

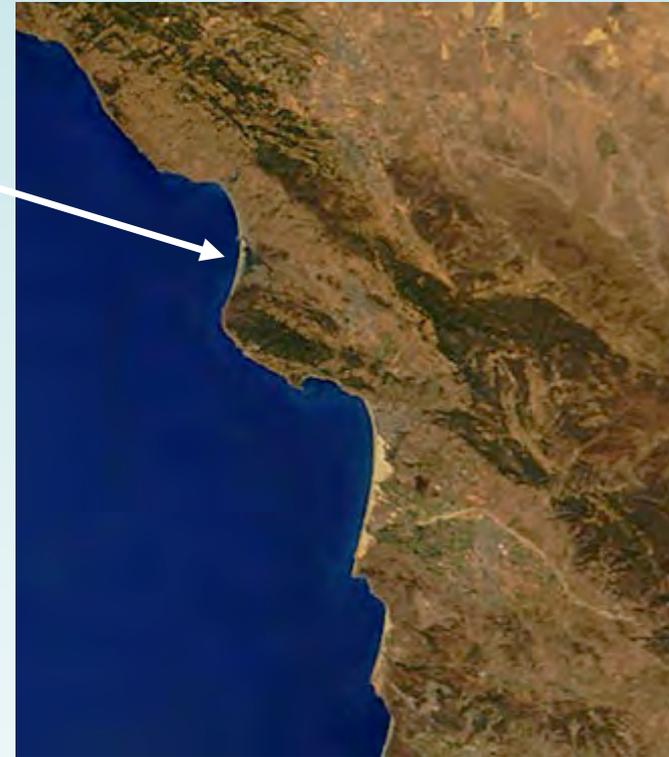
Making the Right Connections: Integrating Marine Science and Management at Local Scales

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Program Scope is on the Central Coast of California





Courtesy of MBNEP

Ecosystem Services

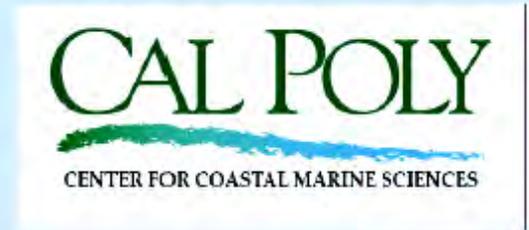
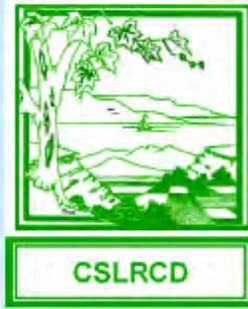
- Energy (cooling)
- Oyster production
- Harbor
 - Commercial fleet
 - Recreational boaters
- Storm protection
- Nutrient processing
 - Sewer/Septic
 - Agriculture
- Recreation
 - Fishing
 - Kayaking
 - Wildlife watching
 - Hunting
- Education

Jurisdictions

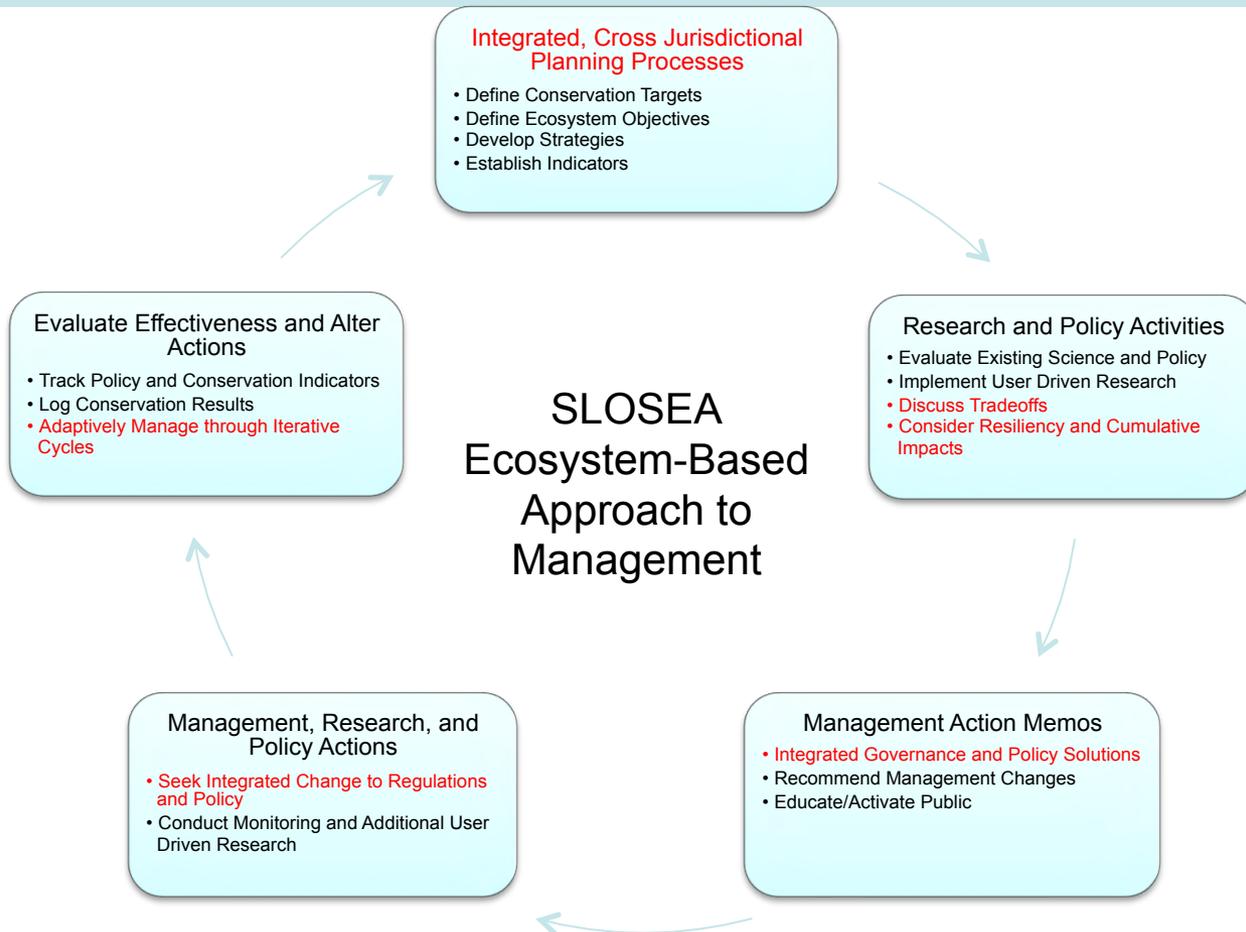
- All levels of government
- Multiple agencies
 - DFG, NOAA, RWQCB, CDHS, State Parks, USFWS



SLOSEA Integrates Sectors, Jurisdictions and Communities



SLOSEA Process for Marine EBM



Red Text Fundamental to EBM

SLOSEA Recognized by the Joint Ocean Commission Initiative

JOINT OCEAN COMMISSION INITIATIVE

ONE COAST, ONE FUTURE

SECURING THE HEALTH OF WEST COAST ECOSYSTEMS AND ECONOMIES

RECOMMENDATIONS TO LOCAL AND STATE LEADERS FROM THE JOINT OCEAN COMMISSION INITIATIVE

We appreciate your continued work and commitment to advance the recommendations of the U.S. Commission on Ocean Policy and the Pew Oceans Commission. A report from you could help us ensure that the citizens within our cities, counties and states enjoy vibrant coastal communities and healthy ocean resources for generations to come.

Sincerely,

James Auburn *Janet Beaulz* *Sam Blakeslee*
 James Auburn, Mayor
 Port Orford, Oregon
 Janet Beaulz, Supervisor
 Santa Cruz County, California
 Sam Blakeslee, Assemblyman
 California State Assembly

Deborah Boone *Al Carter* *Nancy Gardner*
 Deborah Boone, Representative
 Oregon House of Representatives
 Al Carter, Commissioner
 Grays Harbor County, Washington
 Nancy Gardner, Council Member
 Newport Beach, California

Bill Hall *Tom Harman* *Ken Jacobson*
 Bill Hall, Commissioner
 Lincoln County, Oregon
 Tom Harman, Senator
 California State Senate
 Ken Jacobson, Senator
 Washington State Senate

Don Murks *Pedro Nava* *Greg Mickels*
 Don Murks, Commissioner
 Skagit County, Washington
 Pedro Nava, Assemblymember
 California State Assembly
 Greg Mickels, Mayor
 Seattle, Washington

Kevin Rankie *Ron Sims* *Pam Slater-Price*
 Kevin Rankie, Commissioner
 San Juan County, Washington
 Ron Sims, Executive
 King County, Washington
 Pam Slater-Price, Supervisor
 San Diego County, California

Harnet Spaniel *Darrell Steinberg* *Mark E. Whelan*
 Harnet Spaniel, Senator
 Washington State Senate
 Darrell Steinberg, Senator
 California State Senate
 Mark E. Whelan, Mayor, City of Arcata

John Woolley
 John Woolley, Supervisor
 Humboldt County, California

ONE COAST, ONE FUTURE

- 
- Address Key Pollutant Sources and Impacts
 - Build Data and Framework for Regional Fisheries Management
 - Characterize Climate Change Effects and Prioritize Local Actions
 - Guide Appropriate Levels of Human Access
 - Identify, Detect, and Control Marine Invasive

Build Data and Framework for Regional Fisheries Management



California's Landmark Legislation Requires Significant Amounts Data to be Fully Implemented

Marine Life Management Act (MLMA)

- Highlights need for regional management
 - heterogeneity of stocks
 - uneven distribution of fishing
- Requires fisheries management plans
- Marine protected areas should be incorporated into fisheries management

Marine Life Protection Act (MLPA)

- Requires monitoring
- Adaptively managed





Collaborative Fisheries Research Produces Critical Data Used for Management



Goal: State-wide protocols for stock assessment and MPA monitoring utilizing fishermen knowledge and fishing expertise

- Synchronous monitoring program over a broad geographic scale
- Standardized protocols across the entire geographic scale
- Long term sampling for many years to develop data sets useful to regional fisheries management



Marine Life Protection Act

MLPA provides the framework to accomplish our program goals.

Mandated monitoring of MPAs can simultaneously be used to

- 1) evaluate impact of MPAs
- 2) more fully implement MLMA





Collaboration is the Core of our Research and Management Program



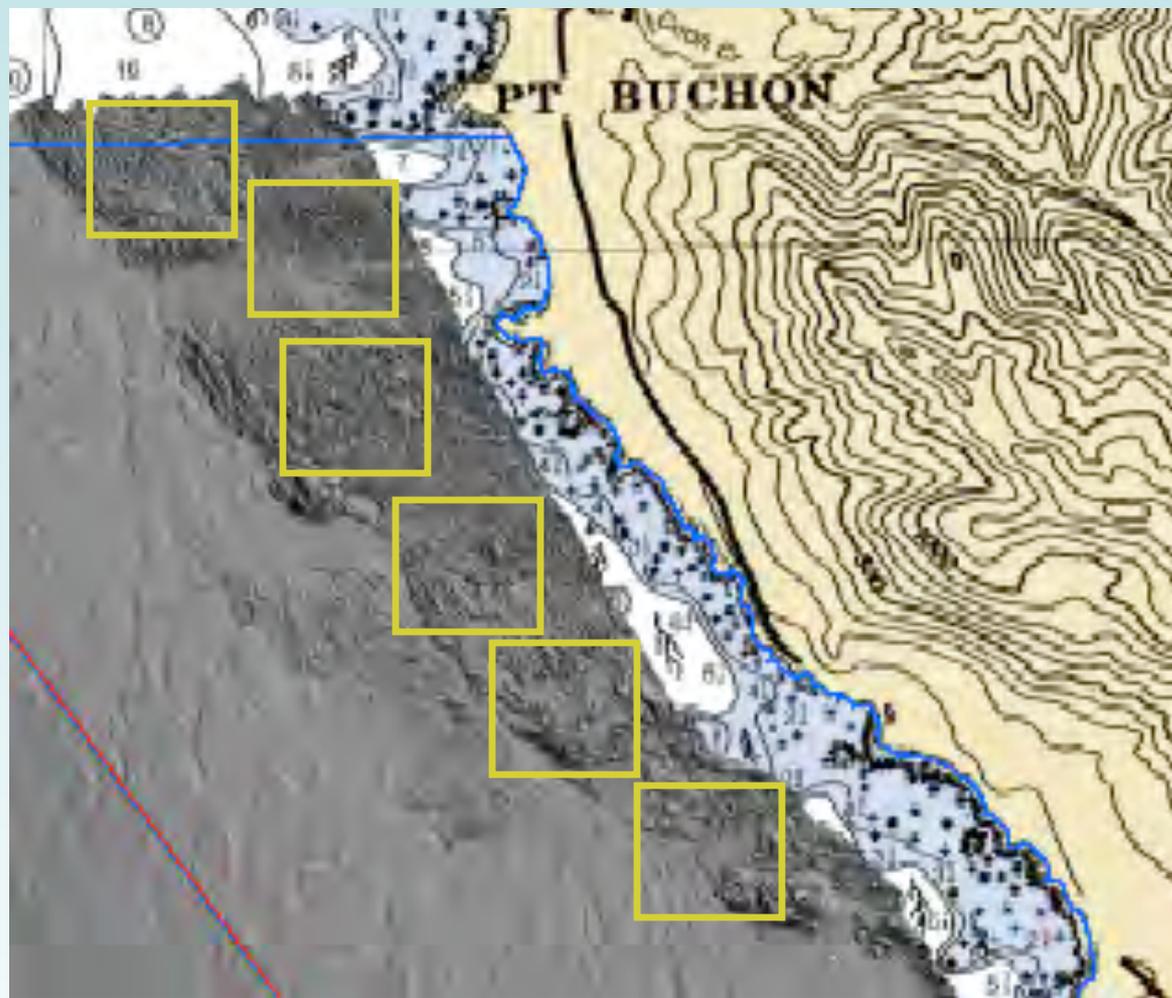
Protocol Scoping Workshops

- Multiple workshops on the central coast included fishermen, fisheries scientists, NGO's, city officials, resource managers
- NOAA Fisheries, CDFG
- Met with approximately 60 fishermen, both recreational and commercial





Each Partner Contributes Their Expertise



Scientists' Contribution:

- Statistical model
- Data to be collected
- Sampling frequency
- Modeling

Fishermen's Contribution:

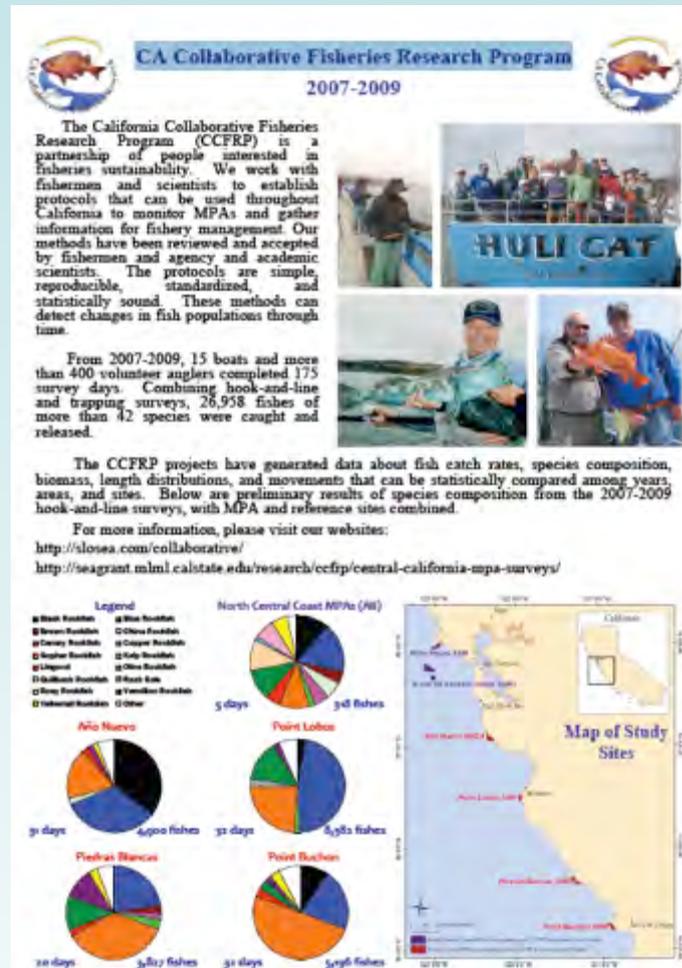
- Stratified sampling area
- Developed custom fixed gear
- Developed baiting and tackle protocols
- Contributing fishing expertise



Stakeholder Involvement Produces Essential Data and Shared Understanding

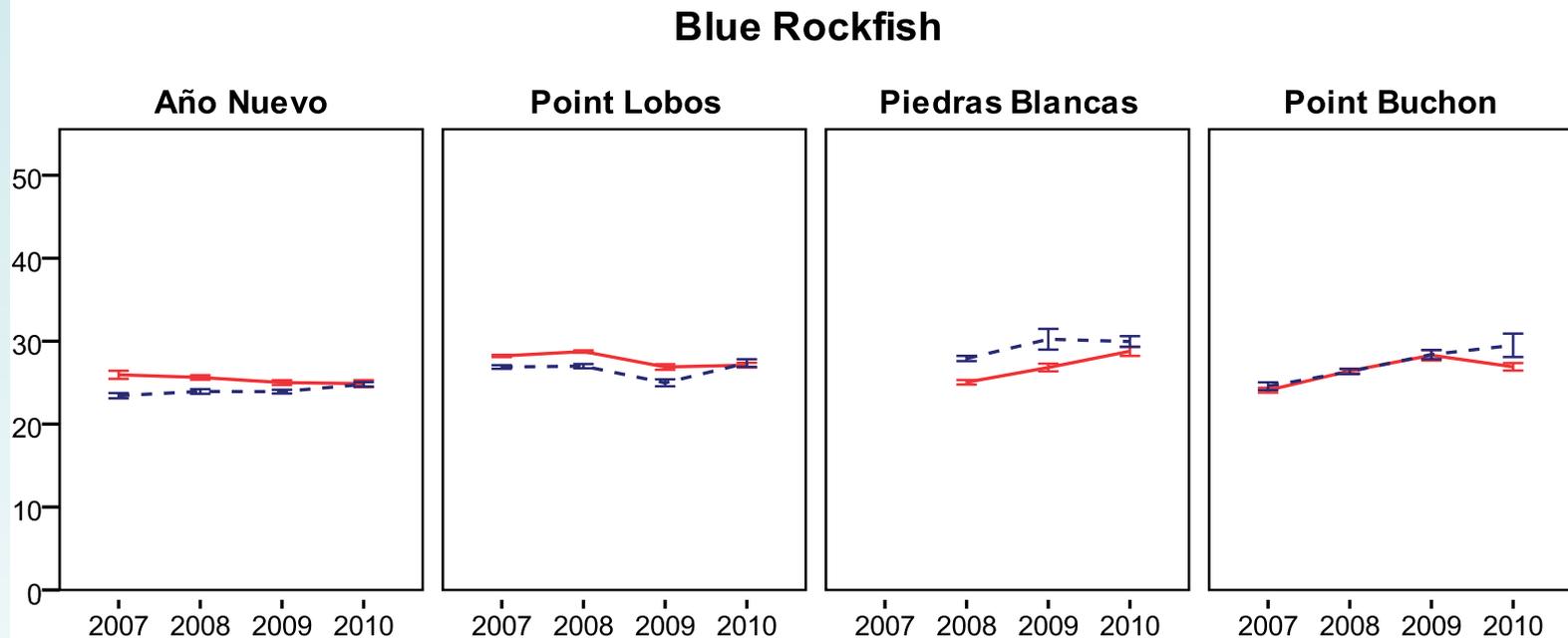
Sampling Summary of 2007-2010

- Captured, identified, measured, tagged and released over 30,000 fish representing 42 species
- Utilized the fishing expertise of over 500 separate volunteer anglers for >3,500 angler-hours of fishing
- 10 different skippers and their crews on commercial passenger fishing vessels
- Six commercial trap fishermen
- Four different fishing communities (Half Moon Bay, Monterey Bay, Morro Bay, Port San Luis)



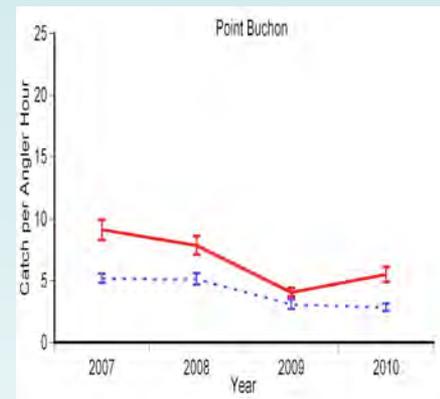
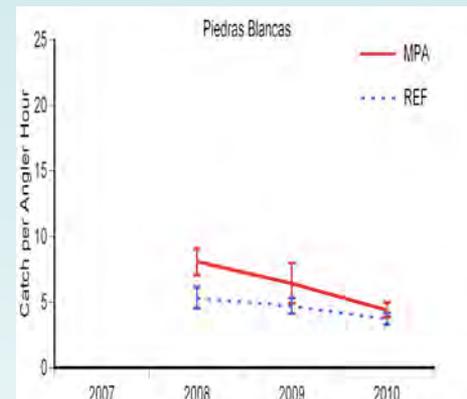
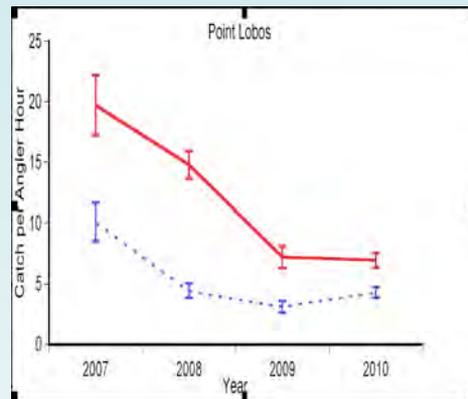
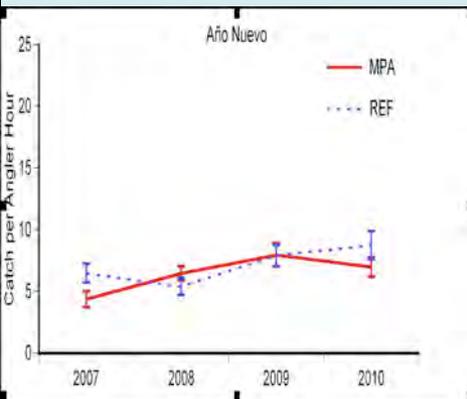
Understanding of Changes in Ocean Resources

Average Size of Blue Rockfish Inside and Outside Central Coast MPAs



Understanding of Changes in Ocean Resources

Combined Catch Rates for Nearshore inside and outside Central Coast MPAs



Our Approach Expanded and Includes Deeper Partnerships

Moving Forward...Integrating MLPA and MLMA

- 1) Continued implementation of protocols for ongoing data collection
- 2) Evaluation traditional stock assessment as compared to data-limited approaches for setting catch levels
 - 1) MPA based
 - 2) Length based
 - 3) Simple stock synthesis
 - 4) FLEP
- 3) Management Strategy Evaluation to examine performance over time including Bio-economic modeling



Rick Starr, MLML

Management Success and Challenges

Successes

- ✓ Significant involvement by stakeholders in management and policy
- ✓ Enabling state implement EBM aspects of existing legislation
- ✓ Collaboration across societal sectors and academic disciplines
- ✓ Use of local ecological knowledge

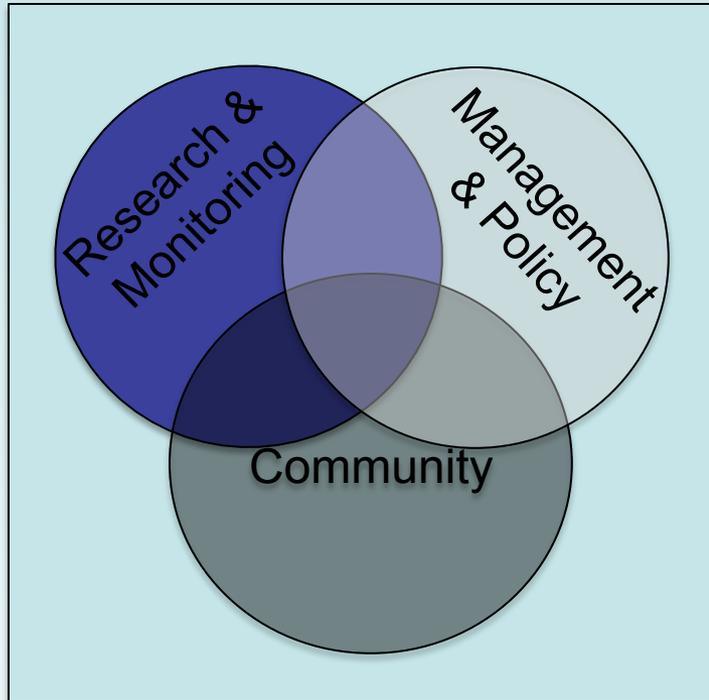


Challenges

- ✓ Difficult to manage using EBM approach even though existing legislation calls for EBM approaches
- ✓ Outside entities have to become part of the agency processes
- ✓ Collaboration



Coastal Communities Need Boundary Organizations



SLOSEA Strives To:

- integrate activities of scientists, managers, stakeholders, and public officials;
- Where possible examine tradeoffs and cumulative impacts by linking knowledge to action;
- focus on management needs that are tractable and substantial;
- cause participants to question their understanding and knowledge;
- develop shared understanding of resources through value learning

- California and Coastal Marine Initiative of the Resources Legacy Fund Foundation
- California Coastal Conservancy/Ocean Protection Council
- California Polytechnic State University
- California Sea Grant
- Campbell Foundation
- David and Lucile Packard Foundation
- The Morro Bay National Estuary Program
- NOAA Fisheries

