



NOAA
FISHERIES

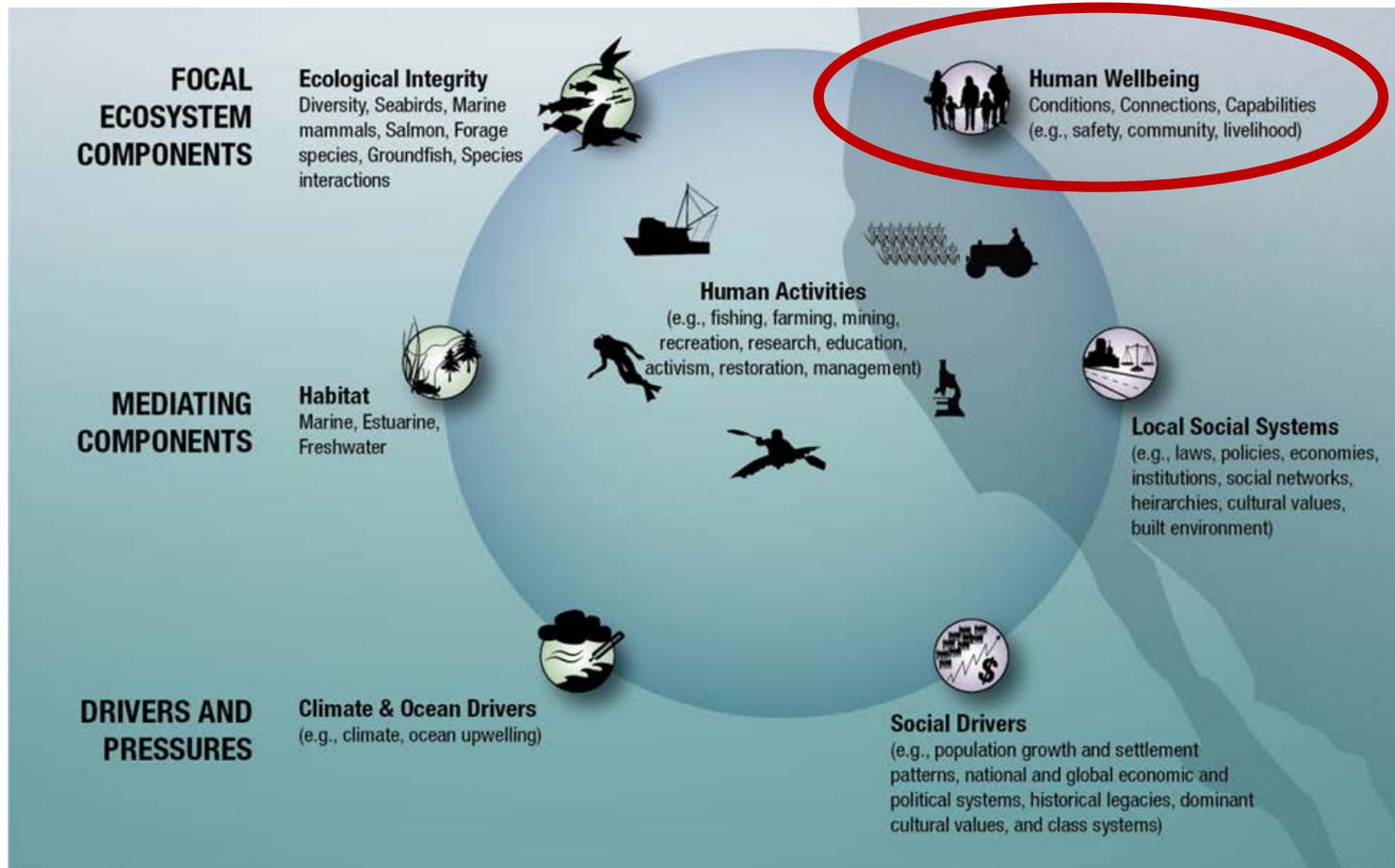
Ecosystem Economics and Social Science: Strengths, Challenges and Opportunities



Strengths

- Integrated in Ecosystem Program which provides interdisciplinary research-oriented home focused on ecosystem-based fishery management
- The California Current IEA provides an organizational structure, some funding, and a means of introducing research into the management process
- Broad expertise in economics and social science and extensive experience with fishery management
- Extensive collaborations inside and outside NWFSC

The California Current (CC) as Socio-Ecological System (SES)





CCIEA Human Dimensions Projects/Products

- Currently part of IEA
 - Community Social Vulnerability Indices (CSVI)
 - Diversification of Fishing Vessels and Ports
 - Personal use of seafood
 - Social Wellbeing Indicators for Marine Management (SWIMM) Working Group
- Emerging IEA Projects/Products
 - Community Recreational Dependence and Engagement Indices
 - Coastal community vulnerability to ocean acidification risk analysis
 - Ocean recreational expenditures survey
 - The Dynamics of Adaptation to Climate-Driven Variability in California Current Fisheries And Fishing Communities



Challenges

- Lack of clear legislative mandate for EBFM
- NOAA fisheries influences management of only a small part of what drives outcomes for the marine ecosystem and coastal communities
- Multiple management jurisdictions within the California Current ecosystem (fish and human communities cross these boundaries)
- Priorities, resources, and constraints differ across agencies with management responsibilities (e.g. NMFS, states, tribes, BPA, Corps of Engineers, etc.)



Challenges

- The ecosystem is highly complex and dynamic
- Predictive ability beyond a fairly short time frame is low both for natural and human components of the ecosystem – this is probably unresolvable
- Need to find management strategies robust to uncertainty that consider and balance ecological and social risks
- Communicating risk and uncertainty and determining and applying public preferences for balancing risks is a key challenge



Opportunities and Strategies

- A highly variable ecosystem exhibiting obvious and important changes motivates need for EBFM
- Growing Pacific Council interest in Ecosystem Science to support management
- Recognition that people and communities must be considered part of the ecosystem
- Increasing knowledge and data that enable integration of physical, ecological and social science



Opportunities and Strategies

- Work on finding management strategies robust to uncertainty that consider and balance ecological and social risks
- Explore strategies for EBFM that specify outcomes but allow fishers flexibility in how to achieve them
- Identify and communicate regulatory strategies and institutional design that enable adaptation
- Increase engagement with managers and stakeholders
- Capitalize on Council's growing interest in ecosystem information to support decision making
- Focus on medium term and models of intermediate complexity
- Collaborate to leverage resources and overcome jurisdictional stovepiping

