

GARFO Response

After considering the input of the SSC and the EOP Committee, the applicants revised their application and resubmitted it to GARFO in December 2022. GARFO responded with several concerns.

GARFO noted that purse seine gear in Mid-Atlantic federal waters may catch sea turtles and possibly Atlantic sturgeon. Given that purse seine gear is not currently used in federal waters in the Mid-Atlantic, the proposed exempted fishing would not be covered under current ESA consultations for existing fisheries. As such, it would be necessary to undertake a new ESA consultation for this EFP, which would involve developing a biological opinion and an incidental take statement. This could ultimately require measures to mitigate take such as posting a lookout to watch for protected species prior to deploying gear, using human observers or electronic monitoring on 100% of trips, or other measures.

GARFO also noted that issuance of EFPs must comply with NEPA. When EFPs authorize activities that are very similar to existing fisheries, NEPA compliance is often achieved through a simple categorical exclusion document prepared by GARFO. However, exempted fishing activity that is notably different from existing fisheries can require a more detailed NEPA analysis, such as an environmental assessment.

GARFO staff are focused on other fishery management priorities; therefore, they are currently unable to assist with additional analyses to ensure compliance with NEPA and the ESA. The same is true for Council staff. The applicants are currently considering the possibility to develop the necessary documents with assistance from contractors.

Pacific Council COP 24

In March 2015, the Pacific Fishery Management Council (Pacific Council) took final action on Comprehensive Ecosystem Based Amendment 1, which designated a suite of forage species as ECs in all Pacific Council FMPs (referred to as shared EC species) and prohibited directed commercial fishing for those species. Directed commercial fishing is defined as landing more than 10 mt combined weight of all these species per trip or 30 mt combined weight in any calendar year ([50 CFR 660.5](#)). The goals of this amendment were very similar to and served as a model for the Mid-Atlantic Council's Forage Amendment.

In taking final action on Comprehensive Ecosystem Based Amendment 1, the Pacific Council also approved Council Operating Procedure (COP) 24, which outlines the process for consideration of EFPs for the shared EC species. The Mid-Atlantic Council adopted some similar provisions but decided against including a similar level of detail as spelled out in COP 24. Specifically, use of an EFP as a first step towards considering allowing increased harvest of EC species and Council review of EFP applications prior to review by GARFO were modeled off COP 24.

The full text of COP 24 is available at <https://www.pcouncil.org/navigating-the-council/council-operations/#statement-of-organization>. The Pacific Council also has operating procedures for review of EFPs for groundfish fisheries (COP 19), highly migratory species fisheries (COP 20), and coastal pelagic species (COP 23). It is standard practice for the Pacific Council to review EFP applications prior to submission to the NOAA Fisheries West Coast Regional Office. This

process was in place prior to the development of COP 24. COP 24 was modeled off the previously developed procedures for EFPs for the other Pacific Council managed species.

Most other Councils (including the Mid-Atlantic Council for EFPs which do not address Forage Amendment EC species), review EFP applications after they are submitted to the Regional Office. Recent examples of Mid-Atlantic Council comment letters on EFPs are available at <https://www.mafmc.org/correspondence>.

Staff Recommendations

The EOP Committee, EOP Advisory Panel, and the Council should discuss the desired elements of a Mid-Atlantic Council policy/process for reviewing EFP applications for Forage Amendment EC species.

Council staff recommend consideration of the following elements in such a policy/process:

- As adopted by the Council through the Forage Amendment, EFP applications for EC species should be sent to the Council for review prior to formal submission to GARFO. Applications may be sent to GARFO for preliminary review at the same time they are sent to the Council, but they should not be formally submitted to GARFO prior to Council review.
- Applications should contain all information required by the regulations at [50 CFR 600.745](#), which includes, but is not limited to:
 - A statement of the purposes and goals of the exempted fishery for which an EFP is needed, including justification for issuance of the EFP.
 - The species (target and incidental) expected to be harvested under the EFP, the amount(s) of such harvest necessary to conduct the exempted fishing, the arrangements for disposition of all regulated species harvested under the EFP, and any anticipated impacts on the environment, including impacts on fisheries, marine mammals, threatened or endangered species, and EFH.
 - For each vessel covered by the EFP, the approximate time(s) and place(s) fishing will take place, and the type, size, and amount of gear to be used.
- In addition to the information listed above, EFP applications for EC species should also describe:
 - The species expected to be caught incidentally, including the amount of and expected disposition of (landed or discarded) those species. This should include all species and should not be limited to regulated species.
 - Expected impacts from catch of incidental species including impacts on fisheries, marine mammals, threatened and endangered species, and EFH.
 - Justification for the specific catch levels requested.
 - Given limited available data and current lack of stock assessments for EC species, applicants may wish to consider incremental increases above

recent landings to mitigate concerns about potential impacts of large increases in landings.

- Procedures for monitoring all catch, including incidental catch and discards. Applicants may wish to consider mechanisms for observer coverage. Currently, there are no existing mechanisms for third party funding of observers trained through the Northeast Fisheries Observer Program (NEFOP) or for assigning NEFOP observers to trips outside of what is required by the Standardized Bycatch Reporting Methodology. It may be possible to develop such a system on a case by case basis; however, this will require additional time and additional conversations with GARFO and the Northeast Fisheries Science Center.
- Applicants are encouraged to collect information that can assist with future management and stock assessments of EC species, including, but not limited to information on length, weight, age, sex, and maturity. Applicants should provide details on any planned biological sampling programs.
- Applicants should determine if additional analysis may be needed to comply with applicable laws (e.g., ESA and NEPA), especially if the exempted fishing activity is not considered part of an existing federal waters fishery in this region. GARFO and Council staff can provide only limited support for these additional analyses given workload constraints.
- The Council, SSC, EOP Committee, and EOP Advisory Panel will review EFP applications for EC species and may request additional information beyond that listed above.
- EFP applications should be submitted to the Council one year prior to the desired start of exempted fishing activities to ensure sufficient time for review by the Council and its advisory bodies, subsequent revisions to the application if needed, and review and processing by GARFO.

Next Steps

The following timeline is suggested by Council staff for development of a process for Council review of EFP applications for EC species. This timeline is subject to change.

April 27, 2023	<ul style="list-style-type: none"> ● Ecosystem and Ocean Planning (EOP) Committee meeting via webinar: <ul style="list-style-type: none"> ○ Review relevant outcomes from the Unmanaged Forage Omnibus Amendment. ○ Review lessons learned from recent thread herring EFP application. ○ Review the Pacific Fishery Management Council's operating procedure for consideration of EFPs for ecosystem component species. ○ Provide guidance to staff on development of a draft policy/process.
May 15, 2023	<ul style="list-style-type: none"> ● EOP AP meeting via webinar to provide input on development of a draft policy/process.
June 2023	<ul style="list-style-type: none"> ● Council meeting (June 6-8, Virginia Beach, VA) to review Committee discussions, review AP input, and provide guidance to staff.
July – August 2023	<ul style="list-style-type: none"> ● Staff develops draft policy/process based on Council guidance..

<p>September 2023</p>	<ul style="list-style-type: none"> • EOP AP meeting via webinar to review draft policy/process and provide input to Committee and Council. This may be combined with EOP AP meetings on other topics (e.g., risk assessment, essential fish habitat review). • EOP Committee meeting via webinar or in person to review draft policy/process, review AP input, and provide recommendations to the Council. This may be combined with EOP Committee meetings on other topics (e.g., risk assessment, essential fish habitat review).
<p>October 2023</p>	<ul style="list-style-type: none"> • Council meeting (October 3-5, New York City, NY) to review draft policy/process, consider AP input and Committee recommendations, and consider adopting a policy/process.