The Pacific EFMP: A Leadership Opportunity for Ecosystem-Based Management

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FORAGE FISH: THE VITAL LINK OF THE FOOD WEB

FORAGE FISH

ZOOPLANKTON
MICROSCOPIC ANIMALS

PHYTOPLANKTON
MICROSCOPIC PLANTS
“Freeze the Menu”

Prevent new fisheries from developing on key forage species

Precautionary Actions by Pacific Fishery Management Council:

- Prohibited Krill Fishing off entire US West Coast
- Prevented expansion of harvest on Shortbelly Rockfish
  - Key forage for Chinook salmon, seabirds, mammals, etc.
Ecosystem Effects of Fishing

- Effects on predators (fish, seabirds, mammals)
- Food web indicators (e.g., Atlantis, Ecopath w/ Ecosim)

From Samhouri et al. 2010, NWFSC
Optimum Yield = Ecologically Sustainable Yield

- How do we maintain the resilience of the food web?
- How much do predators need?
- Role of fishing vs. environmental effects
- Maintain total overall forage base/guilds
- Protect key habitats (spawning grounds)
- Separating fishing effects from environmental effects
EFMP: Purpose and Need

- Tools for ecological factors into OY (ACLs)
- Establish new management authority to meet Ecosystem objectives (Needs to be true FMP)
- Establish PFMC as a leader in Ecosystem-based Management
- Programmatic review of Council management
**EFMP should include:**

- Framework for ecologically sustainable yield (OY)
- Identify key forage species in California Current
- Analyze alternative harvest strategies on ecosystem
- Programmatic review of cumulative fishing impacts
- Establish regulatory authority
  - Manage new ecosystem component species
  - Time/area closures for ecosystem protection
- Periodic reports on “State of California Current LME”
Thank you