



ADAPTING FISHERIES MANAGEMENT TO A CHANGING ECOSYSTEM

The North Pacific Fishery Management Council hosted the 7th national meeting of the Scientific Coordination Subcommittee (SCS7) in Sitka, Alaska August 15-17th. The meeting addressed challenging and timely fishery management issues and was well attended by SSC delegates and staff from all eight Regional Fishery Management Council SSCs, as well as NMFS Headquarters.

THEME TOPICS

1 How to incorporate ecosystem indicators into the stock assessment process?

2 Developing information to support management of interacting species in consideration of ecosystem-based fishery management (EBFM).

3 How to assess and develop fishing level recommendations for species exhibiting distributional changes?

KEY FINDINGS

1 Councils need to start preparing now for increasingly complex management decisions due to climate change

Effects of climate change on US Fisheries are being observed now with more **profound implications expected in the next 20 years** in several regions.

Regional Fishery Management Councils (FMCs) need to consider adaptation options to sustain fisheries in a changing environment. Adaptation tools need to be **tailored to regional differences** in how climate change is affecting marine ecosystems.

Several FMCs have started considering **models that include ecosystem linkages and/or have adopted climate-informed risk assessments.**

Additional studies of the **performance of current and alternative management strategies are needed to identify pathways to sustain fisheries in a future non-stationary marine environment.**

FMCs may encounter new issues **due to competing use of marine systems, abrupt shifts in distribution or abundance, and changes in ecosystem structure and function with impacts on sectors and communities and data collection methodologies.**

Finding equitable management adaptation pathways will be challenging.

2 Investment is needed in the development of new data collection and analysis tools that are responsive to changing conditions

Maintaining suites of models of different levels of complexity will be needed to inform management of marine resources undergoing complex responses to non-stationary environment conditions.

This suite could include Models of Intermediate Complexity for Ecosystems (MICE) including ecosystem linked single or multispecies assessment models; foodweb models, and full end-to-end models.

Collaborations amongst regions would be strengthened by streamlining data management and allowing for more 'open source' type data flows and interoperability.

Interdisciplinary research teams will be needed to ensure future success and training students in this field will be critical.

3 SSCs and Councils need to be prepared to transition toward a more sophisticated toolbox

- SSCs need to prepare for transition from reliance on indicators derived from observations, to informed dynamic simulations of marine ecosystem change, tuned to observations.
- Scenario planning should begin now to better prepare for avoiding reactive responses.
- Additional flexibility should be considered in the management process as well as the creation of more opportunities for strategic and creative thinking at the regional and national levels



Recommendations for future SCS workshops

Council member participation: SSC delegates acknowledged the value of active participation by a Council member at the workshop and encourages increased Council member participation in scientific dialogues at future SCS meetings.

2-year delay to meet in-person, rather than substituting a virtual meeting, was worth the tradeoff for enhanced communication and collaboration among regions.

Meeting Format: Delegates noted that the meeting format, with breakout sessions (including rotating regional participation by session) and case studies, facilitated discussion and sharing of experiences across regions.

Timing: Recommend that the workshops continue on a biennial basis, but that additional communication amongst regions occurs in the off-year. Ideas for this could include an informal workgroup of SSC leadership, participants, NMFS Headquarters staff, or a virtual workshop.



Adapting Fisheries Management to a Changing Ecosystem

7th National Scientific Coordination Subcommittee Meeting



Agenda for the meeting, all presentations, and recordings from the workshop are available online. Link: [SCS7](#)

The proceedings from SCS7 will be available in the Spring of 2023 and presented at the May CCC meeting.

Thank you!

SCS7 Delegates in front of Crescent Harbor, Sitka, Alaska



SCS7, August 15-17th, Sitka, Alaska