H.2 Fishery Ecosystem Plan Initiative Workplan

Pacific Fishery Management Council

March 7, 2023

Overview

- Review of Council Action

- Recommendations:
    1. Proposed Process and Schedule
    2. Demonstration Species
        - Climate Vulnerability Assessments
    3. Risk Assessment Framework
    4. Future Species Selection Criteria
    5. Request for Initiative Support
    6. TNC Workshops

- Big Picture Planning

- Summary

Review of Council Action (September 2022)

Moved by Corey Ridings; seconded by Caren Braby:

- Adopt FEP initiative appendix described in EWG Report 1 (with revisions from Habitat Committee);

- Adopt Initiative 2.1, as described in EWG Report 1;

- Follow near-term schedule for developing Initiative 2.1, as described in EWG Report 2;

- Include consideration of actions in Initiatives 2.6 and 2.8 in September 2023; and

- Broaden participation beyond NMFS science centers to include input from communities.

Motion passed unanimously.

Process and Schedule

Council Adopted (Sept 2022)

- In March 2023, Council:
  - **Adopts pilot species for ecosystem and climate-informed management decisions**
- In Sept 2023:
  - EWG provides progress report on Initiatives 2.6 and 2.8
  - Council decides whether to engage in Initiative 2.6 work (community resilience)
- In March 2024, Council:
  - Identifies additional species
  - Integrates species information with community resilience work

EWG Revised (March 2023)

- In March 2023, Council:
  - Provides guidance on petrale sole as demonstration species and risk table, species selection criteria, and proposed revised schedule
  - Asks for initiative support from NMFS, tribes, states, and advisory bodies
- For Sept 2023, EWG prepares:
  - Draft risk table and species selection criteria
  - Draft schedule for Initiatives 2.6 and 2.8
- In March 2024, Council:
  - Identifies additional species
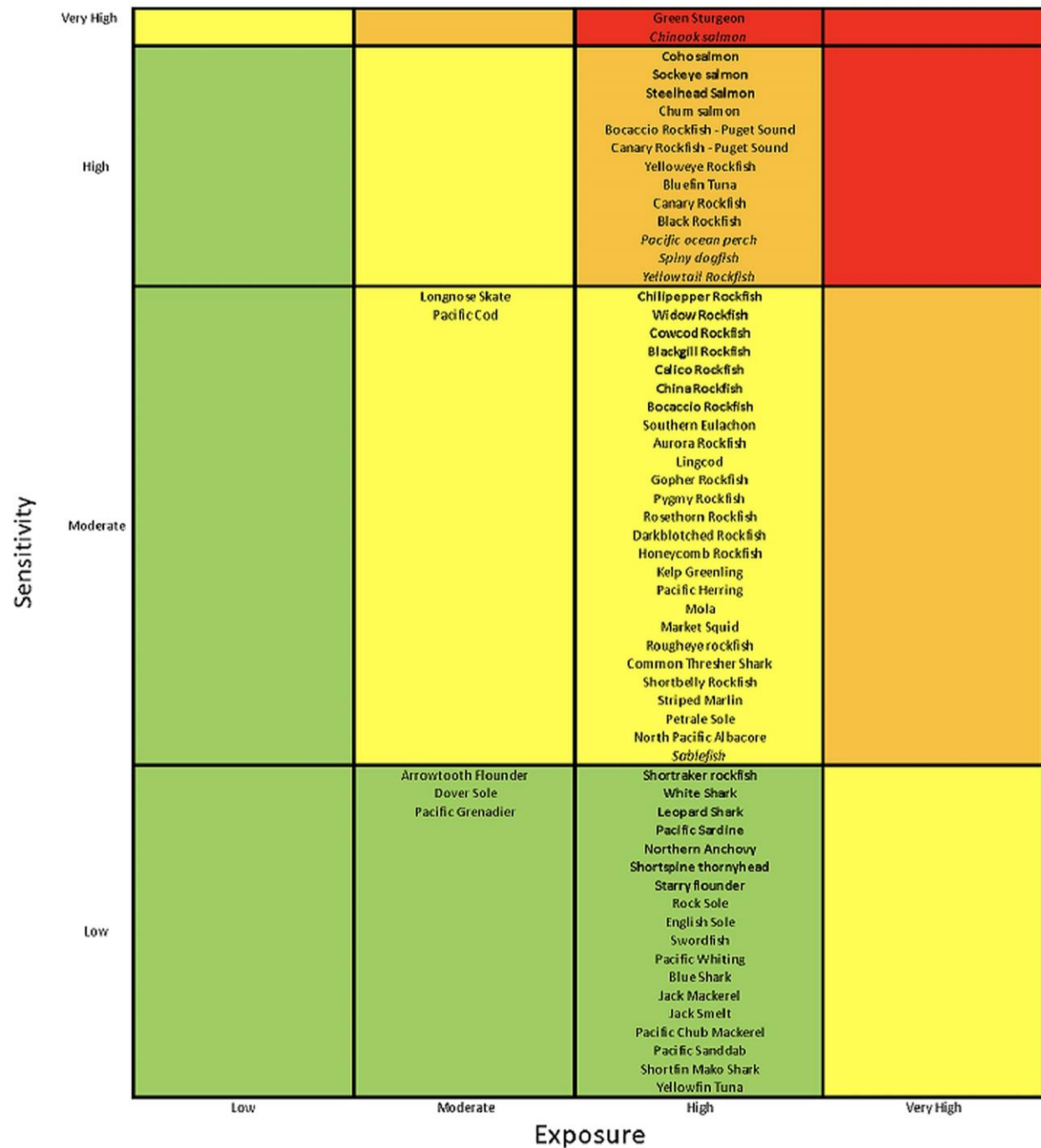
Demonstration Species

Photo: WDFW

- Petrale sole is a good choice, but it may not represent the climate drivers, biological responses, or data richness for other stocks

- Including a range across multiple FMPs with various biological characteristics, climate vulnerabilities, and management processes could help further understanding of how risk table would work

- **Recommendations:**
  - **Consider Climate Vulnerability Assessments (CVAs) focusing on stocks in the moderate, high, and very high categories for climate sensitivity or exposure**
  - **Align groundfish with Amendment 31 priority stocks**
  - **Consider the tradeoffs of adding species from other FMPs**

Climate Vulnerability Assessments[1]

Figure 2. Vulnerability categorization for California Current LME species. Vulnerability categories are colored from green (Low) to red (Very High).

* 2/3 of stocks assessed had moderate or greater vulnerability to climate change and only one (arrowtooth flounder) was anticipated to have a positive response
* 3 very highly vulnerable (5%)
* 13 highly vulnerable species (20%)
* 28 moderately vulnerable (42%)
* 21 low vulnerability (33%)

[1]McClure, M.M., Haltuch, M.A., Willis-Norton, E., Huff, D.D., Hazen, E.L., Crozier, L.G., et al. (2023) Vulnerability to climate change of managed stocks in the California Current large marine ecosystem. *Front. Mar. Sci.* 10:1103767. Doi: 10.3389/fmars.2023.1103767

Demonstration Species – Suggested Candidates

- Consider the tradeoffs of adding more species generally and specifically relative to broadening the test cases vs. workload and timing

- For groundfish, consider:

Amendment 31 Priority Stock	Sensitivity	Exposure
Petrale sole	Moderate	High
Lingcod	Moderate	High
Shortspine thornyhead	Low	High
Black rockfish	High	High
Canary rockfish	High	High
Pacific spiny dogfish	High	High
Copper rockfish*	Moderate	High

*(*Using other rockfish, such as China or gopher, as a proxy)*

- Other candidates could include Pacific sardine (CPS), North Pacific albacore (HMS), chinook salmon

Risk Assessment Framework

- **Key Outcome:** "Develop clear pathways for [ecosystem and climate information] to be used in the setting of scientific uncertainty, harvest policy, and specific management actions."

- Risk Table: Used by NPFMC and MAFMC; however:
  - Clear pathways need to be developed in conjunction with the methods to address scientific uncertainty, modify harvest policy, or take action, and
  - Identify climate and ecosystem indicators that would be needed to feed into the risk table and inform the pathways," and
  - There may be other methods to deliver climate and ecosystem information, such as an automated online reporting system, depending on how the Council may want to use the information

- **Recommendation: Adopt the risk table approach for the pilot and initiate collaboration to develop FMP-specific clear pathways.**

Future Species Selection Criteria

EWG Example Criteria to Prioritize Species Groups

- Ecological
  - Ecosystem role, climate vulnerability, stock distribution

- Economic
  - Spatial allocation, other ocean uses, fisher/fishing community dependence

- Management-related
  - Data richness/science readiness, advisory body interest, cross-FMP interactions, Council authority

- **Recommendation: Agree with the EWG's example criteria and look forward to the draft planning matrix in September.**

Request for Initiative Support

- Appreciate and **support the EWG's requests** to:
  - Ask NMFS Science Centers, West Coast Region, and the states and tribes to support the initiative with species, ecosystem, and fishery management expertise between April and September;
  - Prioritize time for the GMT and GAP to advise on the demonstration species risk table, and for the SSC to review the project; and
  - Hear from the advisory bodies and public on methods and priorities for species and FMP-specific management processes.
- Reiterate the EAS **recommendation to be inclusive of input from all stakeholders and communities.**

Big Picture Planning

- While risk assessment factors will vary from stock, the Council may want to consider a wholesale change to its risk policy in managing climate effects on fisheries (e.g., through a Comprehensive Ecosystem-Based Amendment, such as the adopted protections for unmanaged forage fish, for stock-specific risk tables)

- SSC could advise on the general approach vs. FMP-specific methods

- SSC could also explore and advise on methods to account for scientific uncertainty associated with climate vulnerability of Council-managed stocks through the specification of sigma

- **Recommendation – Consider how to prepare for and manage climate effects on fisheries in a more comprehensive, effective, and efficient manner.**

TNC Workshops

- Appreciate TNC's offer to hold workshops to support the FEP initiative
- Recommend partnering with TNC on workshops that could:
  - Initiate a dialogue among Council members, IEA team, federal, state, and tribal fishery scientists and managers, the Council's SSC, management teams and advisory bodies, and stakeholders about:
    - Tools that may be used to understand climate change risk and guide the utilization of climate information in FMPs;
    - How the framework may apply to the different FMPs;
    - The kinds of climate and ecosystem information that could be useful indicators for the demonstration species;
    - The "pathways" in the FMPs that may benefit from climate and ecosystem information and be informed by tools, such as risk tables; and
  - Develop a framework risk table as an example for pilot species

Summary

- Approve EWG revised schedule, except retain scheduled action for this meeting (selection of demonstration species for pilot)

- For demonstration species, consider CVAs focusing on the moderate to very high categories, align groundfish with Am 31 priority stocks, and include at least one pilot stock from the other FMPs

- Adopt the risk table approach for the pilot and initiate collaboration to develop FMP-specific clear pathways

- Approve the EWG's example species selection criteria

- Solicit staff support for the initiative from appropriate entities and be inclusive of input from all stakeholders and communities

- Consider how to prepare for and manage climate effects on fisheries in a more comprehensive manner

- Partner with TNC on workshops to further work on initiative

Thank You