New England Fishery Management Council
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MEETING SUMMARY

Climate and Ecosystem Steering Committee

Via webinar

September 2, 2025

The Climate and Ecosystem Steering Committee (CESC) met on September 2, 2025 to:

- Receive updates on the Council's portfolio of Inflation Reduction Act-funded projects and provide feedback on specific initiatives as requested,
- Discuss ongoing work of the process mapping and communications subcommittees and provide direction as needed,
- Discuss and provide feedback on ongoing Northeast Fisheries Science Center ecosystem initiatives,
- Receive a presentation from NOAA on the July climate forecast for the northeast region, and
- Discuss other business, as necessary.

MEETING ATTENDANCE: John Pappalardo (Chair); Geoff Smith (Vice Chair), Katie Almeida, Dr. Joe Caracappa, Dr. Jeremy Collie, Tony DiLernia, Travis Ford, Dr. Lisa Kerr, Dr. Gareth Lawson, Dr. Kathy Mills, Dr. Jocelyn Runnebaum, and Dr. Michelle Staudinger (all Steering Committee members present); Michelle Bachman, Andrew Applegate, Dr. Cate O'Keefe, Emily Bodell, Jonathon Peros, Julian Garrison, Dr. Naresh Pradhan, Dr. Rachel Feeney, and Robin Frede (NEFMC staff); Melanie Griffin and Melissa Smith (additional NEFMC members or designees); Dr. Andrew Ross, Angelia Miller, Connor Coscino, and Dr. Lauran Brewster (invited presenters). In addition, 30 other people attended.

KEY OUTCOMES

- Received updates on the Council's full portfolio of Inflation Reduction Act-funded climate resilient fisheries projects. Provided feedback on focal species selection for the ecosystem component species and portfolio analysis projects. The Steering Committee:
    - Expressed concern about including commercially important species in the list of candidate ecosystem component species and suggested expanding the list of prey species considered.
    - Suggested that the portfolio analysis focus on species managed by both the New England and Mid-Atlantic Councils that have been commercially important in recent years.
- Discussed work completed by the Process Mapping and Communications Subcommittees since the May 6 meeting and identified priority tasks leading up to the next Steering Committee meeting. The Steering Committee recommends:
    - Updating the amendment and framework process maps and developing a first draft of the on-ramps table;
    - Working with the Risk Policy Working Group to describe the risk policy process.

- Received briefings and provided feedback on three NOAA Northeast Fisheries Science Center initiatives including the 2026 State of the Ecosystem Report, short-form Ecosystem and Socioeconomic Profiles, and ocean forecast products.
    - The Steering recommended considering the scallop fishery, specifically the relationship between recruitment and bottom temperature, as a case study for applying forecast products to fishery management.

WELCOME AND INTRODUCTIONS

The Chair welcomed Steering Committee members to the meeting and summarized the outcomes of the previous meeting on May 6. There were no changes to the agenda.

INFLATION REDUCTION ACT (IRA) PROJECTS

Staff update on IRA projects

Ms. Bachman summarized the status of ongoing projects under the IRA portfolio outlining objectives, timelines, and current progress. She shared draft project briefs which will be posted to the Council webpage. Projects were broken into initiation and planning, analysis and engagement, and implementation phases, with the last phase generally including Council actions drawing from the IRA project analyses and recommendations. At present, projects are either in the initiation and planning or analysis and engagement phase. One project that has not yet been initiated is IRA 2, Atlantic Cod Management Transition. The Council is in the process of resubmitting an amendment to identify four cod stocks in the fishery management plan. The activities planned for this initiative are on hold until the stock structure is approved. Major analytical contracts were awarded earlier this year for IRA 1, IRA 4.4, and IRA 5, and those projects are well underway. The Council also has a contract to support species distribution modeling work that will inform IRA 3.3, 4.1, and 4.4. Currently staff and partner organizations are planning workshops that will occur during 2026; some of these will likely require contracted facilitators.

Risk Policy and ABC Control Rules (IRA 1)

Dr. Kerr provided some additional details on their project, which will qualitatively and quantitatively evaluate the performance of the new risk policy while laying the groundwork for a Council action to update the Acceptable Biological Catch (ABC) control rules for groundfish stocks. Work to date has focused on risk policy factor scoring and weighting using various groundfish stocks as examples. The next phase will use management strategy evaluation (MSE) to simulate the performance of various acceptable biological catch (ABC) control rules, working within the risk policy framework. In the near term, the work on scoring and weighting risk policy factors will be shared with the Risk Policy Working Group so that they can consider ways to adjust risk policy implementation. The current action plan calls for the Scientific and Statistical Committee and the Council to receive presentations on the factor scoring work in December and on the simulation testing work next spring.

A Steering Committee member commented that some of the risk policy factors, for example, fish condition, seem difficult to incorporate into a quantitative operating model for the purposes of MSE. Dr. Kerr agreed and noted that for this factor, they have been working outside the simulation environment to look back in time and determine how fish condition has varied. This will establish bounds for the simulation work. Factors such as stock status are straightforward to include in the simulation, but climate and ecosystem factors are more challenging. Another member asked if management uncertainty can be incorporated into the simulations, and Dr. Kerr said that it could, also this topic was not a big focus of the project.

Integrating Ecosystem Information (IRA 3.1)

Mr. Applegate described his work to automate annual monitoring reports, using the 2025 small mesh multispecies report as an example. The small mesh monitoring report is being developed with risk policy factor scoring needs in mind. Mr. Applegate has been working with Northeast Fisheries Science Center

staff to develop indicators for fish condition as well as recruitment indices. The workflows developed for this report can be refined as risk policy implementation evolves and can be adapted for use in other fishery management plans. The goal is that the various monitoring reports used by the Council will be more standardized and quicker to prepare.

Dr. Caracappa asked Mr. Applegate if he had any specific suggestions for how to deliver NEFSC data. Mr. Applegate noted that the workflow continues to evolve, but that generally the data in the small mesh report is available to Council staff directly via NOAA's databases or by scraping it from the SOE report. Dr. Caracappa offered to provide information directly and Mr. Applegate agreed that he would be in touch if needed.

Another Steering Committee member asked about the Mid-Atlantic Council's fishery performance reports and how these reports compare to New England's annual monitoring report. They commented that harvester observations about trends are a valuable aspect of those reports, and another member affirmed that they performance reports are used by the Mid-Atlantic Council. Mr. Applegate noted that there is a place in the report preparation code to insert feedback gathered via advisory panel meetings. Dr. Rachel Feeney (the Council's Scientific and Statistical Committee (SSC) Coordinator) commented that the Social Sciences Subpanel (SSS) of the SSC has also been discussing opportunities to be more systematic about getting advisory panel input on fishery performance. Dr. Feeney will follow up with Mr. Applegate as the SSS continues its work.

Ecosystem Component Species Analysis (IRA 3.3)

Ms. Miller presented a project overview on designating ecosystem component (EC) species in the New England region. She reviewed how other councils have approached designating EC species under their fishery management plans, highlighting examples from the Mid-Atlantic, Pacific, Western Pacific, and North Pacific councils. The project aims to analyze factors in the Magnuson Stevens Act and National Standard guidelines to develop criteria and thresholds for designating EC species within the NEFMC system. Twelve species were proposed for consideration, including sand lance, five groundfish species (yellowtail flounder, windowpane flounder, Atlantic halibut, ocean pout, witch flounder, and Atlantic wolffish), four skate species (thorny, clearnose, rosette, and smooth), offshore hake, and Atlantic salmon. The project will focus on analysis and evaluation, as well as guidance and documentation, with a timeline spanning from fall 2025 to spring 2026. Note that all species currently under consideration, except sandlance, are included in the Mid-Atlantic Fishery Management Council's (MAFMC) IRA project that will develop detailed habitat reports (source documents) for all species managed in the New England and Mid-Atlantic regions. The habitat information from the source documents project should complement the analyses proposed within the EC species project.

The Steering Committee raised questions about the rationale for including certain species like Atlantic halibut, witch flounder, and Atlantic salmon, and excluding other forage fish species, specifically forage species that are included in Mid-Atlantic Council's unmanaged forage species amendment.

Specifically, concerns about including Atlantic halibut and witch flounder referenced their value and high landing rates:[1] Atlantic halibut is an unallocated stock that is highly targeted by state-managed fisheries that have implemented effective and actionable management measures. Along with notable utilization and

[1] Additional rationale was provided following the meeting that Atlantic halibut is mainly a target of the state and lobster fishery with some minimal federal targeting and a larger stock contingent found in Canadian waters. There is also some uncertainty around the stock structure and the empirical nature of the stock assessment which may be leading to the inability to manage the stock adequately in federal waters that an EC designation might help to resolve. Witch flounder was proposed to align focal stocks across NEFMC IRA projects and has been identified as a focal species in the IRA 1 project that is employing simulation testing to integrate the Council's Risk Policy into harvest control rules for the Northeast Multispecies FMP. The main goal of including witch flounder would be to demonstrate how an EC designation framework could incorporate the Council's Risk Policy and evaluate stocks with an empirical assessment and/or unknown stock status.

management in Canadian waters, these circumstances could warrant the evaluation for a potential removal from the federal FMP. Ms. Miller acknowledged these concerns and clarified that both species were proposed to help evaluate how the framework performs and clarify guidance for species with varied management considerations such as data-limited versus data-rich, an analytical versus empirical assessment, or known versus unknown stock statuses, among others.

A committee member inquired about how an EC designation could support the work that is already being conducted to conserve and manage Atlantic salmon. Ms. Bachman stated that the FMP consists of no-take provision, essential fish habitat (EFH) designation, and a habitat area of particular concern (HAPC) designation. In addition, a framework currently under review will authorize conditions for the possession and harvest of farmed-raised Atlantic salmon in the EEZ to facilitate implementation of Atlantic salmon aquaculture projects in federal waters. It is likely that some of that work could continue under EC status, although EFH designations would not be required, and HAPC are a subset of EFH. Atlantic salmon was proposed out of interest to consider the trade-offs and benefits between EC status versus full fishery management to potentially find other ways to promote salmon conservation without a full fishery management plan.

Ms. Miller added that one pathway for Atlantic salmon could be adding it as an ecosystem component in each of the NEFMC FMPs to maintain some level of oversight and still support ongoing conservation efforts undertaken by NOAA and U.S. Fish and Wildlife Service. Another Committee member noted that the project should also consider interactions between the Endangered Species Act (ESA) and MSA, since Atlantic salmon is listed under ESA. Note that Atlantic wolffish, another possible EC candidate, was considered for ESA-listing but was ultimately rejected when it was added to the Groundfish FMP alongside management measures.

Other Committee members raised concerns about managing overfished stocks and the potential for ecosystem component status to provide a pathway for avoiding the management of difficult stocks. They noted that seven of the proposed species are overfished with some rebuilding plans and asked for clarifications on the consequences of designating EC species, as well as the thresholds for re-evaluation. They also noted that the National Standard guidelines indicate that overfished stocks require conservation and management measures and thus don't seem appropriate for EC designation.

Ms. Miller stated that EC species would have fewer management requirements, for example, the Council would not be required to set annual catch limits or to designate EFH, but the Council can continue to monitor the species in some way following EC designation. At present, we expect that species distribution models and a fishery performance evaluation would be used to evaluate candidate EC species. Following designation, species distribution models could continue to be updated on a periodic basis to estimate changes in habitat use. In addition, the fishery independent data assembled to support SDM development could be used to develop survey abundance indices. The Council would likely want to identify the data needed to support this work, for example continuing fishery independent trawl surveys. Additionally, the Council could consider setting possession limits and/or harvest thresholds for EC species, which could require ongoing data collection during fishery operations and above which re-evaluation would be triggered. If the re-evaluation finds the need to reclassify an EC species as in need of conservation and management, the continued data collection efforts could support a return to full management status under an FMP.

Ms. Miller noted that species with poor or unknown stock statuses are proposed here to provide examples of evaluations for species under such conditions. The intent is not to avoid formal conservation and management under an FMP if inclusion in an FMP is necessary for conserving the species.

A Committee member offered that the project is an opportunity for the Council to assess stocks that were once commercially viable but whose role in the ecosystem has changed. This work has the potential to increase efficiency in development of management measures at the Council level, including in cases

where restrictive management has yet to support the recovery of some stocks. It is also an opportunity for the Council to consider how to incorporate environmental information into stock assessments.

Strong support was voiced by Committee members for including sand lance and echoed it as a priority species for evaluation. However, they also expressed support for inclusion of other forage fish, particularly those that were included in the Mid-Atlantic's Omnibus Forage Fish Amendment to have one continuous management unit. Ms. Miller and Council staff will follow up with Steering Committee members offline to discuss this issue further.

Public comment

Libby Etrie, Conservation Law Foundation (CLF), requested that the documentation and guidance from the project include an explanation about the implication of losing EFH information when a species is designated as an ecosystem component. Ms. Bachman affirmed that the project team would coordinate with GARFO staff to identify how and if they would be able to use an EFH designation for EC species during their consultation process.

Portfolio Analysis

Dr. Lauran Brewster and Mr. Connor Coscino gave an overview of the portfolio analysis they are developing. This analysis will help the Council to evaluate risk and potential opportunities to increase harvest, through an examination of past harvest portfolios. A diverse harvest portfolio can, over time, reduce risk and improve returns. However, unlike financial portfolios where investors are flexible to select a diverse mix of assets, ecological interactions and on-the-water operational realities make applying portfolio concepts to fisheries management somewhat more complicated. This project will look back through time at harvest of a range of stocks by different fleets, and will incorporate, via joint species distribution models, the correlations between species and the extent to which they occupy similar or dissimilar niches. Sensitivity analyses can be used to understand the changes in risk and efficiency associated with adding or removing species from a portfolio.

Because this analysis includes many species, vessels, gear types, and ports, it would be useful to determine some focal species and fleets to explore in depth. Steering Committee members considered the question of focal species and fleets and suggested keying in on recent harvests. The Steering Committee suggested considering both New England and Mid-Atlantic species because there is substantial occurrence and catch of some Mid-Atlantic stocks in the New England region. Specifically, black sea bass, scup, summer flounder, Atlantic mackerel, and squid were noted. The Committee was invited to provide additional feedback offline in the coming weeks.

Another Steering Committee member asked about the challenge of dealing with species co-occurrence in the catch, and Mr. Coscino agreed that a drawback of the portfolio approach is that it assumes that catches of species can be controlled independently of one another. One possible solution is to optimize for fleets or gear types, given knowledge of species that are caught by that fleet or gear; Mr. Coscino noted that to his knowledge this would be a novel approach to this type of analysis.

Another member asked about how reference points, rebuilding targets, etc. would be included in the work, since it isn't useful for the Council to encourage harvest beyond rates which are biologically sustainable. Mr. Coscino noted that they include a biological constraint, specifically a time series of annual catch limits, in their models.

Another member asked for a reminder about the likely application of these results. Council staff responded that the desire is to evaluate opportunities for improving yield while managing risks, and to set up an analytical framework for testing different scenarios.

A Steering Committee member asked how species that are underharvested (i.e., there is quota available, but it goes unharvested) are accounted for in the analysis. They also asked about practical constraints on the number of permits for a given species. They also suggested focusing on Council-managed species, for

example, lobster is managed by the states. Mr. Coscino noted that the simulation won't assume that those species would continue to be underharvested and agreed that a focus on federally-managed species would be sensible.

Dr. Brewster noted that this contract work responds to feedback received previously from the SSC. For example, they are working to refine the biological constraints and to use the analysis to help us understand what is driving risk. A Steering Committee member recommended being structured in terms of both the biological and economic aspects of the modeling, so that the tool can be used to evaluate diverse scenarios.

Public comment

Captain Dave Monti (charter boat operator) asked whether the analysis considered the value of these species to recreational anglers. Mr. Coscino responded that no, this analysis was focused on commercial harvest. A different iteration of this work could consider recreational fishing but that would be a future step.

PROCESS MAPPING AND COMMUNICATIONS SUBCOMMITTEES

Council staff provided an update on subcommittee work that occurred during the spring and summer. Both groups met in early June, and process mapping work continued over the summer. A specifications process map was developed and thoroughly reviewed, and the structure of the on-ramps table was agreed to by the subcommittee but not filled out yet. The communications subcommittee articulated a series of goals and areas for possible work, but Council staff had not had a chance to reconvene with the group since early June.

In terms of process mapping and on-ramps, a Steering Committee member recommended building out the on-ramps table as the next step, and another member supported the integration of the process map and the on-ramps table. Another Steering Committee member suggested that mapping out the amendment and framework processes, in addition to the specifications process, would be a useful next step. They suggested that identifying where information was having downstream effects would add clarity and avoid double counting information.

In terms of communications, a Steering Committee member suggested that supporting roll out of the risk policy should be a near-term priority. The Risk Policy Working Group chair noted that a term of reference for that body is to develop a communications approach, and the staff lead, Mr. Peros suggested that staff talk about specific next steps and timing.

Dr. Caracappa noted that the communications goal of describing forecasts is a national level CEFI priority and NOAA is already working on products. Council staff will work with CEFI program staff to stay up to date on these efforts. Mr. Applegate suggested including the Council's Public Affairs Officer in these conversations and noted that the Council is currently updating a glossary of useful terms. He noted that providing information vs. ensuring uptake of information are not the same, and that there were challenges along these lines during ecosystem-based fishery management conversations in recent years. He suggested that we encourage active dialog with fishermen that emphasizes receiving and not just providing information.

A Steering Committee member asked if it would make sense to seek feedback from permit holders on the portfolio analysis. Council staff agreed that this would be useful and noted that such outreach is being considered, but that we aren't quite ready for this step.

Council staff recommended scheduling calls for both subcommittees soon and said she would re-share information with subcommittee members. Mr. DiLernia said he would like to participate on the Communications Subcommittee.

Public comment

Matt Seeley (Environmental Defense Fund) said that he and others were examining Council processes and climate and ecosystem on-ramps at a national level and would be happy to share findings with the Steering Committee. He also emphasized the utility of Mid-Atlantic Fishery Performance Reports as a mechanism for sharing fishery observations with the Council. Mr. Applegate noted that the New England Council has been using advisory panels for years, but perhaps this mapping process will identify opportunities for the advisory panel process to be more dynamic and inclusive.

Captain Dave Monti supported recreational performance reports to deliver information to managers at a relatively rapid pace. He also voiced support for stakeholder workshops and offered that he could help to support outreach to anglers.

STATE OF THE ECOSYSTEM REPORT (SOE)

Dr. Caracappa described the process underway to update the SOE report for 2026. He then outlined a short-form version of the ESPs that are under development. In terms of the SOE, the team at the Northeast Fisheries Science Center has met with SSC members and staff from both New England and the Mid-Atlantic Councils to identify priority updates. They are now in the phase of analyzing data and compiling indicators for the 2026 report. This phase will culminate with a synthesis meeting in January 2026. The report will be presented to multiple audiences including the East Coast Coordination Group Core Team and used to support Mid-Atlantic Council risk assessment and New England Council risk policy work. It will be important to coordinate these efforts and ensure presentations deliver the right information to each audience.

One new feature they are working into include for 2026 is ocean forecasts, specifically the temperature-related 12-month forecasts that describe the cold pool, likelihood of marine heatwaves, expected seasonal temperatures, etc. They are also working with the SSS to revise community indicators, which is a topic of national interest. The SOE team asked for feedback from the SSC on profitability indicators and has been working on new ways to present existing data given the feedback received. Another area of work is the highlights section, which is guided by feedback from industry, management, coastal community members, academic researchers, or anyone connected to the ocean who wishes to submit observations. As noted earlier in the meeting, the SOE team is also supporting risk policy implementation.

SHORT-FORM ECOSYSTEM AND SOCIOECONOMIC PROFILES (ESP)

Recognizing that there would be few full (long-form) Ecosystem and Socioeconomic Profiles prepared in the near term given limited capacity and the level of detail and effort going into those reports, NEFSC has identified a need for short-form, easily readable summary report cards of key species information to be considered in management. These short-form ESP reports aren't stock assessments and don't predict future stock conditions but would fulfill a need to provide context around major factors that influence both the stock and the fishing community dependent on it. The intent is to fill gaps in information not provided in other science advice products. He shared an example for Atlantic herring and noted that they are gathering feedback on the specific information provided. The number of snapshots that could be provided each year hasn't been determined yet.

A Steering Committee member expressed support for these products and noted that this sort of information would be helpful context during SSC discussions around catch advice and understanding risk and trends in environmental factors relevant to the species. Recognizing that there is a line between these reports and catch advice from a stock assessment, Dr. Caracappa agreed that this application would make sense. Another Steering Committee member suggested adding the annual catch limit to a graphic of landings to indicate utilization.

NOAA'S CHANGING ECOSYSTEMS AND FISHERIES INITIATIVE (CEFI) OCEAN FORECAST PRODUCTS

Dr. Andrew Ross shared the July 2025 ocean forecasts developed by the CEFI program using MOM6 (Modular Ocean Model 6). An overall goal of the program is to provide regional ocean modeling products

served through an information hub that supports fisheries decisions. The model domain covers the U.S. East and Gulf coasts and Caribbean, and at 1/12 degree resolution can resolve all large-scale circulation features such as the Gulf Stream while being efficient enough to run frequent simulations. Information that can be provided includes temperature, salinity, and biogeochemistry (acidification, oxygen, aragonite saturation). Retrospective analyses have been used to compare hindcasts to real ocean condition in order to validate the model. Forecasts go one year to one decade ahead, and they release a new annual forecast every three months. Long-term projections can be run out further in time, i.e., to the end of the century.

Forecasts perform well and indicate monthly average values. Caution should be used in reviewing results directly along the coasts where factors such as river discharge or upwelling can be unpredictable. They are still considering the best way to present the decadal forecasts in the SOE report, including measures of uncertainty, and would welcome feedback. One approach is to indicate probabilities of events occurring, specifically the probability of conditions being below, near, or above average.

A Steering Committee member worked with Dr. Ross to understand the information provided and how it compares with their understanding of recent conditions on the water. Dr. Caracappa suggested that the Committee member should follow up with specific ocean condition events to see if the models are able to resolve those events. They responded that, for example, the fishing industry understands that summer flounder inshore migrations are related to temperature, so being able to understand those temporal patterns is valuable.

Next, the Committee discussed using the annual forecasts to inform decisions about scallop management. Specifically, estimating the likelihood that recently settled scallops will be experiencing conditions that favor survivability or make it less likely. Dr. Caracappa agreed that they could help with this; understanding the timing of decisions and therefore when forecasts would be most useful will help them to share outputs on a schedule that is most beneficial to the Council. Dr. Caracappa will follow up with Council staff to continue this conversation.

Public comment

Capt. Dave Monti thought the work would be valuable for understanding climate impacts on marine life, including larger animals.

WRAP UP AND FOLLOW-UP ITEMS

Mr. Pappalardo briefly summarized the outcomes of the meeting. Next steps include the following:

- Provide comments or questions about draft IRA project briefs to Ms. Bachman by September 15
- Summarize initial ecosystem component species recommendations developed at the meeting and provide to the Ecosystem Components Project Oversight Team; continue to develop rationale for including candidate species in the project
- Identify a short list of prey species that might be appropriate for consideration as ecosystem component species
- Summarize portfolio analysis focal species recommendations and convey to the Portfolio Analysis Project Oversight Team
- Distribute subcommittee materials to all members of both subcommittees
- Poll for subcommittee meetings
- Create draft process maps for framework and amendment processes in Microsoft Visio based on earlier versions process maps developed winter/spring 2025
- Complete a draft of the on-ramps table
- Coordinate with national process mapping effort
- Work with Risk Policy Working Group staff on coordinated development of communication products about the policy and its implementation

- Reach out to Dr. Caracappa with questions about the 2026 SOE report or process and with comments on shortform Ecosystem and Socioeconomic Profiles
- Work with scallop plan coordinator to consider the scallop fishery, specifically the relationship between recruitment and bottom temperature, as a case study for applying forecast products to fishery management.

The Climate and Ecosystem Steering Committee meeting adjourned at 3:40 p.m.