

North Pacific Fishery Management Council Ecosystem Research Workshop



Workshop Summary and Next Steps

Presented by Katie Latanich, Fisheries Leadership & Sustainability Forum
June 5 and 6, 2018

NPFMC Ecosystem Research Workshop

February 7, 2018 – Seattle, WA

Workshop and discussion context: Changing environmental conditions

Attention Cod Fishermen!

80% Decrease in Catch Limit for 2018

The Pacific cod stock in the Gulf of Alaska has drastically declined. Scientific information suggests that this decline is the result of an unusually warm mass of water (the 'blob') that persisted from 2014 through 2016. The metabolism of cod while reducing available food, resulting in increased mortality. The warm water also impacted cod egg production greatly reducing recruitment during these years. The lower number of young cod will affect the population and fishery for several years to come. Pacific cod is now focused on maintaining the spawning stock and increased fishery will remain viable in the future. Accordingly, catch limits are set at low amounts for 2018 and 2019.



Historic low sea ice in the Bering Sea

By Kathryn Hansen,
NASA's Earth Observatory



December 2018 (NPFMC)

NPFMC Ecosystem Research Workshop

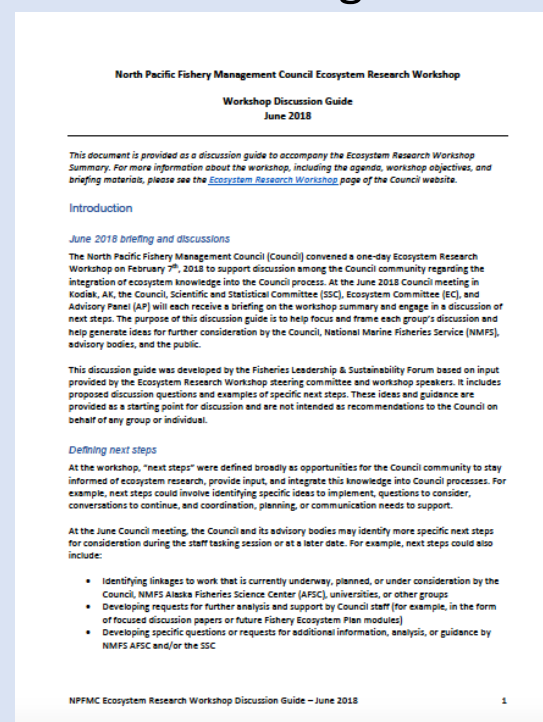
February 7, 2018 – Seattle, WA

1. Workshop summary



→ Themes of discussion

2. Discussion guide



→ Opportunities and next steps

Presentation Outline

- I. Agenda overview
- II. Summary overview
- III. Discussion guide

Discussion Questions

(Condensed from discussion guide)

1. What were your takeaways from the workshop?
2. What are potential next steps and action items?
3. How should the Council prioritize next steps?
4. What steps could be considered in the near and long term?
5. How can different groups (NMFS, SSC, EC, AP) each inform and support the Council's consideration of next steps?
6. How can the Council maintain the dialogue initiated at the workshop?
7. Are there additional topics you'd like to explore?

I. Agenda overview

Workshop objectives

(Condensed from agenda)

1. Provide baseline understanding of climate change impacts and efforts to understand, anticipate, and respond
2. Provide update on efforts by NMFS AFSC to provide information and tools; identify opportunities for input
3. Explore management challenges associated with changing resources, and information and tools for supporting a response
4. Identify potential **next steps and opportunities** for the Council community to stay informed, provide input, and incorporate ecosystem knowledge into Council processes

Agenda outline

- Introductory remarks
- Context and purpose
- Climate science and frameworks
- Management challenges
 - Presentations (GOA Pacific cod)
 - **Breakout discussions** (mixed)
- Opportunities and next steps **breakout discussions**
(by role: Council, SSC, AP, science)
- **Wrap-up and closing remarks**

Framing questions

(Condensed from agenda)

- What's working well? What makes the Council process well equipped to integrate ecosystem knowledge and respond to changing conditions?
- What can the Council community be doing more effectively to stay informed of ecosystem research, provide input, and integrate this knowledge into Council processes?
- **What next steps would you be interested to see the Council community explore in response to workshop discussions?**

II. Workshop summary and themes of discussion

Summary Organization

1. Introduction and workshop objectives
2. Discussion: Ecosystem change and the Council process
 - 2.1 Cross-cutting considerations
 - 2.2 Looking ahead
3. Managing in a changing environment: Issues in focus
 - 3.1 Lessons learned from GOA Pacific cod
 - 3.2 Early warnings and red flags
 - 3.3 Communication and information-sharing

Ecosystem change and the Council process

Cross-cutting considerations (Section 2.1)

How the management process supports, constrains, and frames the Council's response to change

- Management flexibility
- Goals, objectives, and tradeoffs
- Risk
- Time frames
- Resources
- Roles and responsibilities

Ecosystem change and the Council process

Looking ahead (2.2)

Challenges and opportunities to build capacity to manage fisheries in a changing environment

- Recognize that the Council is building on a solid foundation.
- Consider that adapting to change may not be a linear process.
- Anticipate that change will require confronting difficult decisions and conversations.
- Recognize and maintain what works well.

Ecosystem change and the Council process

Looking ahead (2.2, continued)

Challenges and opportunities to build capacity to manage fisheries in a changing environment

- Expect that climate change will introduce surprises and big questions.
- Leverage the science and tools developed for the region.
- Develop strategies for making big challenges manageable.

Managing in a changing environment: Issues in focus

Lessons learned from Gulf of Alaska Pacific cod (3.1)

Reflections and experience gained from the decline of GOA Pacific cod and the Council community's response

- GOA Pacific cod highlights strengths of the Council process and foundations (attributes of the system, people and relationships, and the scenario).
- Early warnings are valuable, but the implications are unclear.
- The impacts and outcomes are still to be determined.
- Future climate-related changes and disruptions may play out differently.

Managing in a changing environment: Issues in focus

Early warnings and red flags (3.2)

Alerting the Council community to changing ecosystem conditions and potential impacts to managed stocks

Benefits of an effective early warning process:

- Provide additional response time
- Distribute responsibility
- Leverage available information

→ Focus: strengthening ecosystem indicator review process; supporting communication and coordination

Managing in a changing environment: Issues in focus

Early warnings and red flags (3.2, continued)

Scientific review

- Systematic evaluation of ecosystem and stock assessment information to proactively identify potential concerns (“okay/not okay”)
- Earlier review of information (“yellow flags” or points of concern)

		Stock Assessment information	
		Not okay	Okay
Ecosystem Status Report information	Not Okay	2006 EBS pollock 2017 GOA cod	2016 EBS Pollock
	Okay	"No red flags were indicated."	EBS Yellowfin sole

Figure from Zador and Harvey, in prep.

Managing in a changing environment: Issues in focus

Early warnings and red flags (3.2, continued)

Management response

- Interpreting and responding to early warnings; balancing responsiveness with potential for error
- Relationship between indicators and outcomes
- Hindsight and managing expectations - what makes an early warning actionable?

Looking ahead questions: Process for formalizing ecosystem indicator review; roles and responsibilities; performance

Managing in a changing environment: Issues in focus

Early warnings and red flags (3.2, continued)

Additional considerations

- Industry observations as early warnings (CPUE, participation, on-the-water observations)
- Hard data, squishy application (enhancing use of contextual information including ecosystem indicators, LTK, citizen science, etc.) *Squishy = data that requires interpretation*
- Ecosystem and socioeconomic profiles (ESPs)

Managing in a changing environment: Issues in focus

Communication and information-sharing (3.3)

Benefits

- Build shared knowledge
- Support mutual interests
- Strengthen relationships
- Identify and respond to change

Managing in a changing environment: Issues in focus

Communication and information-sharing (3.3)

Opportunities for information-sharing

- Local and traditional knowledge (Bering Sea FEP; also tribal consultations, Rural Outreach Committee, and Local Environmental Observer Network)
- Industry-generated knowledge (Opportunistic, cooperative research, citizen science)
- Scientific community

Managing in a changing environment: Issues in focus

Communication and information-sharing (3.3, continued)

Additional considerations

- Pathways for information-sharing (accessibility, formal/informal, two-way, ecosystem-specific?)
- Roles and responsibilities – who should take the initiative?
- Integrating information – how and when can LTK and industry-generated knowledge be integrated?
- Effective communication (respectful and accessible; stories and scenarios)

Acknowledgements

Steering Committee

- Dr. Kerim Aydin, NMFS AFSC
- Diana Evans, NPFMC Deputy Director
- Dr. Anne Hollowed, SSC Chair; NMFS AFSC
- Dr. Kirstin Holsman, NMFS AFSC
- Dr. Franz Mueter, SSC; UAF
- Theresa Peterson, NPFMC; EC Co-chair
- Bill Tweit, NPFMC; EC Co-Chair
- Ernie Weiss, AP Chair

...plus Council, SSC, EC, AP members, public participants, notetakers, and Council staff!

III. Workshop discussion guide and next steps

Next steps

Next steps could take many forms...

- General: specific ideas/action items, questions, conversations, coordination, planning, communication...
- Specific:
 - Linkages to work by Council and/or AFSC
 - Requests for further analysis and support by staff
 - Requests for information, analysis, or guidance (SSC, AFSC)
 - ...other ideas?

Next steps

Current and proposed efforts

- Council: Bering Sea FEP module, Social Science Planning Team, rural outreach (discussion paper, direction to Bering Sea FEP Plan Team)
- AFSC: “okay/not okay” framework, early review of ecosystem information, ecosystem and socioeconomic profiles

Next steps

Additional opportunities

Topics for further discussion and dialogue

- Shifting stock distributions
- Gradual vs. abrupt changes
- Management flexibility and resilience
- Robustness of management strategies
- Management options and scenarios
- Prioritization
- Integrating scientific initiatives with management

Next steps

Additional opportunities

Additional information and scientific guidance

- 3-5 year “blind spot”
- Stakeholder-generated information
- Intersection of management policies and industry costs

Next steps

Additional opportunities

Outreach and two-way communication

- Focused regional discussions
- Stories, scenarios and visuals
- Pathways for communication (existing and potential)

Other topics: timeliness, funding, shifting distributions

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(Condensed from discussion guide)

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