

# Identifying Climate and Ecosystem On Ramps

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New England  
Fishery Management  
Council

# Outline

- Participants
- Terminology
- Links to other NEFMC activities; projects at other Councils
- Recap September CESC tasking
- Summarize progress
- CESC discussion and recommendations for next steps



# Participants

- **CESC Process Mapping Subcommittee**

- Runnebaum (past member; original concepts and work), Bachman, Ford, Kerr, Lawson, Mills, Staudinger, Whelan

- **National On Ramps Project Team**

- Matt Seeley, Julia Mason (Environmental Defense Fund)
- Liz Cerney-Chipman, Mike Drexler (Ocean Conservancy)



# Some terminology (in the context of this effort)

- “**Process maps**” are schematics or flowcharts of the Council’s action development processes (specifications, frameworks, amendments)
- “**Decision point**” refers to an individual step in that process, e.g., the Council identifies an issue that requires amendment development, or the Council recommends preferred alternatives prior to public hearings
- “**Information products**” or “**science and data products**” (=tools) include things like Climate Vulnerability Assessments, Ecosystem & Socioeconomic Profiles, MOM6 climate forecasts, local / traditional knowledge, etc.
- The concept of identifying a “**climate and ecosystem on ramp**” involves considering a step in the Council’s management process where a specific climate or ecosystem information product can be used to support or enhance decision making



# Relationship to other New England Council activities

- The SSC's **Social Sciences Subcommittee** is considering new opportunities to incorporate information into Council decision making
- The **Risk Policy** directly incorporates multiple information sources as factors
- The **Ecosystem Component Species Evaluation** will rely on many sources of data including ecological information
- This effort is broadly aligned with Goal 3 of the draft **Holistic Strategic Plan**, which is *“to improve accessibility, quality, and use of data to inform decisions”*
- Note that the term **“process mapping”** is also being used for a staff effort to develop consistent information products and data streams across fishery management plans and to meet multiple needs



# Ongoing work at other Councils

- MAFMC Ecosystem and Habitat Indicators Project and Workshops – Sarah Gaichas, Gavin Fay
  - Objectives: (1) review existing indicators and evaluate utility, (2) develop priority indicators and identify on ramps for use, and (3) create workflows and communication tools.
    - [Workshop #1 Materials](#)
    - [Workshop #2 Materials](#)
- SAFMC Ecosystem Indicators Project – Sarah Gaichas
  - Goal is to expand use of ecosystem and collaborative research information to strengthen management outcomes by (1) assessing and comparing use of ecosystem data at all Councils (2) developing strategies for integration into SAFMC processes, including practical considerations and prototype ecosystem indicators
    - Link: [All Council Ecosystem Data Review](#)



# Before we move on...

- This work is complex in terms of the number of decision points, the number of information products, and the one-to-many relationships between them, not to mention the many different groups involved in both using and generating information
- Maintaining momentum has been challenging given complexity of the task and competing demands
- However, this idea has received CESC and Council support and seems worthwhile to continue pursuing, in coordination with other related work
- There is a lot we can learn from national ENGO project and SAFMC & MAFMC IRA projects



# CESC Tasking – September 2025

- Update the amendment and framework process flowcharts  
→ complete drafts, could be improved upon
- Develop a first draft of the on ramps table → developed structure, need to add data
- In addition, the CESC endorsed coordination with a national-level on ramps project → engagement with this group is ongoing



# National On Ramps Effort



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- Developing a set of schematic diagrams of the U.S. federal fishery management process and using them to identify where there are on-ramps for climate and ecosystem information and place-based knowledge.
- Collected information from experts on tools and approaches for adaptation in fisheries with the goal of identifying on-ramps where these can be brought into management.
- Goal is to help fishery managers conceptualize the use of climate and ecosystem information and place-based knowledge in management, bring existing tools to bear more readily, and reveal opportunities for new tools and input into the management process.



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# National On Ramps Effort

## Support for NEFMC

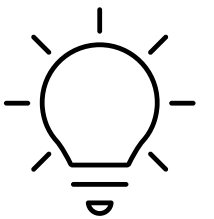
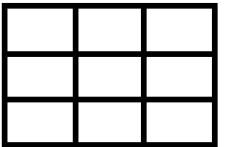


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- Evaluated multiple flowcharting tools to determine best technical solution → Microsoft Visio
- Provided technical assistance with flowchart development in Visio; exploring ways to directly link shape data in flowcharts to on ramps tables (Visio to Excel)
- Drafted Framework and Amendment flowcharts
- Shared a list of on ramps (including examples) resulting from a series focus group meetings
- Sounding board for ideas about how to organize this work



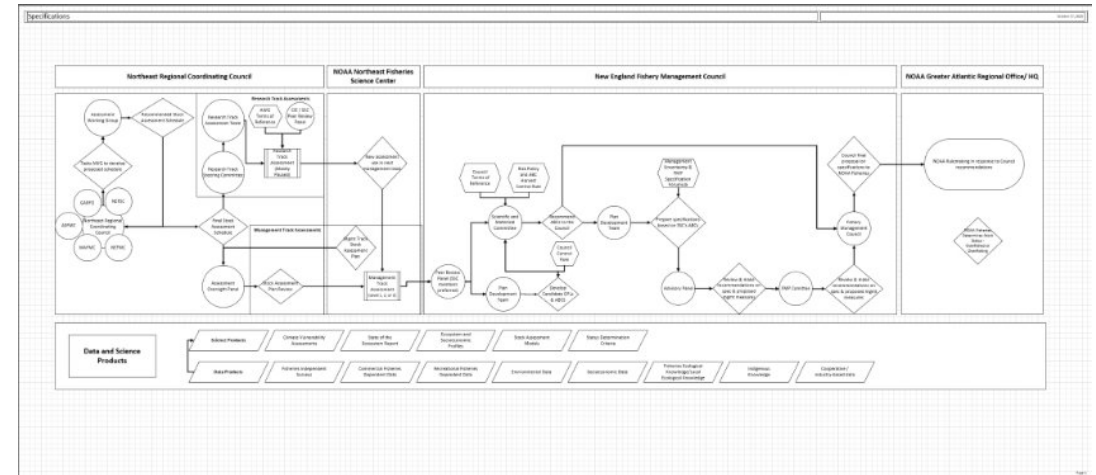
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# Flowchart development

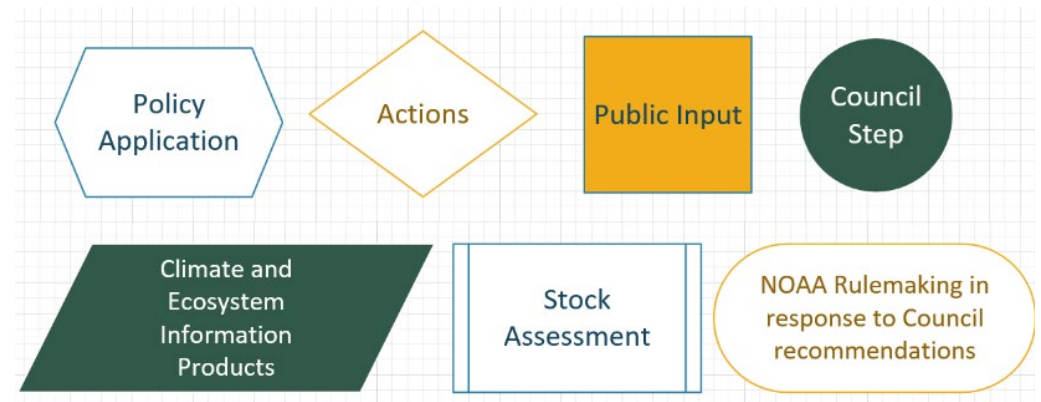
## Subcommittee discussion:

- Specifications flowchart well thought out, ready for use
- Framework & amendment flowcharts seem too simple
  - Would action-specific framework and amendment diagrams provide enough of a benefit vs. generic ones to be worth developing?
- Color-coding & ability to click on an item for more details would make all three types more useful

## Specifications example:

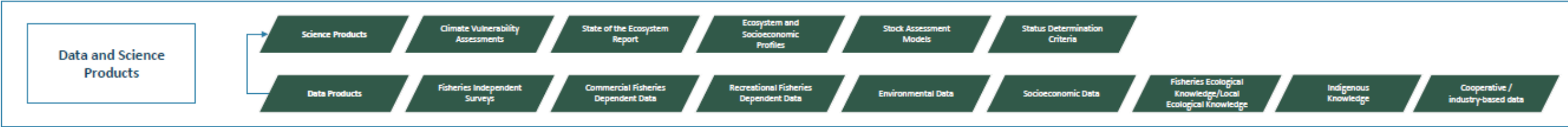
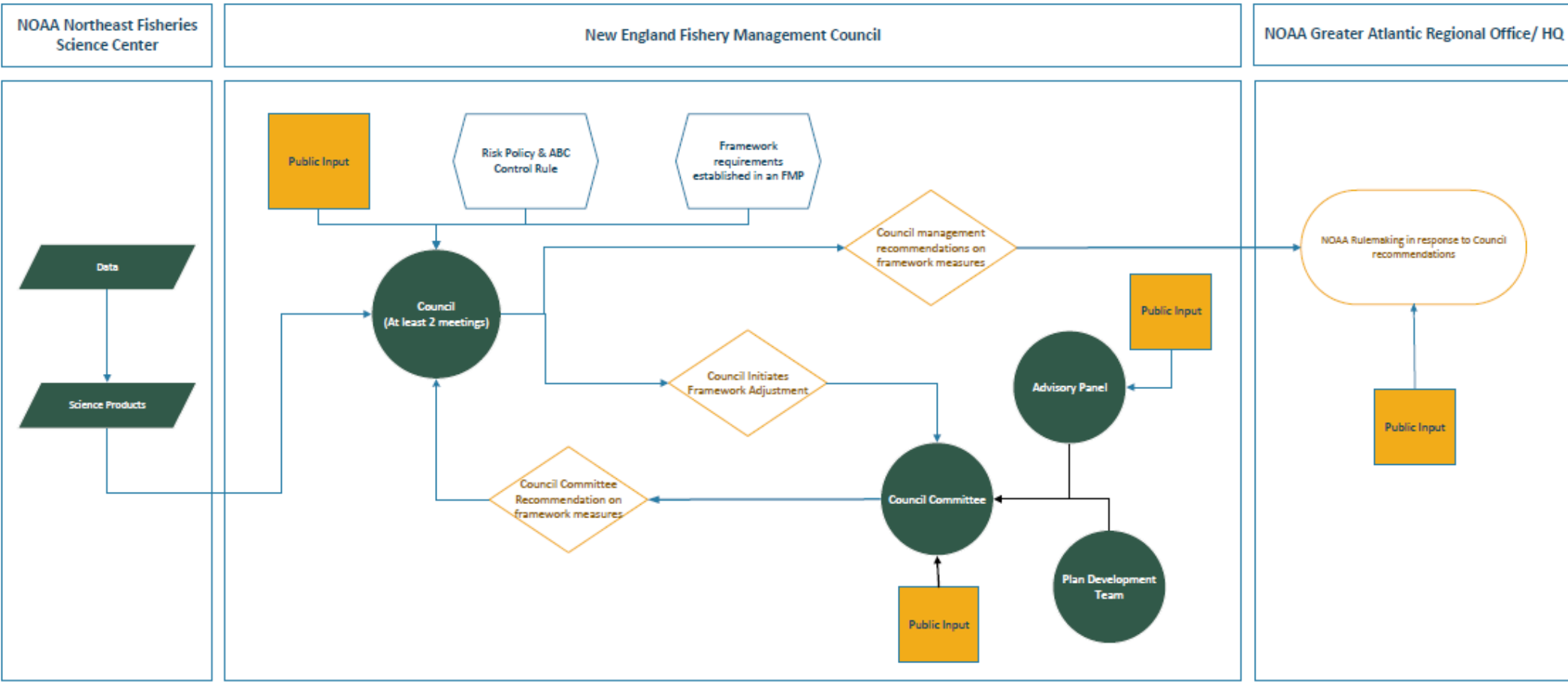


**Stencils differentiate between types of elements and can be automatically color-coded:**

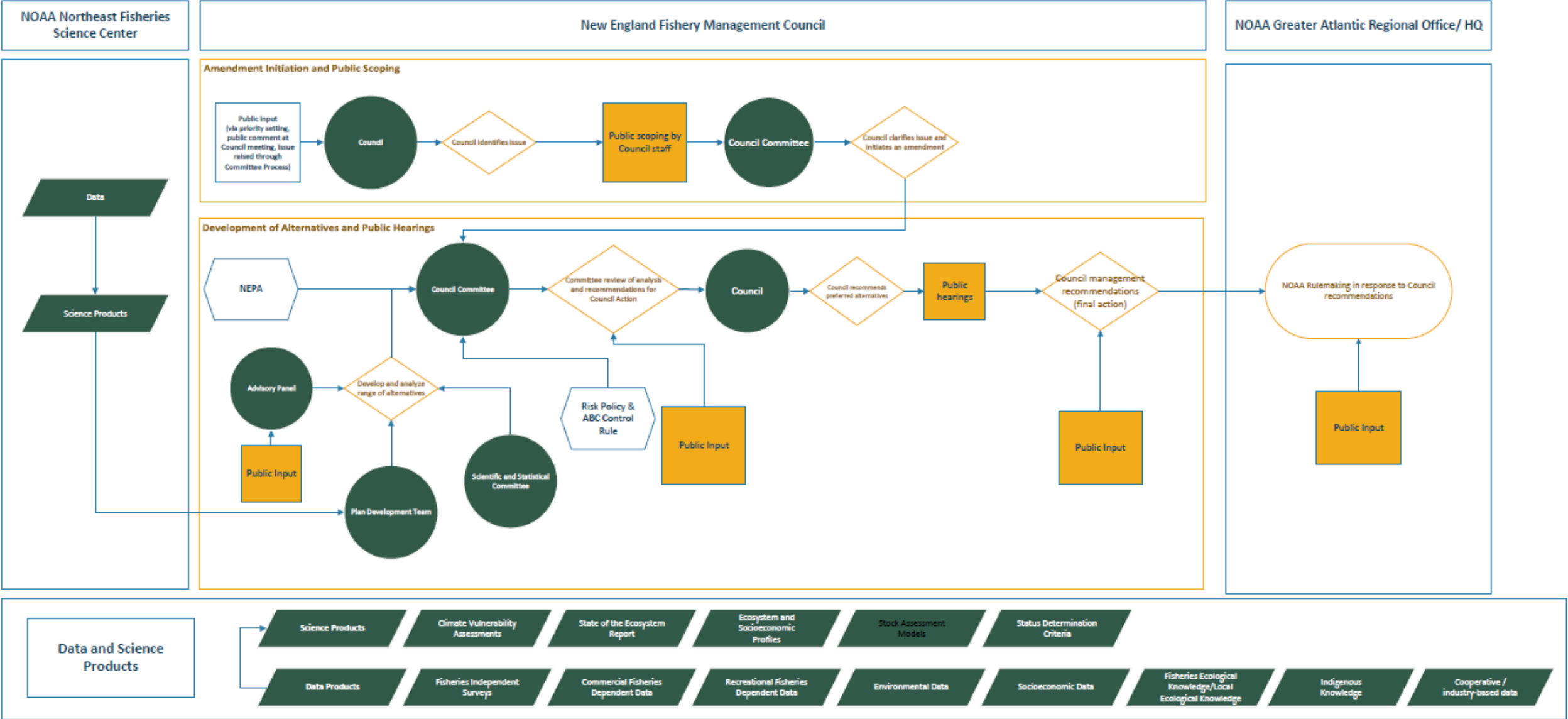




# Framework flowchart / process map



# Amendment flowchart / process map



# Subcommittee discussion about table development

- Clarified meaning of term “on ramps”
  - Are a specific opportunity at the intersection of a science or data product and a decision point
  - The details of the process are important
    - You might have climate/ecosystem information without a clear opportunity to include it in a decision
      - *Example: Atlantic salmon scenario planning – climate change as an effect on the system was well understood, but there wasn’t a way to formalize including these considerations in management*
- Suggest centering the on ramps product around decision points vs. on information products
  - Products may evolve, stop being produced, or new ones developed



# Table development

Process	Decision Point	Description of current practice	Frequency	Participating groups	Is climate and ecosystem information currently being used? Explicitly or more generally?
Specifications	Task assessment working group to develop stock assessment schedule				
Specifications	Recommend stock assessment schedule				
Specifications	Develop final stock assessment schedule				
Specifications	Stock assessment plan review				
Specifications	Use research track assessment in subsequent management track				
Specifications	Develop management track stock assessment plan				
Specifications	Develop Candidate OFLs and ABCs				
Specifications	Recommend ABCs to Council				
Specifications	Prepare specifications based on SSC's ABCs				
Specifications	Review and make recommendations on specifications and management measures				
Specifications	Council final action on specifications				
Specifications	Determine stock status - overfished/overfishing occurring				



# Table development

Process	Decision Point	Opportunities to incorporate climate or ecosystem information	Science and data products to incorporate at decision point	Challenges or barriers to incorporating climate or ecosystem information	Change needed to incorporate climate or ecosystem information	Expected benefits of incorporating climate or ecosystem information
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# Table development

Process	Decision Point	Examples (e.g., publications, other Councils)	References, links
Specifications	Task assessment working group to develop stock assessment schedule		
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# Table development

Process	Specifications setting, framework, or amendment
Decision Point	What action is being taken? Represented as diamonds in the flowcharts.
Description of current practice	How is this work typically done, in brief.
Frequency	How often is this decision point reached?
Participating groups	Which groups within or outside the Council process are involved in the decision?
Is climate and ecosystem information currently being used? Explicitly or more generally?	Yes, extensively, climate and ecosystem data are explicitly identified in this process and used to guide decisions. Yes, somewhat, climate and ecosystem information is used in limited ways. No, not really being used.
Opportunities to incorporate climate or ecosystem information	What are the ways in which climate and ecosystem information could be incorporated? Why is there an opening here?
Science and data products to incorporate at decision point	Which science and data products would be useful to support this decision? Are they partially used at present, or not used at all?
Challenges or barriers to incorporating climate or ecosystem information	Why is this information not used or not fully used? Is the information lacking or insufficient? Is there not enough time or space in the process? Are partners unable or unwilling to collaborate? Are there timing issues such that there is misalignment with related efforts? Lack of will or interest?
Change needed to incorporate climate or ecosystem information	How could identified barriers be removed or reduced?
Expected benefits of incorporating climate or ecosystem information	How could management outcomes and/or the process itself be improved by including this information?
Examples (e.g., publications, other Councils)	In brief, are there similar cases that would serve as examples?
References, links	Links to more information about process, related information products, examples

# Subcommittee discussion, cont.

- Case studies would have value
  - Once tables are developed, would be easier to think through challenges and opportunities with specific examples in mind
  - Outcomes before / after addition of climate / ecosystem information included would be ideal case study
  - Could consider a hypothetical – how might climate / ecosystem information have changed outcomes of a past decision?
- What does the CESC think about developing case studies?



# On ramp examples and ideas

## Application: Describing Essential Fish Habitat

Information Products: Habitat Climate Vulnerability Assessments, Local and Traditional Knowledge

- Consider which habitats are more vulnerable to support conservation planning and consultation; use local knowledge to assess gaps or uncertainties in data-driven maps and models

## Application: Developing Management Measures

Information Products: Management Strategy Evaluation, Scenario Planning

- Assess / predict performance of management actions

## Application: Determining Stock Status

Information Products: Dynamic Reference Points

- Allow reference points to be flexible under changing conditions when warranted

	A	B	C	D	E	F
1	Information Product	Decision Point	Timing/Trigger	Councils where implemented	How this info is used or could be used (from Focus Group, if noted)	Examples
2	CEFI forecasts	?		Idea	Create an FMP mechanism for responding to short term forecasts from CEFI	
3	Climate Vulnerability Assessments (Habitat)	Describing and Identifying Essential Fish Habitat	Multi-year / FMP review	MAFMC, NEFMC	CVAs or other vulnerability tools can be used to determine which habitats are most vulnerable. A crosswalk of CVAs for habitat and species can further improve understanding of EFH.	Northeast Regional Habitat Assessment was used in 5-year EFH review (completed 2025) and includes a cross walk of species and habitat climate vulnerability
4	Climate Vulnerability Assessments (Species or Habitat)	Setting Council research priorities	Multi-year / review cycle	Idea (SAFMC)	Use CVAs to prioritize where and how to focus research recommendations	
5	Data on ecosystem science, climate, habitat, and stock productivity	Ecosystem or area cap to set ABCs	Multi-year / FMP review	Idea	Use climate, trophic interactions, climate conditions, and stock productivity to establish ecosystem caps and a way to reevaluate and adjust the caps.	While the NPFMC uses an ecosystem cap, it was not established in response to trophic, climate and productivity information
	Data on ecosystem science, climate, habitat, socioeconomic factors	EAFM guidance	Long-term / reform cycle	MAFMC	Create a framework for the Council to move from single-species management toward managing within an ecosystem context. The EAFM framework was intended explicitly to help the MAFMC consider ecosystem science, climate habitat, socioeconomic factors, and cross plan coordination when making	MAFMC EAFM Framework

*More opportunities and examples provided by National On Ramps Team for our consideration*



# What might be next?

- Ensure there is awareness / alignment between this work and other NEFMC efforts
- Consider findings of SAFMC and MAFMC Indicators Projects
  - What process steps do they see as the best opportunities?
  - Which data, products, indicators, appear promising?
- Review and discuss full list of opportunities shared by National On Ramps Project Team
- Fill out current practices (blue) section of process-based table, beginning with specifications process steps



# Discussion Questions

- Of the possible on-ramps identified so far, which two or three are both highest value and realistically achievable in the next year?
- For each priority on-ramp, what is the specific process step, who would use the information, and what product would they actually receive?
- Where is the boundary between this work and other Council efforts so we avoid duplicative tracks?

