

NPFMC Potential Climate Resilience Focus Areas

DRAFT for Climate Change Task Force Discussion

This is a planning draft intended to support discussions at the final Climate Change Task Force meeting, November 6-7, 2024. This document is for planning purposes only and is not intended as an updated IRA work plan. An updated version of this document may be provided for the December 2024 Council meeting.

Reference links

2022 CCTF [Climate Readiness Synthesis](#) | 2023 SSC [workshop report](#) | Feb 2024 IRA [work plan](#) | Climate Scenarios Workshop [report](#)

Introduction

The purpose of this document is to summarize across the Council's climate-related initiatives to identify potential focus areas for ongoing work that could be implemented through IRA funding, initiatives in progress including the Programmatic Evaluation, and other topics the Council could identify as near- or longer-term priorities for building climate resilience. The table below is populated with ideas generated at the Climate Scenarios Workshop (CSW), the 2023 SSC workshop, and the Climate Readiness Synthesis (CRS) prepared by the Climate Change Task Force (CCTF), but **does not yet incorporate ideas from the upcoming CCTF meeting and final report (November 2024)**. It focuses on ideas that are at least partially implementable through Council actions, Council processes and procedures, other initiatives (such as workshops) and analytical practices.

The table also incorporates suggestions from October 2024 Council, SSC, and AP discussions and motions, including actionable steps as well as the following suggestions:

- Identify the underlying climate resilience needs, challenges, and issues that workshop ideas are intended to address.
- Focus on actionable elements.
- Continue clarifying timelines, resourcing, and tasking considerations, contributors and information inputs, and dependencies.

Information not included in table

1. Strategies and ongoing practices

The following list includes strategies, approaches, and resources the Council could use to implement the ideas in the table. These ideas were identified at the CSW as steps that could help improve climate resilience but are not necessarily specific to the challenges of climate change. They describe *how* the Council could accomplish its work, where the table below focuses on *what* the Council could choose to prioritize. These strategies and practices could be components of a climate resilience work plan.

- Council planning and prioritization ideas (e.g. engaging Council bodies in climate discussions, efficient use of SSC time, increasing Council-SSC dialogue) (CSW 2.2)
- Tasking a new or existing Council body with monitoring climate-related issues and/or providing advice (CSW 2.2)
- Supporting opportunities to practice “co” words (collaboration, communication, cooperation, co-management) (CSW, multiple sections)
- Support ideas for improving two-way communication, building public capacity to engage in the Council process (CSW 2.3.2), building trust and respect (2.3.3), and addressing equity, inclusion, and representation of perspectives (2.3.4, 2.3.5).
- Coordination, information sharing, building and engaging in partnerships (CSW 4)

2. Themes and topic areas outside of Council authorities or initiatives

The following list includes topic areas that are primarily outside of the Council’s authorities or ability to initiate action, or for which the Council is primarily an information recipient and user.

These are still important opportunities for the Council to stay informed, communicate priorities, coordinate with NMFS, and develop capacity to use new information and tools as they become available. While these topic areas are outside the scope of major Council initiatives, some of these topics could be components of a climate resilience work plan.

- Climate action, e.g. advocacy, marketing, reducing emissions (CSW 4.1)
- Seafood industry ideas, also addressed via NOAA [Seafood Strategy](#) and [Implementation Plan](#)
 - Markets and marketing, e.g. build and diversify demand, support seafood as a component of food security and production (CSW 4.2)
 - Building capacity, e.g. workforce capacity, Blue Economy engagement (CSW 4.3)
 - Disaster relief, subsidies, and financial tools (CSW 4.4)
- Cross-agency and cross-sector coordination (CSW 4.5, 4.6)
- Stock assessments (CSW 5.4), research surveys (CSW 5.5), and information needs and gaps (CSW 5.7)

Topics for CCTF Discussion

The Council’s October 2024 [motion](#) anticipates the Council will build on both the CCTF final report and ideas from the Climate Scenarios Workshop to further plan and communicate climate resiliency efforts in a comprehensive manner through a tracking tool and/or work plan. At the December 2024 Council meeting, the Council will receive 1) the final CCTF report and presentation and 2) a staff presentation summarizing the current status of the Council’s climate readiness work and ideas from the table below. At this time the Council may provide further direction to staff on how to proceed. The CCTF could provide feedback on this table, including:

- The grouping of topics and recommendations in the table, and any themes/focus areas that should be added or merged
- Additional suggestions for actionable steps
- Topics the CCTF considers especially timely and actionable, including opportunities for the Council to make use of CEFI products

Table: Potential climate resilience focus areas

Notes

- **This table is not intended as a work plan or a list of all activities the Council intends to undertake.** It captures work already in progress and additional ideas the Council may consider depending on priorities, resources, and timing.
- The timeline and pathway for implementing any of these ideas would depend on project scope, the number of priorities/topics the Council moves forward, staff capacity, and other factors. All columns can be built out with additional information through discussion and work planning.
- Themes 1 and 2 were both included in the Council's IRA proposal and are partially underway. Less detail is provided for **contributors and inputs** and **timeline and pathway** for subsequent themes. This information would depend on the specific activities identified in each category and potential pathways for exploring them, which could range from less formal (e.g. discussion documents, workshops) to Council actions resulting in regulatory changes.
- Public input would be a component of all themes and topics through usual Council processes as well as the potential for other pathways, such as public workshops.
- Ideas are not presented in order of priority. Cells highlighted in green are activities already underway

Themes and ideas for Council activities <i>What are the actionable steps that could be taken?</i>	Origins <i>How does this topic map to past recommendations and reports?</i>	Contributors and inputs <i>Who would be essential to moving this work forward?</i>	Timeline, pathway, and other notes <i>Work in progress, dependencies, timing considerations.</i>
1. Climate resilience planning <i>Strategically utilize time, resources, and capacity to support short and long-term climate readiness planning.</i>			
Potential components <ul style="list-style-type: none"> Develop an updated IRA work plan and timeline (present-2027) (February 2024 version). All IRA funds must be spent by the end of 2027 Consider developing a longer-term climate work plan that could extend beyond the timeline for IRA funding Develop metrics for evaluating progress toward climate resilience 	IRA priority/need 2023 SSC workshop Climate Readiness Synthesis Management overview next steps Climate workshop 2.2 - Council planning and prioritization 2.4 - Goals, objectives, and values 2.5 - Metrics and evaluation	Council staff - analytical support, administrative support for IRA funding Council - guidance on priorities and timing CCTF - final report	Maintaining and updating an IRA work plan is necessary for internal planning and grant reporting, and communicating progress to the Council and public. This could be a standalone product and/or a component of a longer-term climate work plan. A longer-term (e.g., 5-10 year) climate work plan could help guide the Council's work both during and beyond the timeline for IRA funding. This plan could capture Council actions and initiatives that could extend beyond 2027, and other climate-related work not supported by IRA funding.
2. Develop climate-informed harvest control rules. <i>Develop and apply effective HCRs and TAC-setting approaches that perform successfully, achieve sustainability objectives, and mitigate shocks and provide time for adaptation under changing conditions.</i>			
1a. FMP and non-FMP adjustments. Potential components: <ul style="list-style-type: none"> Identify and implement procedures for non-FMP adjustments Identify and develop a plan for longer-term measures that would require FMP amendments (e.g., adjustments to HCRs, changes to tier system) Evaluate OY cap performance Enhance the use of ESRs, ESPs, risk tables, and CVAs for decision making Communicate stock vulnerabilities/identify stocks that are climate sensitive 	IRA priority IRA objective 3: Strengthen the consideration of uncertainty and risk in harvest specifications SSC discussions 2023 SSC workshop, SCS8 Climate workshop 3.7 - Harvest specifications 3.8 - Precautionary management, TACs, and risk	AFSC and plan teams - participate in a technical workgroup ACLIM - update on HCR-related work Potential CEFI products SSC - develop TOR for a technical workgroup Council staff - support technical group, potentially plan SSC workshop or discussion, analytical support	Supported by Oct 2024 Council motion : Consider to what extent, and whether, to revise groundfish and crab harvest control rules (HCRs) to be more climate-resilient Contingent on technical support and SSC bandwidth. SSC does not have capacity to plan a spring 2025 workshop. A technical workgroup could assist with initial steps; ideas discussed Oct 2024 SSC meeting included identifying topics and examples, defining the problem (what

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<ul style="list-style-type: none">Explore ways of supporting stability through TAC setting	5.3 - Tools for communicating climate information	Council - discussion, approve TOR, decision making	issues could be addressed through FMP and non-FMP changes?), and assessing flexibility in current tier system (e.g. what is codified in FMPs)
1b. Develop and implement procedures for incorporating and reviewing economic and socioeconomic information as part of TAC setting		Technical SSC economic and socioeconomic subgroup	Work in progress
1c. Develop a tool to support Council TAC-setting decisions for stocks experiencing climate-induced variability (focused on sablefish) <ul style="list-style-type: none">Develop SOW and support postdoc		Postdoc or contractor researcher - author/researcher SSC - provide guidance on SOW, review project outputs Council - fund and administer contract AFSC - mentorship and position oversight	Work in progress. Preliminary SOW developed (April 2024; see SSC report D4), RFP pending; linked with existing AFSC management strategy evaluation work
3. Develop a climate-resilient management policy. <i>Develop an updated and revised management policy that aligns with the Council's preferred approach to risk and uncertainty in the face of change, communicates clear goals and objectives for building climate resilience in Council-managed fisheries, and lays the analytical groundwork for future FMP amendments.</i>			
Potential components <ul style="list-style-type: none">Implement via Programmatic Evaluation. Purpose and need adopted June 2023.Articulate policy, goals, and objectives that support attributes of climate resilience.Per June 2023 motion, ensure that the management framework is structured to use the best available science, which includes climate science and local and traditional knowledge, and also recognizes Alaska tribes and communities that rely on subsistence resources.More clearly define the meaning of precautionary	IRA priority IRA objective 1: Develop a climate-resilient management policy Ecosystem Committee discussions Council direction Motion approving purpose and need June 2023 Climate workshop	Council - approve purpose and need (completed) and alternatives for discussion (tentatively April 2025); Council action Council staff - analytical support NMFS AKRO - issue NOI and conduct scoping, Tribal consultations, synthesize scoping comments	Work in progress. Earliest discussion and approval of alternatives could be April 2025. Timing of NOI, NMFS scoping, and analytical work important for timing & staff tasking considerations.

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	1 - Defining climate resilience 2.4 - Goals, objectives, and values 2.5 - Metrics and evaluation 3.8 - Precautionary management		
4. Construct “pipelines” for diverse information sources. <i>Develop and implement clear on ramps for diverse information sources including LKTKS and industry and community observations and data, to help identify signals of change, augment existing information sources and fill information gaps, and support identification of early warnings; as well as to support two-way communication and build trust.</i>			
3a. LKTKS potential components <ul style="list-style-type: none"> Continue implementation of LKTKS protocol and onramps Continue adding to LKTKS search engine Develop ideas for applying Bering Sea recommendations to other regions Develop a template for considering LKTKS in Council amendment analyses Look to examples of existing networks and research projects (from Oct 2024 AP discussion) 	IRA priority IRA objective 2: Continue work to incorporate local and traditional knowledge Climate Readiness Synthesis Knowledge base next steps Climate workshop 5.1 - Diverse information inputs and knowledge systems 2023 SSC workshop	TBD depending on scope	IRA proposal anticipated this objective would be addressed via the Programmatic Evaluation.
3b. Industry and community observations and data (includes but is not specific to LKTKS) potential components <ul style="list-style-type: none"> Identify actions the Council could take to facilitate or gain traction on this topic. <ul style="list-style-type: none"> Suggestion from Oct 2024 AP motion: Staff discussion paper on how to collect and utilize fishery data outside of surveys through fishermen and fishing communities on the frontlines of climate change CRS: Conduct a gap analysis and develop 	Climate Readiness Synthesis Knowledge base next steps Climate workshop 5.1 - Diverse information inputs and knowledge systems AP and SSC discussions (Oct 2024)	TBD depending on scope	Strong interest expressed in discussions, but unclear what next steps are actionable for the Council.

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<p>recommendations for improving uptake of the broader climate change knowledge base; including through collaborations, partnerships, and co-production</p> <ul style="list-style-type: none"> ○ CRS: Implement recommendations from the Community Engagement Committee final report that could help increase the flow of diverse sources of climate information 			
<p>5. Improve rapid response and early warning capabilities. <i>Strengthen the ability of the Council process to identify and act on diverse early warning signals, including existing information inputs (e.g. surveys, ecosystem indicators), tools in development (e.g. forecasts and projections, CEFI outputs), and diverse information sources (LKTKS, observations), to support sustainability objectives and mitigate the impacts of climate shocks</i></p>			
<p>Potential components</p> <ul style="list-style-type: none"> ● Clarify existing mechanisms for rapid response in the Council process ● Clarify opportunities, bottlenecks, and constraints to different approaches (e.g. framework actions) ● Assess the types of information that could inform early warnings, and identify existing and new opportunities and entry points for bringing information into the scientific and Council process. ● Explore examples of the conditions (such as marine heat waves, recruitment events, and protected species interactions) that could drive the need for rapid response and how different tools might perform ● Construct “if-then” management triggers (e.g., informed by risk tables, ecosystem indicators, or other information) ● Communicate stock vulnerabilities 	<p>Climate Readiness Synthesis Management overview next steps Climate workshop 2.1 - Rapid response 3.2 - Early warnings 5.1 - Diverse information inputs 5.3 - Tools for communicating climate information 5.6 - Predictive tools and understanding vulnerabilities and tradeoffs</p>	<p>TBD depending on scope</p> <p>AFSC - ongoing input via information products (e.g. indicators, information products incl. ESRs and ESPs, risk tables)</p> <p>Potential CEFI products</p>	<p>Initial steps could involve discussion papers (clarifying existing mechanisms and needs). Closely linked with CEFI outputs. Adopting triggers would require a Council action.</p>
<p>6. Improve flexibility, adaptation, and diversification opportunities in new and existing management programs. <i>Provide more flexibility for user groups, communities, and Tribes to adapt their fishing participation and investments in response to changing conditions and resource availability.</i></p>			

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<p>Potential components</p> <ul style="list-style-type: none"> Assess opportunities for building flexibility into new and existing management programs (could entail building out discussion of these topics in CSW report; extending CRS management overview analysis to GOA) CRS suggestion: Develop metrics to evaluate climate resilience in management measures Explore approaches for systematically considering climate adaptability and vulnerabilities as part of all future management actions Consider specific management program changes 	<p>Climate Readiness Synthesis Management overview next steps</p> <p>Climate workshop 3.1 - Adaptation, diversification, and flexibility</p>	<p>TBD depending on scope</p>	<p>Initial steps could involve discussion papers and changes to analytical practices. Changes to existing management programs would require Council action.</p>
<p>7. Develop dynamic management tools, including for bycatch management/avoidance and habitat conservation purposes. <i>Support effective response to changing information and conditions, improve the precision and effectiveness of management approaches, and improve climate resilience through supporting ecosystem function and resilience.</i></p>			
<p>Potential components</p> <ul style="list-style-type: none"> Improve flexibility and rapid response capabilities Identify and clarify the kinds of information inputs that could inform dynamic management and identify management applications Undertake more comprehensive planning for spatial overlap and fishery interactions Pursue specific initiatives, e.g. real-time genetic testing of salmon bycatch 	<p>Climate Readiness Synthesis Management overview next steps</p> <p>Climate workshop 2.1 - Rapid response 3.1 - Adaptation, diversification, and flexibility 3.2 - Early warnings and responsiveness 3.4 - Bycatch management 3.5 - Dynamic, in-season, and spatial management 3.9 - Habitat conservation and ecosystem resilience 5.6 - Predictive tools and understanding vulnerabilities and tradeoffs</p>	<p>TBD depending on scope</p> <p>Potential CEFI products</p>	

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8. Plan proactively for emerging fisheries, including in the NBS and Arctic. <i>Proactively prepare for the possibility of new and emerging fisheries, and understand and account for the impacts of a northward expansion of Bering Sea fish stocks on the NBS ecosystem and communities.</i>			
Potential components <ul style="list-style-type: none"> Develop a plan and process for management of emerging and/or previously unmanaged fisheries, and to determine when emerging fisheries are viable Build on the existing Arctic FMP by proactively developing a plan and guidance for what fishing could look like in the region Consider increased interactions with Arctic communities and subsistence users 	SSC 2023 workshop Climate workshop 2.3 - Public participation in the Council process 3.1 - Adaptation, diversification, and flexibility 3.6 - Shifting and emerging fisheries 5.1 - Diverse information inputs and knowledge systems	TBD depending on scope	
9. Continue developing EBFM tools and approaches. <i>Advance the implementation of ecosystem-based management approaches and use of ecosystem and climate information for decision making.</i> Note: all of the focus areas and activities in this table would advance the Council's EBFM-focused work; this section is included to capture ideas that may not fit under other focus areas.			
Potential components <ul style="list-style-type: none"> Scope development of Fishery Ecosystem Plans in other regions Continue identifying incremental steps Consider new action modules for Bering Sea FEP 	Climate Readiness Synthesis Knowledge base next steps Ecosystem Committee discussions Climate workshop 3.3 - Ecosystem approaches 3.4 - Bycatch management 3.5 - Dynamic, in-season, and spatial mgmt 3.8 - Precautionary management 3.9 - Habitat conservation and ecosystem resilience 5.6 - Predictive tools and understanding vulnerabilities and tradeoffs	TBD depending on scope	

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10. Invest in two-way communication and public engagement opportunities. <i>Develop two-way communication strategies and strengthen outreach, communication, and public engagement on climate resilience topics, with a focus on building capacity and trust, and facilitating inclusion of diverse information sources and knowledge systems.</i>			
Potential components <ul style="list-style-type: none"> Identify and prioritize among workshop ideas most directly related to or most essential to building climate resilience, and consider how these could be translated into specific tasks Assess past and current efforts to improve two-way communication with the public, and clarify key messages and misconceptions that would benefit from more effective communication Identify potential success metrics and priorities for strategic improvements CRS suggestion: Implement recommendations from the Community Engagement Committee final report that could help increase the flow of diverse sources of climate information (<i>also above under 3b</i>) 	SSC 2023 workshop Climate Readiness Synthesis Knowledge base next steps Climate workshop 2.3 - Public participation in the Council process	TBD depending on scope	
11. Build Council capacity to use climate information and science products. <i>Utilize best scientific information available to inform climate readiness planning by communicating questions, priorities, and information needs to scientific partners, developing capacity to work with uncertainty, and consider uncertainty; and planning ahead to leverage emerging resources, information products, and predictive capabilities.</i>			
Potential components <ul style="list-style-type: none"> Coordinate with CEFI Alaska Climate Team to stay informed regarding forthcoming CEFI products and consider how these could inform current or future Council climate readiness initiatives Continue to develop and enhance the use of ESRs, ESPs, CVAs, and risk tables to inform 	SSC 2023 workshop Climate Readiness Synthesis SAFE Report review next steps Climate workshop 5 - Science and information	TBD depending on scope Potential CEFI products	

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decision making <ul style="list-style-type: none"> CRS suggestion: Steps for improving the climate readiness of SAFE reports (see Section 2) 			
12. Build Council capacity to use social and economic information and products. <i>Utilize best scientific information available to inform climate readiness by utilizing information and analyses that can improve understanding and consideration of social and economic vulnerabilities, risks, and the interconnectivity of people and communities.</i>			
Potential components <ul style="list-style-type: none"> Coordinate with CEFI Alaska Climate Team to stay informed regarding forthcoming CEFI products and consider how these could inform current or future Council climate readiness initiatives Also addressed by items 1b (Develop and implement procedures for incorporating and reviewing economic and socioeconomic information as part of TAC setting) and 1c (Develop a tool to support Council TAC-setting decisions for stocks experiencing climate-induced variability) 	Climate workshop 5.2 - Social and economic vulnerability and information needs	TBD depending on scope Potential CEFI products	