# M E M O R A N D U M

**Date:**            November 9, 2021

**To:**              Research Steering Committee

**From:**            Brandon Muffley, Council staff

**Subject:**         Biennial Review of 5-Year Research Priorities Document

## Background:

In December 2019, the Mid-Atlantic Fishery Management Council (Council) approved the Five-Year (2020-2024) Research Priorities document that aligns science needs with the management objectives and resources identified in the Council's 2020-2024 Strategic Plan and Five-Year Cooperative Agreement. Required by the reauthorization of Magnuson-Stevens Act in 2006, this document provides a comprehensive review and identification of the Council's science and data needs across all its fishery management plans (FMPs). The 2020-2024 document was re-organized and prioritized to develop a more useful, tactical, and strategic document to effectively advance scientific and management information by the Council and NOAA Northeast Fisheries Science Center (NEFSC).

Included for the first time, the 2020-2024 Research Priorities document identified a process to review, update, and monitor progress to improve the document and help ensure its successful implementation. In 2020[1], the document was updated to include additional information on the species-specific priorities and indicate which of the seven broad research priority theme(s) is being addressed by each individual priority, thereby ensuring the identified research addresses the Council's larger priority themes and needs. In addition, a review of 2019-2020 Council-supported science and management projects was conducted in order to evaluate the utility of the document to inform priorities for funding by the Council. The review found that all 14 Council-supported projects addressed at least one broad priority theme and half of the projects addressed 10 species-specific priorities, nearly 10% of all priorities identified in the current research priorities document.

In 2021, the Council is conducting its first biennial review of all species-specific research priorities identified in the 2020-2024 priorities document. The goal is to provide for a broad and comprehensive review to ensure the document is reflective of the Council's current science and management needs. This memo describes the process to review the priorities list, identifies recommended modifications to species-specific priorities, and provides any relevant

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[1]To review the updated 5-Year (202002024) Research Priorities document and staff memo detailing the 2020 review, please see https://www.mafmc.org/research-priorities.

justification or rationale for any potential modifications.

At the November 16, 2021 meeting, the Research Steering Committee (Committee) will review the recommended research priority changes. The Committee will provide any feedback regarding the biennial review process, identify any additional changes to the individual priorities, and make any recommendations for Council consideration. The revised document and any Committee recommendations will then be presented to the Council for review and approval at the December meeting.

## Review of Five-Year (2020-2024) Research Priorities:

Input on current, and potentially new, research priorities for each Council-managed species was provided throughout 2021. First, all species-specific Advisory Panels reviewed the current research priorities as part of their development of the annual Fishery Performance Reports and suggested any edits or new research considerations. The Scientific and Statistical Committee (SSC) then provided input on science needs when they reviewed previously set catch specifications and they developed specific research recommendations when setting new catch specifications following a management track assessment. Then, during their review of catch and management recommendations, the Monitoring Committees provided input on the respective current research priorities and the new priorities developed by the SSC. In addition, any new or updated research recommendations identified in the 2020 and 2021 management track stock assessment and peer review reports were also considered during the review (note: no Mid-Atlantic research track stock assessments were completed in 2020-2021). Finally, staff then worked with the Council staff lead and the NEFSC assessment leads to review all input received and identify any potential modifications to the existing research priorities list.

For this review, a variety of possible research priority modifications are recommended for consideration by the Committee and Council. These research priority modifications include: removal, editing the existing language, change in priority order, or a adding a new priority. Additional context as to why and when a particular modification to a research need is recommended is provided below.

- **Removal** – an existing research priority could be removed because the priority was addressed (through research, assessment, or management advancements) or because it was no longer considered a priority
- **Editing existing language** – language edits for a particular priority are recommended to help add clarity or specificity, provide additional detail because there is new information available to inform the priority, or updated to reflect the current status of addressing the priority
- **Change in priority order** – the priority order of an existing research need(s) could move up or down within the groupings (i.e., short-term/small scale or long-term/large scale) due to changing/updated information and upcoming needs
- **New priority** – a new proposed research priority need could be added to the list depending upon updated recommendations from the SSC, AP, stock assessment, or peer review. The newly recommended priority was not given a priority number but has been placed in priority order (numbering will be updated once the Council approves the revised document).

*Draft Edits and Modifications to Research Priorities*

Included as background material is a draft comprehensive list of Council research priority needs that is marked-up with recommended modifications for cross-species and species-specific priorities (Attachment 1). There are a total of 34 proposed modifications, or approximately a third (33%) of all existing priorities. The majority (44%) of the recommended modifications are edits and changes to the existing language for a particular research need. As noted above, language edits may be recommended for a number of reasons but are intended to ensure the priority appropriately captures the research needs and accurately reflects the current status of addressing a priority. For example, a number of language edits (priority # 55, 57, and 59) are suggested under Golden Tilefish to indicate some progress has been made to address these priorities, due to the completion of the 2020 longline survey, but more work is needed to completely address the priority need. Adding a new priority comprised 26% of the recommended modifications, followed by a change to the priority ranking (18%). Removing a current priority because a priority was addressed/completed comprised the smallest modifications – additional discussion as to why is provided below. Table 1 provides a summary of all recommended modifications by species and includes information on the type of modification and a justification or rationale for the recommendation.

While the current priorities document was just approved in 2019 and many Council priorities remain relevant, this review highlights that the Council's science needs continue to evolve as new research is conducted or our understanding of a specific priority may change with additional information. This is reflected in the modest number of recommended modifications to the existing priorities list, which includes the removal of 4 priorities and the addition of 9 priorities. This review also highlights that the Council's research priority list is being used by a variety of groups and several priorities have been completed or work is currently underway. There are at least 42 current research priorities (41% of all priorities) that have been completed, are currently being reviewed, or are in the process of being addressed. This number is likely an underestimate as staff is likely unaware of some applicable research or there are projects with a different focus but may provide insight for a particular priority.

Given the modest number of recommended modifications, it's also worth noting this review occurred during a time period when there were no research track assessments for Council-managed stocks. However, there are currently five research track stock assessments that are expected to be completed, and peer reviewed in 2022 including: *Illex* Squid, Butterfish, Spiny Dogfish, Bluefish, and Black Sea Bass. The five different research track working groups are reviewing the various research priorities to identify which priorities can be considered and evaluated during the assessment process. For example, the Bluefish working group reviewed all Council priorities and plan to evaluate six different priorities (priority # 30, 31, 32, 35, and 37). There has been a similar response to review and evaluate Council priorities from the other working groups as well. During the development of a research track assessment and following the completion of the peer review, a number of new research needs and priorities are typically identified for future stock assessment advances. In addition, there are other significant Council projects that will be completed prior to the 2023 biennial review that will likely address other priority needs. For example, the Northeast Regional Fish Habitat Assessment (NRHA) is expected to be completed in mid-2022 and will provide a suite of habitat science products that will help address some of the habitat, EAFM, and climate and distribution shift research priorities. Therefore, it is anticipated the next biennial review will likely include a significant number of recommended changes, both removing completed priorities and adding new ones.

## Next Steps and RSC Meeting Expectations:

As mentioned previously, the next biennial research priority review will occur in late 2023. That review will update the comprehensive research priorities list and will also include another review of Council-supported science and management projects from 2021-2023 to continue to track the Council's progress in addressing research priorities. Council staff also continues to keep an eye on one of the long-term goals identified in the 2020-2024 priorities document – to conduct a more holistic priorities review with greater consideration of research priorities from across the region. A sub-group of Northeast Regional Coordinating Council (NRCC) staff members are currently developing an approach to improve coordination, planning, and prioritization of research needs throughout the region as they relate to stock assessment improvements through the research track assessment process. If the process is supported by the NRCC, there could be certain components of that approach that could be used to evaluate and consider non-stock assessment research priorities for the region.

At the November 16th meeting, the Committee will review all recommended modifications to the comprehensive research priorities list. The Committee will then make any changes to the proposed modifications (e.g., accept, reject, or change) and identify any additional modifications to the priority list. In addition, staff is looking for feedback from the Committee regarding the value of the review to ensure this process is providing a document and information that is helpful to the Council. Some questions for the Committee to consider are:

- Does the Committee believe these reviews are helpful and make the document more useful for the Council?
- Is there information or components of the review that are missing or could make the review more informative?
- Is it appropriate to make changes to the priorities since this is a 5-year document? Is there a limit to the amount of change? Should the review just entail an evaluation of completion and progress of priorities (i.e., no changes)?
- Should we minimize the number of reviews?

The Committee should provide any input regarding potential improvements and the value of the review process completed in 2020 and 2021. A Committee recommendation regarding the review and any modifications should be approved for Council consideration at the December meeting.

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**Table 1.** Summary of all recommended modifications to the comprehensive list of priority needs in the Mid-Atlantic Council's 2020-2024 Research Priorities document.

| Priority # | Species | Proposed Change | Rationale/Justification |
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| 5 | Cross-Species | Language modification | Intended to provide some additional clarity and specificity regarding the potential impacts from offshore wind energy development |
| ** | Cross-Species | New | Have existing wind energy priorities related to biological and socioeconomic impacts. Including the potential science impacts was noted by AP members as missing and needed. |
| 8 | Cross-Species | Language modification | Considering habitat changes is also a critical component to |
| 15 | Atlantic Mackerel | Language modification | New research on microchemistry and genetics is now/soon to be available that may necessitate a review of stock/contingent assumptions |
| 16 | Atlantic Mackerel | Priority ranking # | Collection and analysis of egg data is the most critical data need for the stock assessment. |
| 21 | Atlantic Mackerel | Priority ranking # | Given the new microchemistry and genetic research and information available, this priority could be moved into the short-term/smaller scale grouping and considered sooner. |
| ** | Atlantic Mackerel | New | Given the continued poor stock condition, even under continued low catches, the SSC recommended an evaluation of natural and predation mortality for the stock |
| ** | Atlantic Mackerel | New | The revised MRIP estimates indicate that recreational catch is equivalent to nearly 50% of the commercial catch and nearly 40% of the total mackerel catch. The SSC recommended an evaluation of the recreational information, its uncertainties, and implications for the stock assessment |
| ** | Black Sea Bass | New | New recreational models may help provide some additional insight into a greater understanding and predicting the factors that drive recreational harvest and discard |
| 23 | Black Sea Bass | Language modification | Updating this discard priority to reflect input from the SSC and to apply to both the recreational and commercial fisheries |
| 24 | Black Sea Bass | Remove | Starting to account for anticipated overages in projections and implications of any ABC overages can be evaluated within the management track assessment updates every two years |
| 25 | Black Sea Bass | Remove | May not be as relevant given recent actions to update the commercial state allocations and considering an update to the commercial/recreational allocations |
| 29 | Black Sea Bass | Remove | The 2016 benchmark assessment evaluation of trawl survey data concluded the gear was the effective and appropriate for use as an abundance index in the assessment. Not sure if a new survey, at this time, is needed |
| 39 | Blueline Tilefish | Language modification | Update language to reflect that mandatory reporting now in place and move focus to reviewing and improving reporting in future |
| 41 and 42 | Blueline Tilefish | Priority ranking # | Switch priorities to focus on assessment modeling needs given assessment on 2024 SEDAR schedule |

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| ** | Butterfish | New | During the development of the current research track assessment, the working group noted that additional exploration of scale uncertainty (i.e., scale of population size) is needed |
| ** | Chub Mackerel | New | More robust estimates of discards and catch are needed to properly monitor and manage the fishery |
| 50 | Chub Mackerel | Language modification | Expanding the types of biological information that should be collected from fishery independent and dependent sources |
| 55 | Golden Tilefish | Language modification | 2020 longline survey provided information to help inform/advance this priority, but additional survey data is needed to complete |
| 56 | Golden Tilefish | Priority ranking # | Other priorities focusing on biological sampling and validation more critical |
| 57 | Golden Tilefish | Language modification | 2020 longline survey did collect additional biological samples but more is needed. Also highlighting an SSC priority to continue to develop year specific age-length keys |
| 59 | Golden Tilefish | Language modification | Some ageing work (samples from 2017 and 2020 surveys) has been done, but need to continue efforts |
| ** | *Illex* Squid | New | Recommendation from assessment lead as a critical need to help evaluate Illex catch in the NEFSC trawl survey |
| 68 | Longfin Squid | Language modification | Adding some additional clarity as to the timing and type of evaluation needed between NEAMAP and NEFSC trawl survey |
| 71 | Longfin Squid | Priority ranking # | Moved to long-term/larger scale grouping |
| ** | Longfin Squid | New | Consistent with new Illex recommendation regarding need to help evaluate Longfin Squid catch in the NEFSC trawl survey |
| 77 | Ocean Quahog | Language modification | New technologies continue to be developed that could prove valuable to increase the sampling (e.g., measure everything versus a sub-sample), including length frequency data, during research surveys |
| 82 | Scup | Priority ranking # | Increased interest from the Monitoring Committee in understanding these dynamics; markets may change with possible MSC certification |
| 83 | Scup | Language modification | Some clarifying language added to indicate some/on-going analysis on some components of this priority are being conducted |
| 85 | Scup | Remove | This priority was addressed during the 2021 Management Track assessment (new 2013+ selectivity block added) |
| ** | Summer Flounder | New | This was a new research priority identified by the SSC given new methods and research has been conducted on this topic |
| 100 | Surfclam | Language modification | Making consistent with priority #76 under Ocean Quahog |
| 101 | Surfclam | Language modification | Similar changes as proposed for #77 under Ocean Quahog to include emerging technologies for data collection efforts |
| 103 | Surfclam | Language modification | Expand priority to address an SSC recommendation to consider stock area connectivity and recruitment processes |