

California State Coastal Conservancy



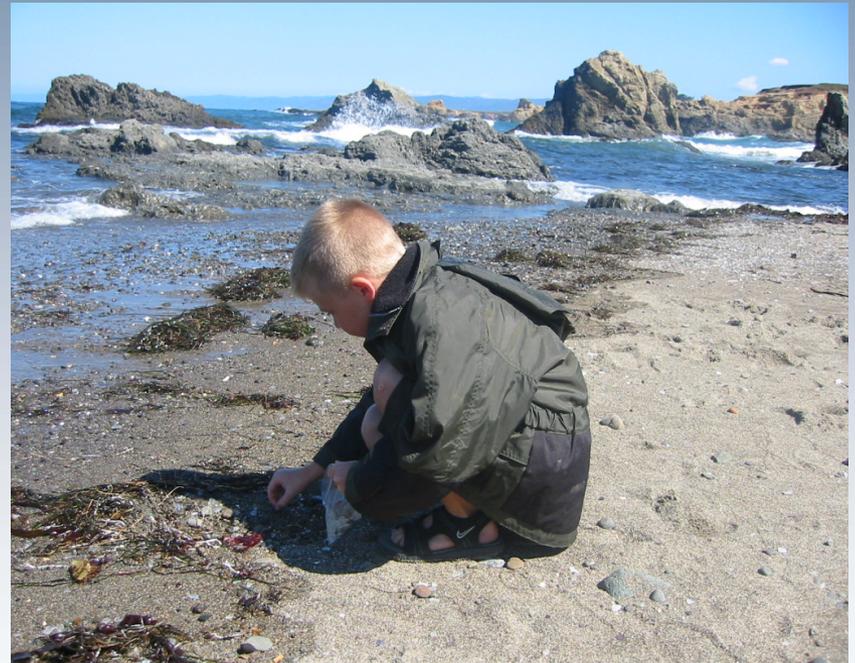
Mission

To preserve, protect and
restore the resources of the
California Coast



California State Coastal Conservancy

- State agency created in 1976
- Non-regulatory arm of the State's coastal management program
- Uses entrepreneurial techniques to purchase, protect, restore, and enhance coastal resources, and to provide access to the shore



Restoration of coastal wetlands

Pictured: South San Francisco Bay Salt Ponds Restoration Project



Control and Eradication of Invasive Species

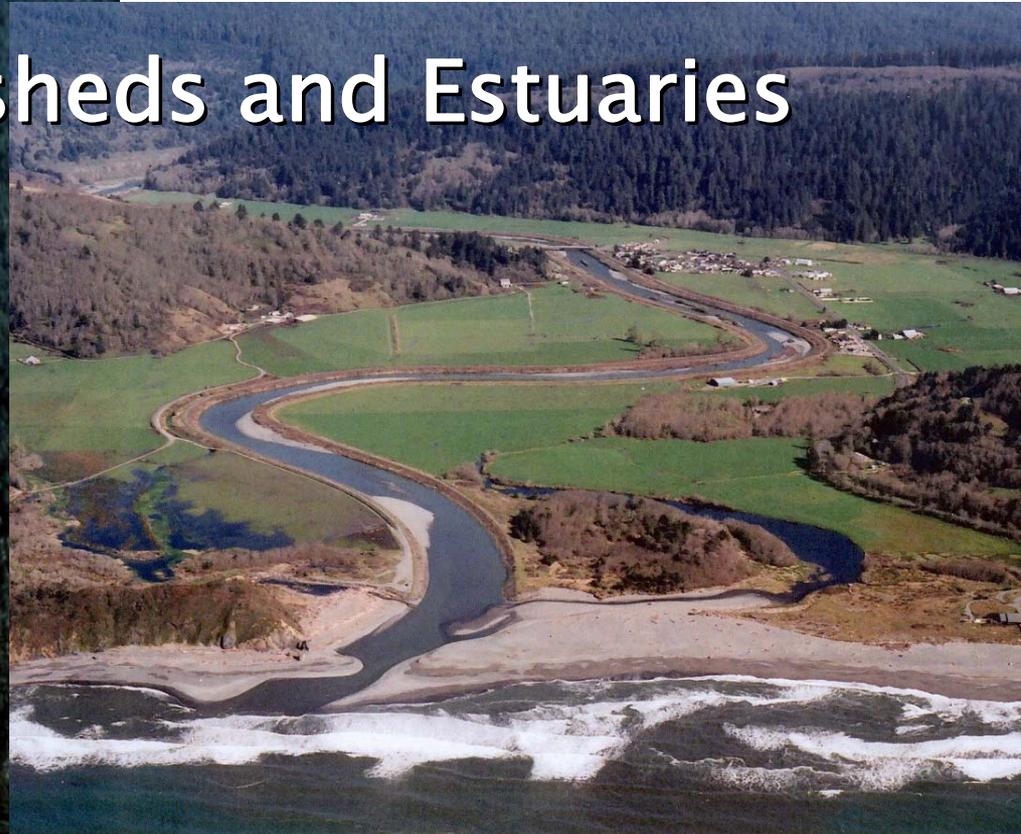
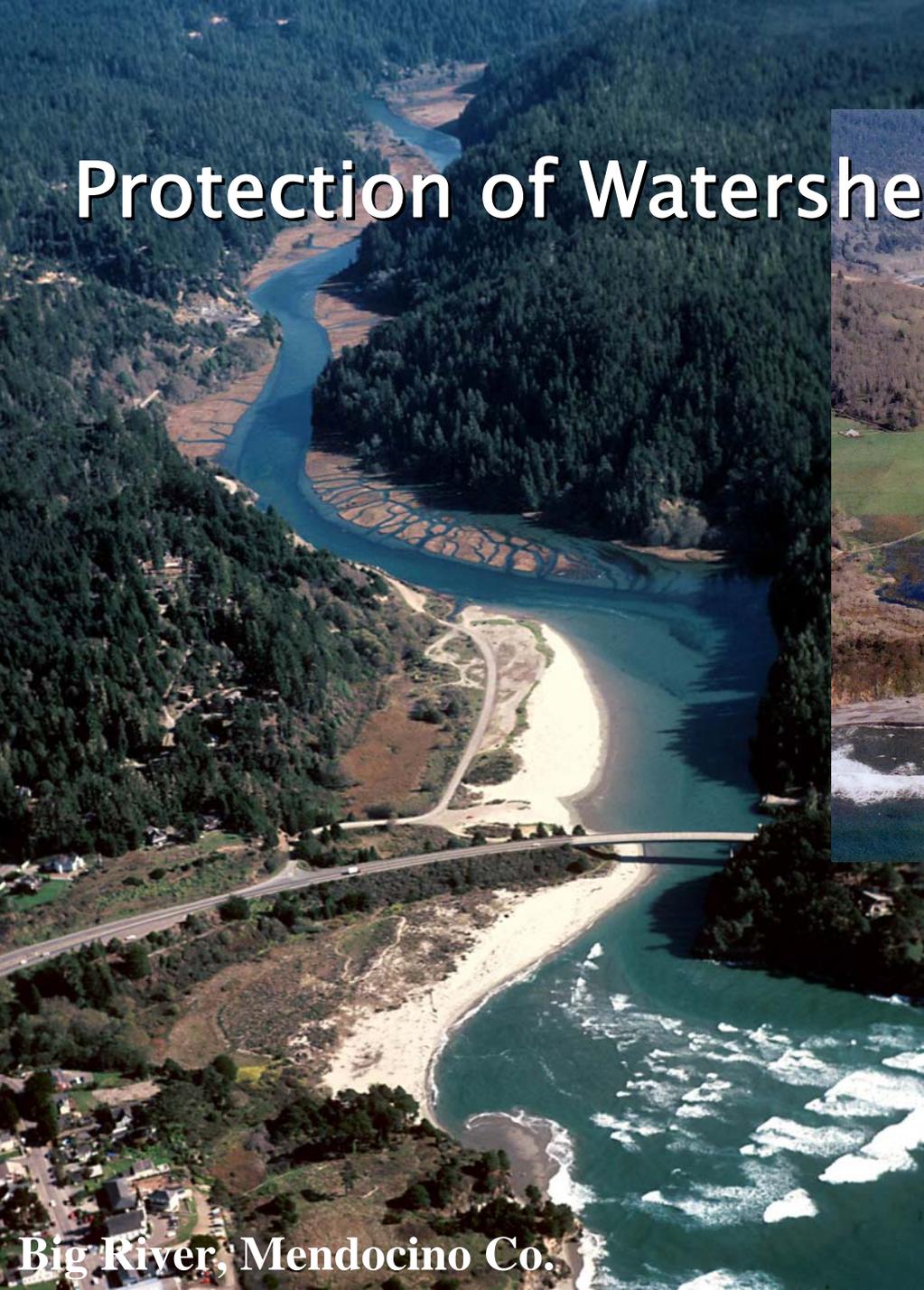


Dam Removal

Iron Gate Dam, Klamath River



Protection of Watersheds and Estuaries



Redwood Creek, Del Norte Co.

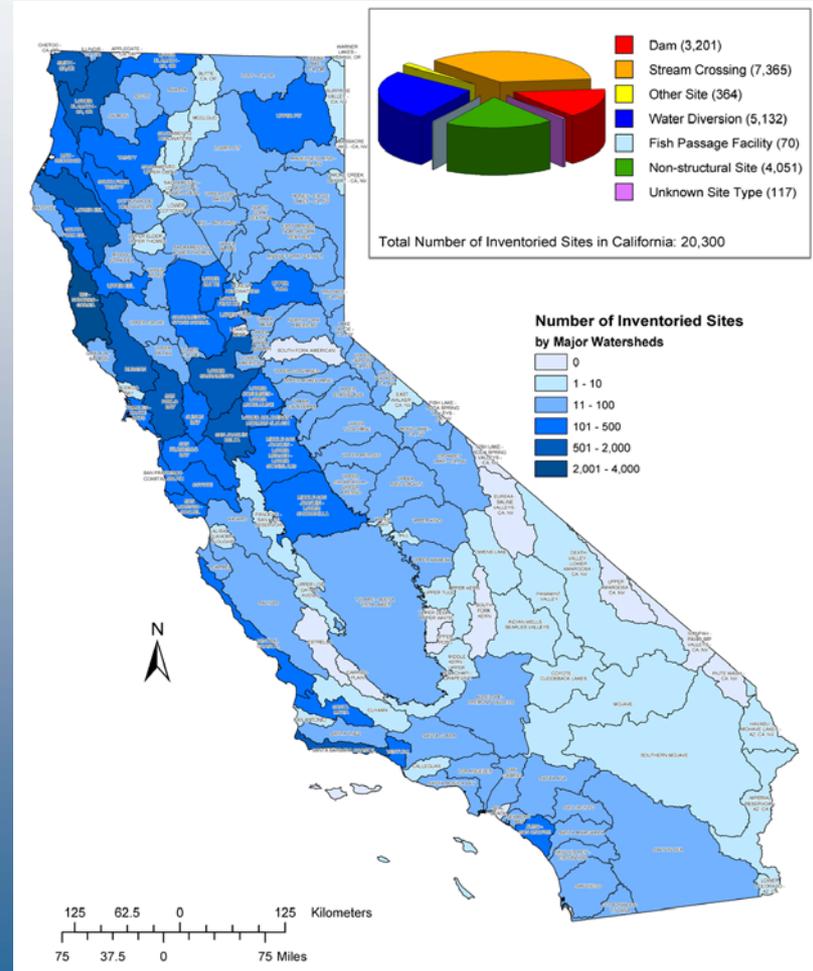
Big River, Mendocino Co.

Coastal Erosion and Fate of Sediment



Leucadia, CA

Removal of Fish Passage Barriers



California Ocean Protection Council

California Ocean Protection Act, 2004

Council consists of:

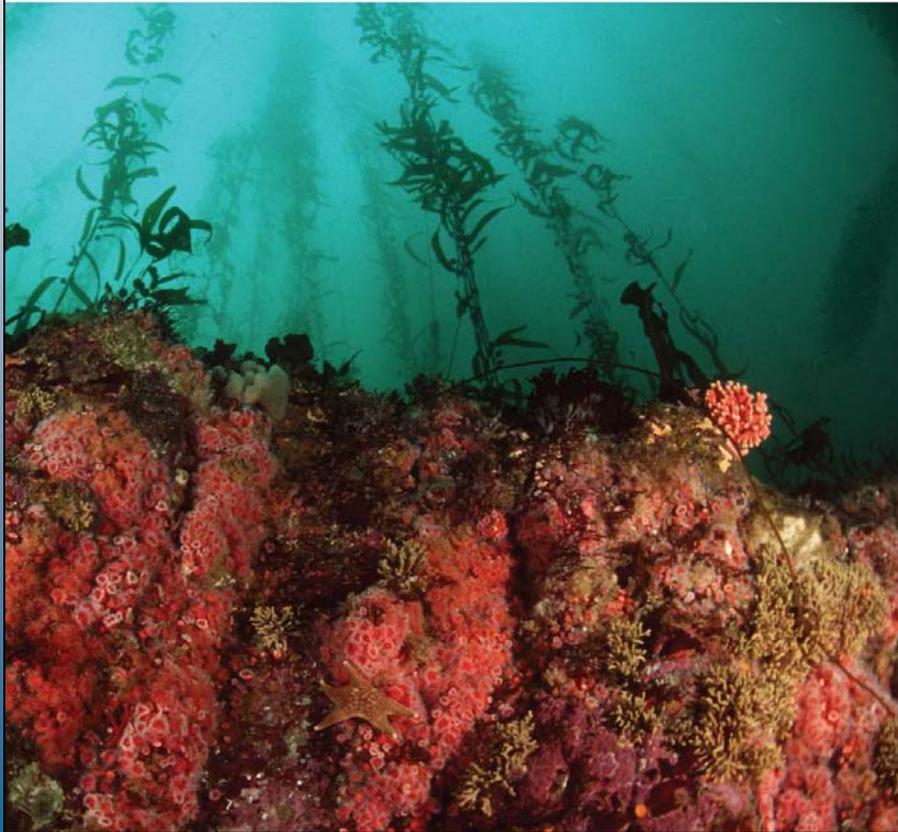
- Secretary for Resources, Chair
- Secretary for Environmental Protection
- Chair of State Lands Commission (Lt. Gov. or State Controller)
- State Senator
- State Assemblymember
- Two public appointees



California Ocean Protection Council

THE CALIFORNIA OCEAN PROTECTION COUNCIL
A Vision for Our Ocean and Coast

FIVE-YEAR STRATEGIC PLAN ■ 2006



2008 Priorities:

- ▶ Marine Life Management Act and Marine Life Protection Act
- ▶ Ecosystem Based Management
- ▶ Water quality
- ▶ Research and Monitoring
- ▶ Governance

Marine Life Protection Act of 1999

Marine Life Protection Act (MLPA)
legislation requires the Department of Fish
and Game to develop a **network of
marine protected areas** in California
waters to **protect habitats and preserve
ecosystem integrity**

<http://www.dfg.ca.gov/mrd/mlpa/>

Marine Life Management Act of 1998

The MLMA moves from managing abundance to managing scarcity

- ▶ Moves from single species management to managing fisheries as one component of a complex ecosystem
- ▶ Recognizes non-consumptive values of marine life, such as recreation, tourism, education, research

California Current Ecosystem–Based Management Initiative

- ▶ The CCEBM Initiative seeks to advance ecosystem–based management (EBM) within the US portion of the California Current Large Marine Ecosystem.
- ▶ Goal is to identify scientific components critical for EBM.
- ▶ The initiative’s tools and outcomes will establish a functional EBM approach in the California Current system.

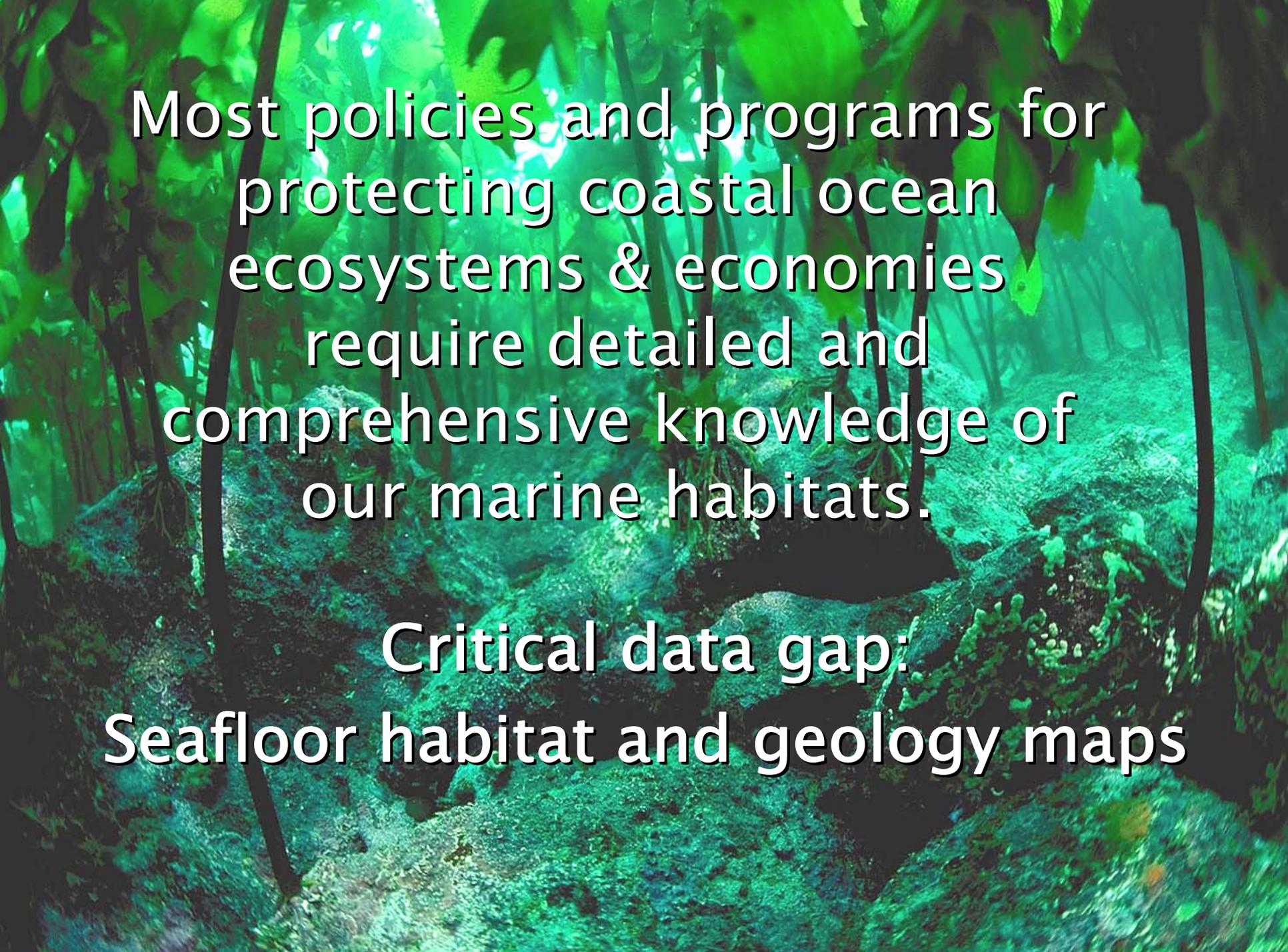
West Coast Governor's Agreement on Ocean Health (California, Oregon, Washington)

- Clean coastal waters and beaches
- **Healthy ocean and coastal habitats**
- Effective implementation of ecosystem-based management
- Reduced impacts of offshore development
- Increased ocean awareness and literacy among the region's citizens
- **Expanded ocean and coastal scientific information, research, and monitoring**
- Sustainable economic development of coastal communities

West Coast Governor's Agreement on Ocean Health (California, Oregon, Washington)

- **Priority 2:**
Goal: Identify key habitats to protect and restore along the West Coast.
- **Priority 6:**
Goal: Map the seafloor bathymetry and habitat of all state tidelands out to three miles by 2020.

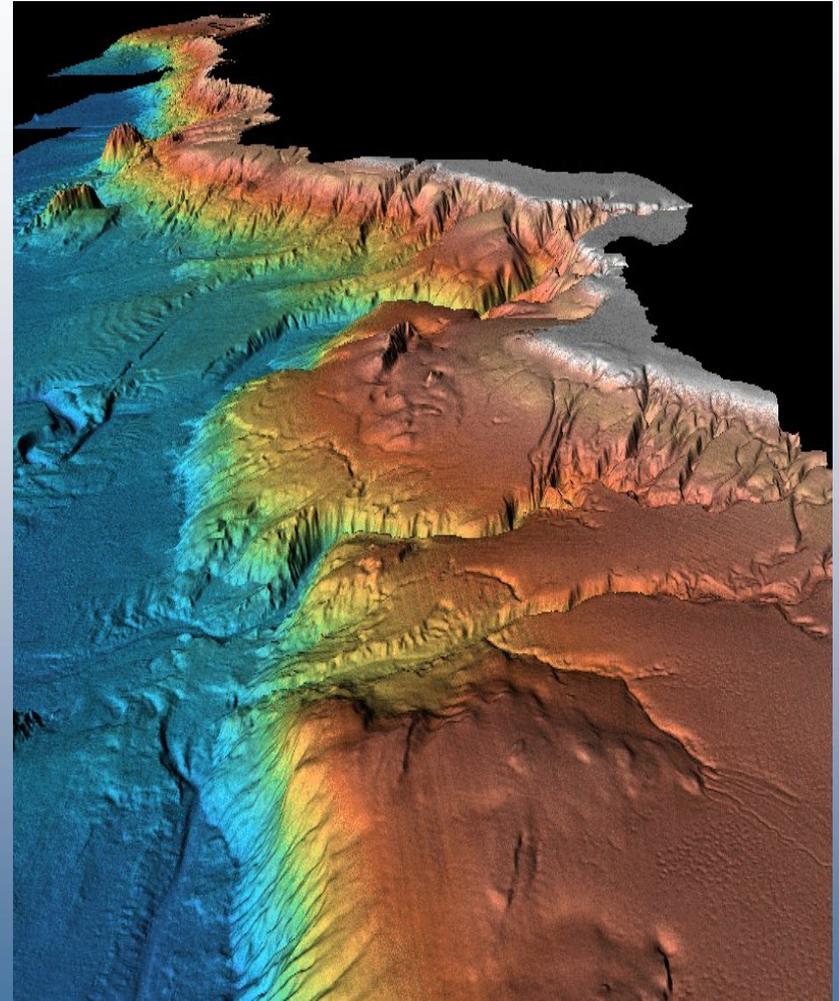
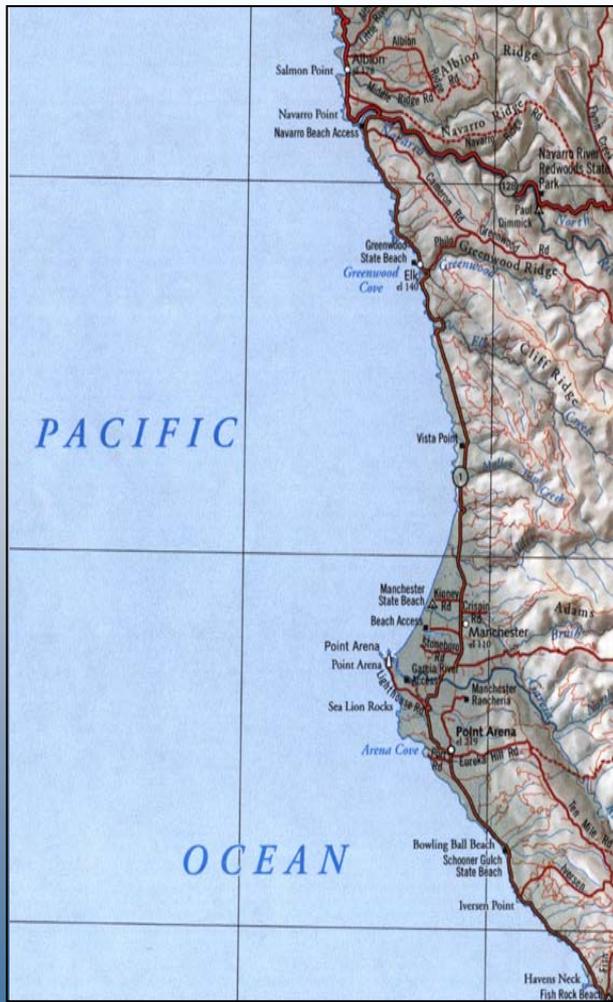
Of all these efforts, mapping seafloor bathymetry substrate, relief, geology, and benthic habitats is of paramount importance, which when completed will provide a foundation to understanding the ocean and coastal environment and resources.

An underwater photograph showing a manta ray swimming over a rocky seabed. The water is clear, and the rocks are covered in various marine life, including coral and sponges. The lighting is natural, highlighting the textures of the rocks and the graceful movement of the ray.

Most policies and programs for protecting coastal ocean ecosystems & economies require detailed and comprehensive knowledge of our marine habitats.

Critical data gap:
Seafloor habitat and geology maps

We were successful in showing:



the complexity of marine habitats

Mapping Coverage

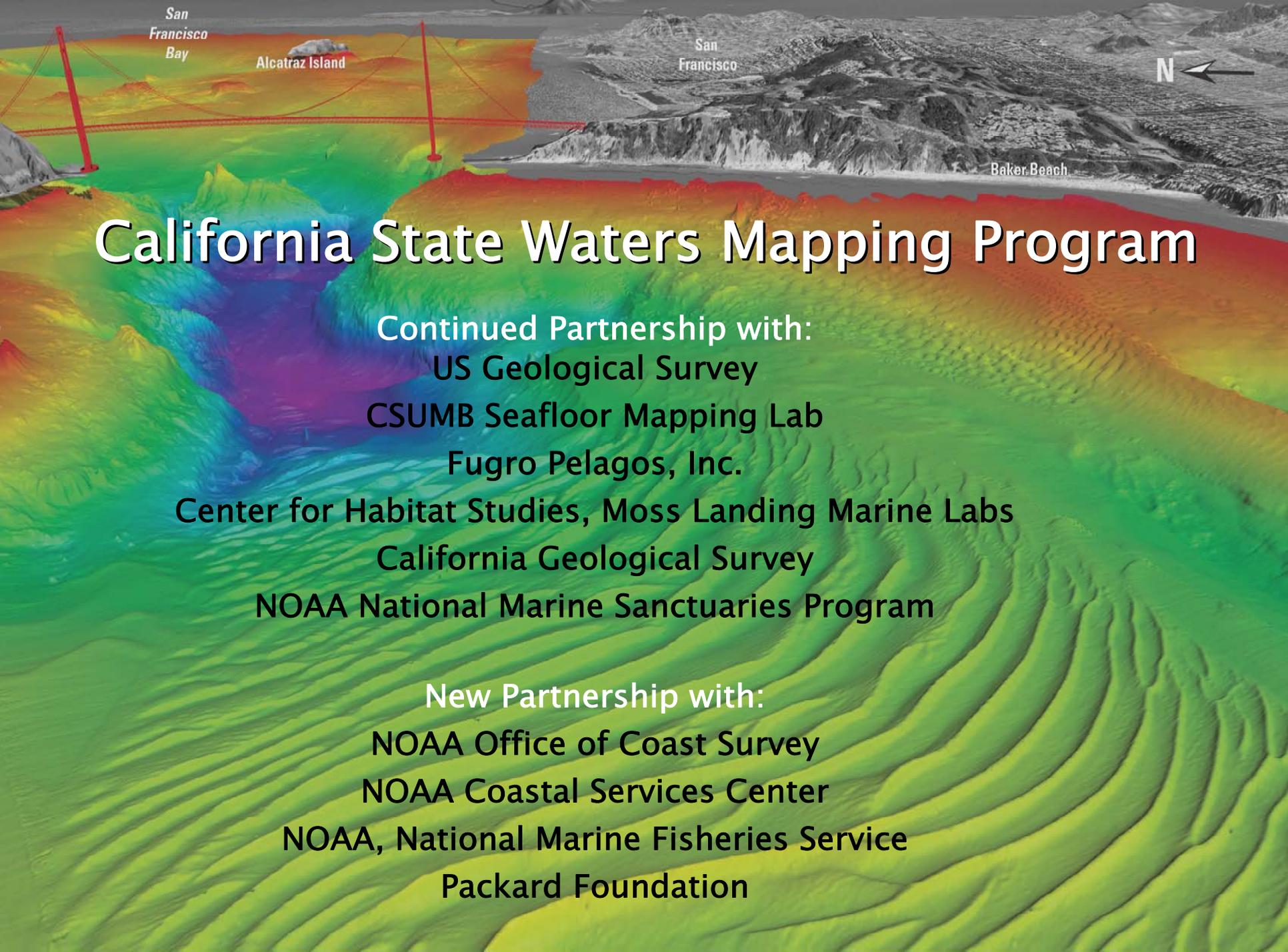


State Waters – Mapped 33%

State Waters – Not Mapped 66%

9000 km²

State Waters = 3 nm – 10m



California State Waters Mapping Program

Continued Partnership with:

US Geological Survey

CSUMB Seafloor Mapping Lab

Fugro Pelagos, Inc.

Center for Habitat Studies, Moss Landing Marine Labs

California Geological Survey

NOAA National Marine Sanctuaries Program

New Partnership with:

NOAA Office of Coast Survey

NOAA Coastal Services Center

NOAA, National Marine Fisheries Service

Packard Foundation

California Seafloor Mapping Program

Mapping of seafloor substrate, marine habitat types, and bathymetry of California's nearshore waters is important for:

- Designating and monitoring marine reserves
- Understanding sediment transport and sand delivery
- Ensuring shipping safety
- Helping to identify fault dynamics and tsunami potential
- Regulating offshore coastal development
- Illuminating the dynamics of fisheries and other marine species
- Development of an ocean circulation model

In October 2007
the Ocean Protection Council
approved \$15 million for
seafloor mapping

Other Contributions to CSMP:

- Coastal Impact Assistance Program—\$1.3m for final map production
- Packard Foundation—*amount unknown at this time*

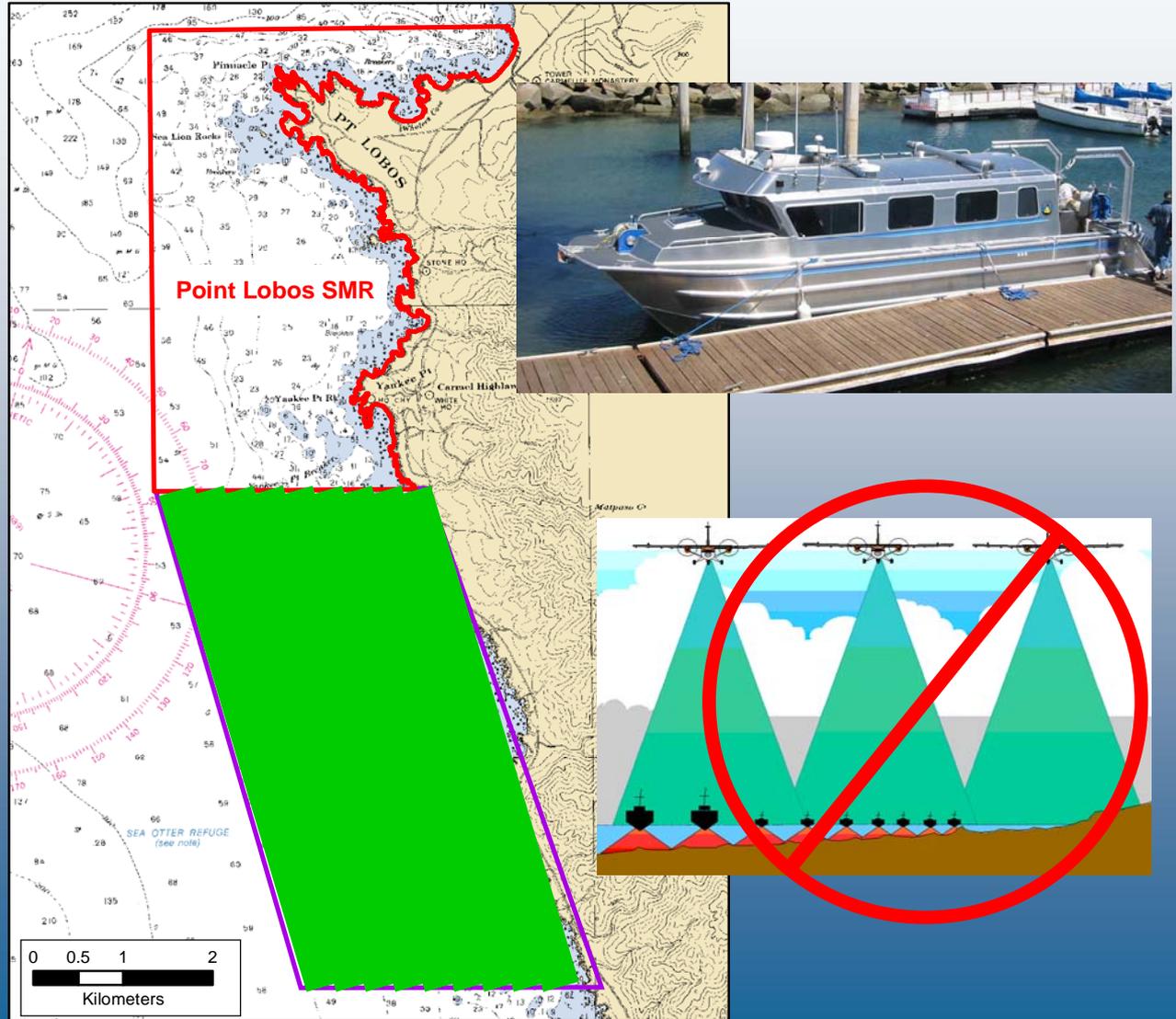
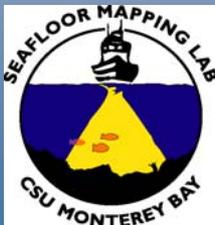
Partnership with NOAA National Ocean Service

- NOAA Coastal Services Center will manage industry contract
- NOAA National Marine Sanctuary Program will contribute vessel support
- NOAA Office of Coast Survey will:
 - provide technical support for industry contract
 - map portions of SF and Humboldt Bays
 - share mob–demob cost with CSMP

Data Acquisition

(Multibeam and Side Scan Sonar; 3 miles to 10m)

- Industry
- CSU Monterey Bay
- USGS



CSC Contract with Industry

- \$11.5 million; no overhead
- Will collect survey data in one stretch, beginning in spring 2008
- State-federal technical review team

CSU Monterey Bay: \$2.5million



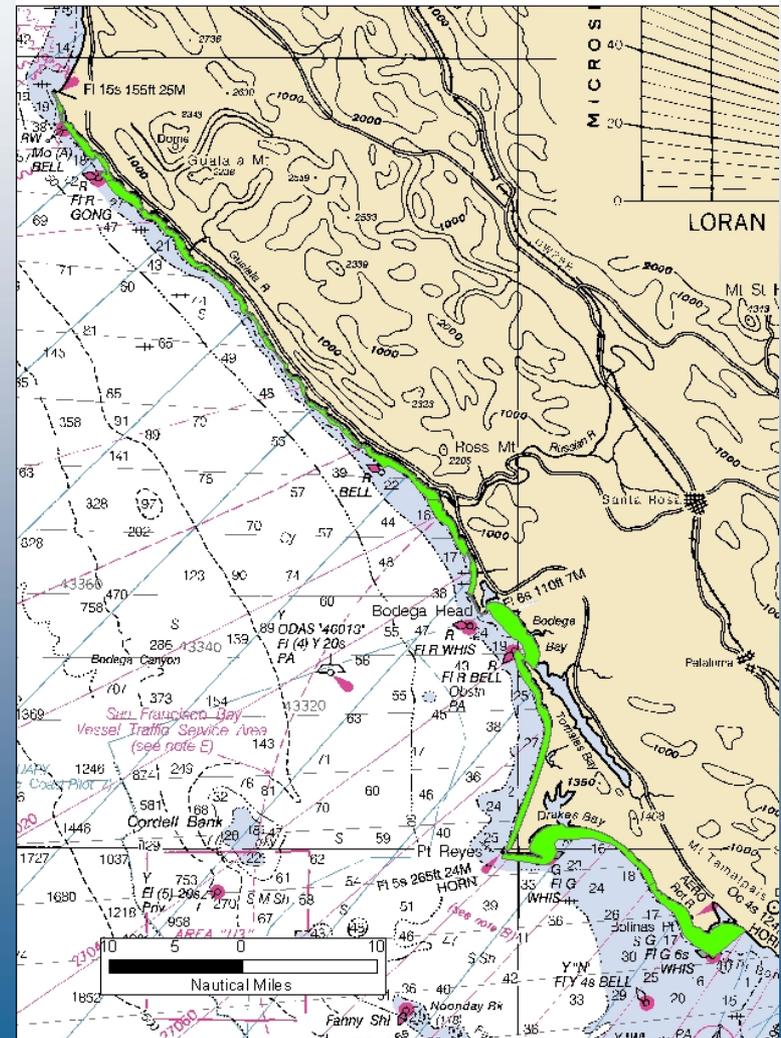
1. Data Collection

Unmapped MPAs in Central CA



SMCA = state marine conservation area SMP = state marine park
SMR = state marine reserve SMRMA = state marine recreational management area

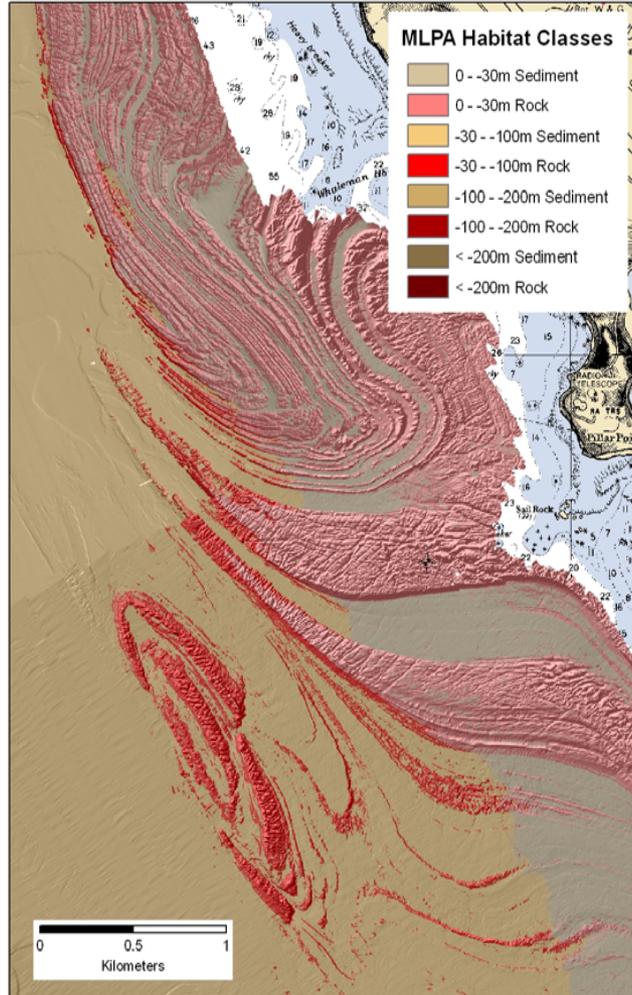
NCCMP Phase II Inshore (< 20m isobath)



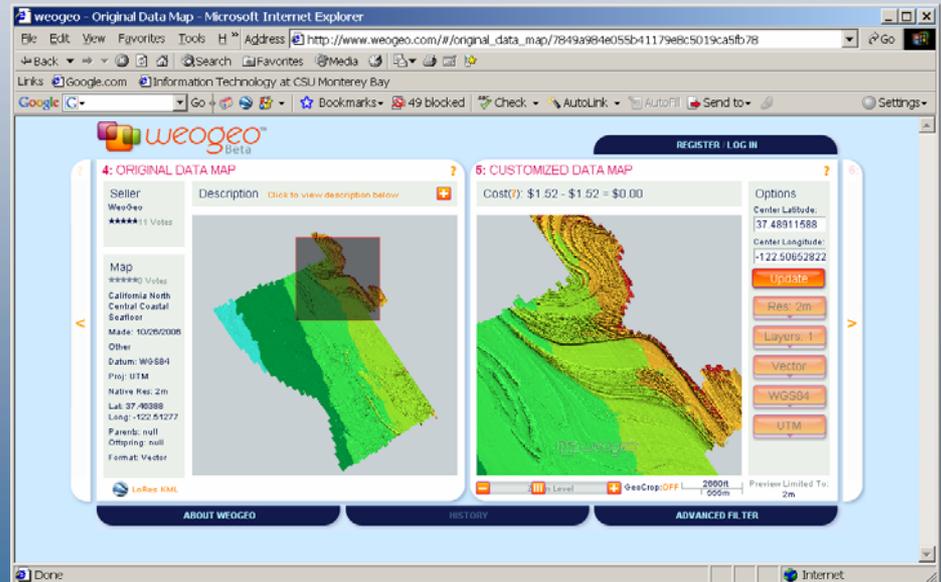
CSU Monterey Bay: \$2.5million

2. Up to tier 2 map production for all survey data

NCCMP Phase 1 - Offshore (3nm - 15m)
Supervised Auto-Classification

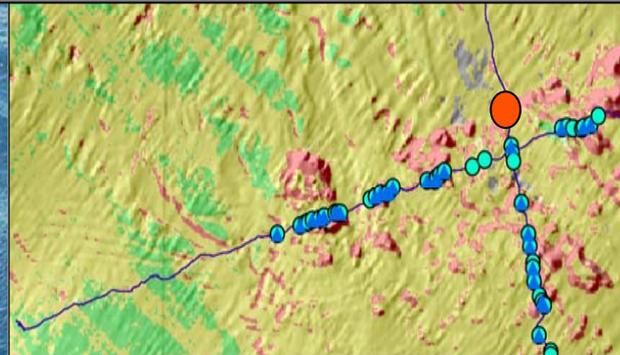
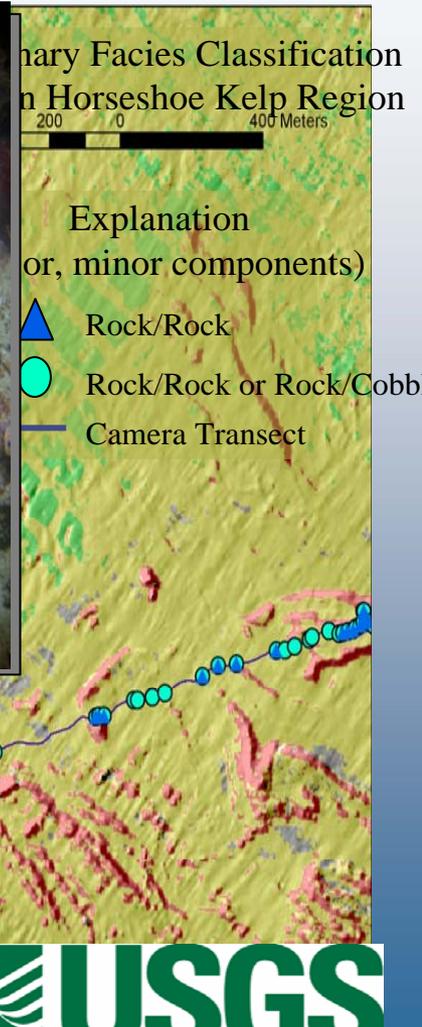
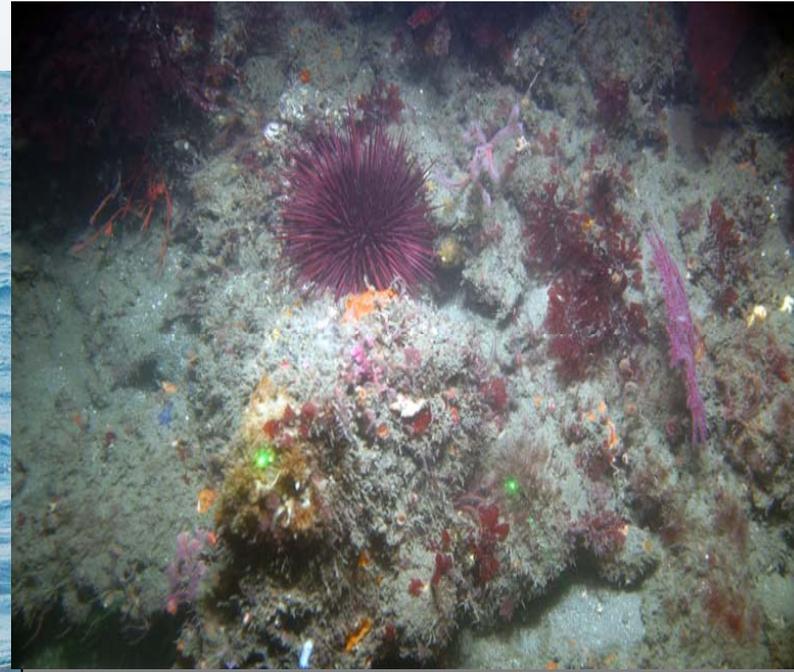
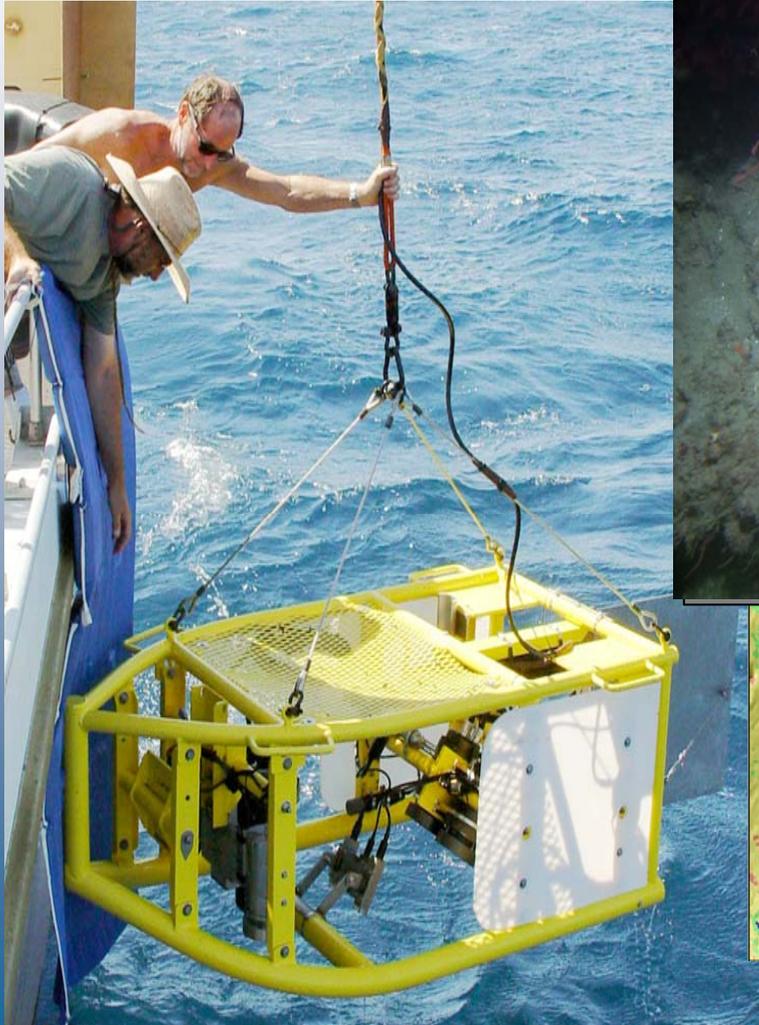


3. Data Storage and Management



US Geological Survey: \$1 million

Video Groundtruthing (limited & strategic)



Sub-bottom Profiling: USGS

(limited & strategic)

View looking north towards Pillar Point Harbor
Multibeam bathymetry collected by CSUMB and Fugro
Seismic profile from USGS
2x V.E.

Pillar Point Harbor



So how much is funded now?

- Hydrographic survey: will complete 10m–3nm; not nearshore strip or estuaries
- Groundtruthing: 20% funded (NMSP vessel support will effect this number greatly)
- Subbottom profiling: not funded (with the exception of USGS work on another project)
- Final map production: 40% funded
- Data management and information dissemination: 10% funded

California Ocean Observing Program

Ocean Science Applications

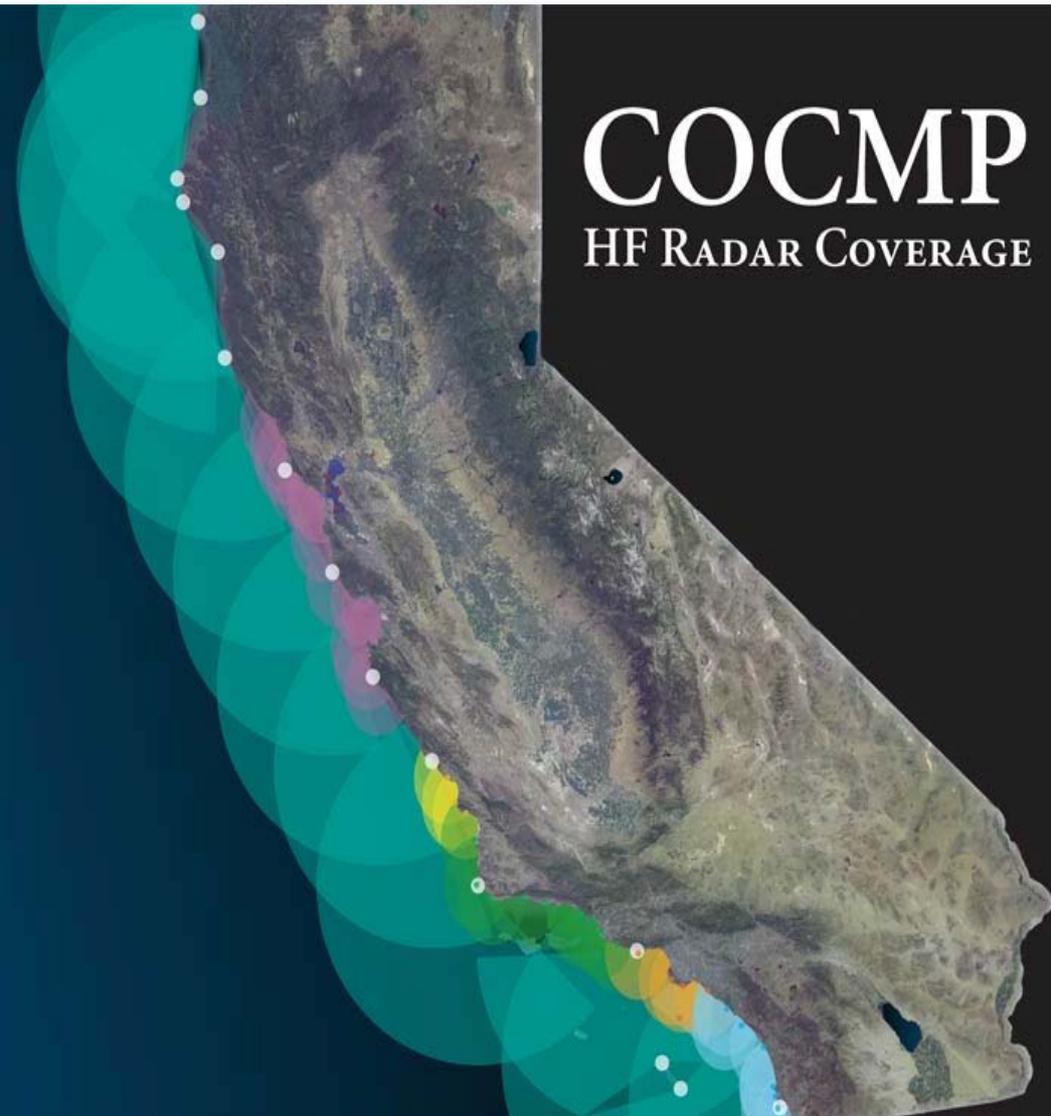
Linking those who benefit from information collected by observing systems to those who run the systems.

The main goals are to ensure that existing and new observing systems:

- ▶ Address the State's management priorities
- ▶ Are sustained over time
- ▶ Meet the needs of a broad suite of users



California's Ocean Observing System

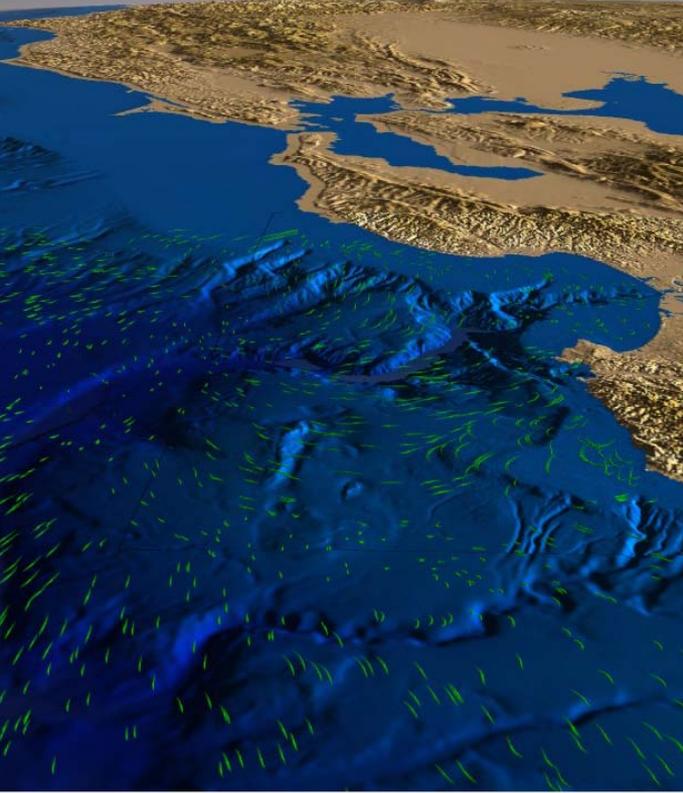


CA Ocean Currents Monitoring Program

- Integrated monitoring of currents in the coastal ocean
- Covers the all 1100 miles of CA's coast
- Measures and maps surface currents, in real time, out to 180 km
- Includes an ocean circulation model to improve forecast and predictions

MPA Monitoring

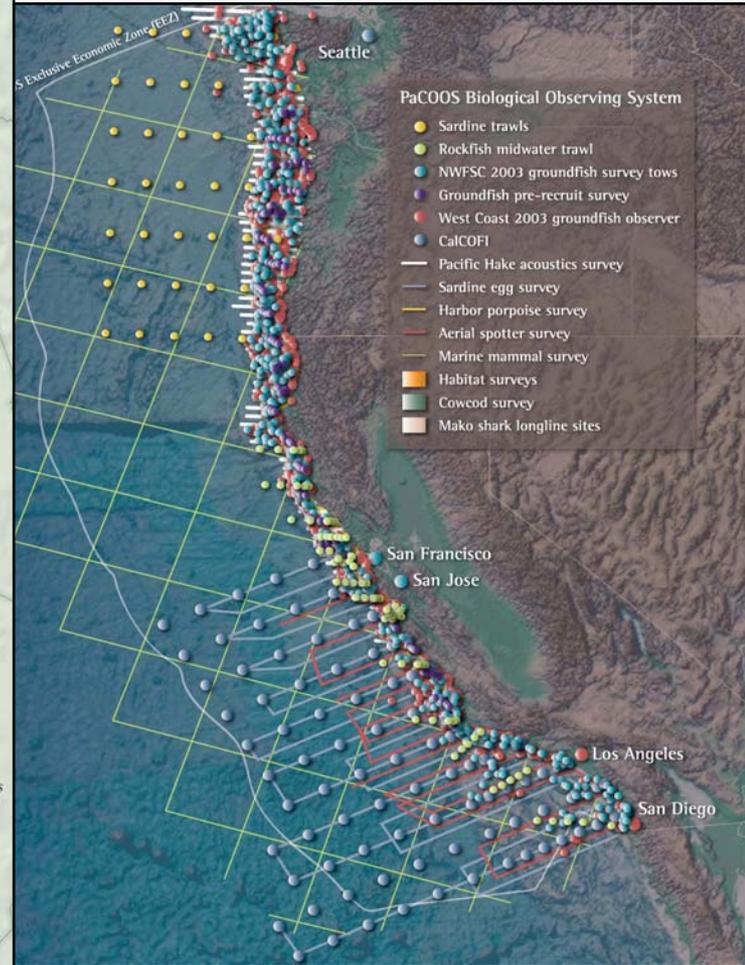
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Physical oceanographic monitoring



MPAs

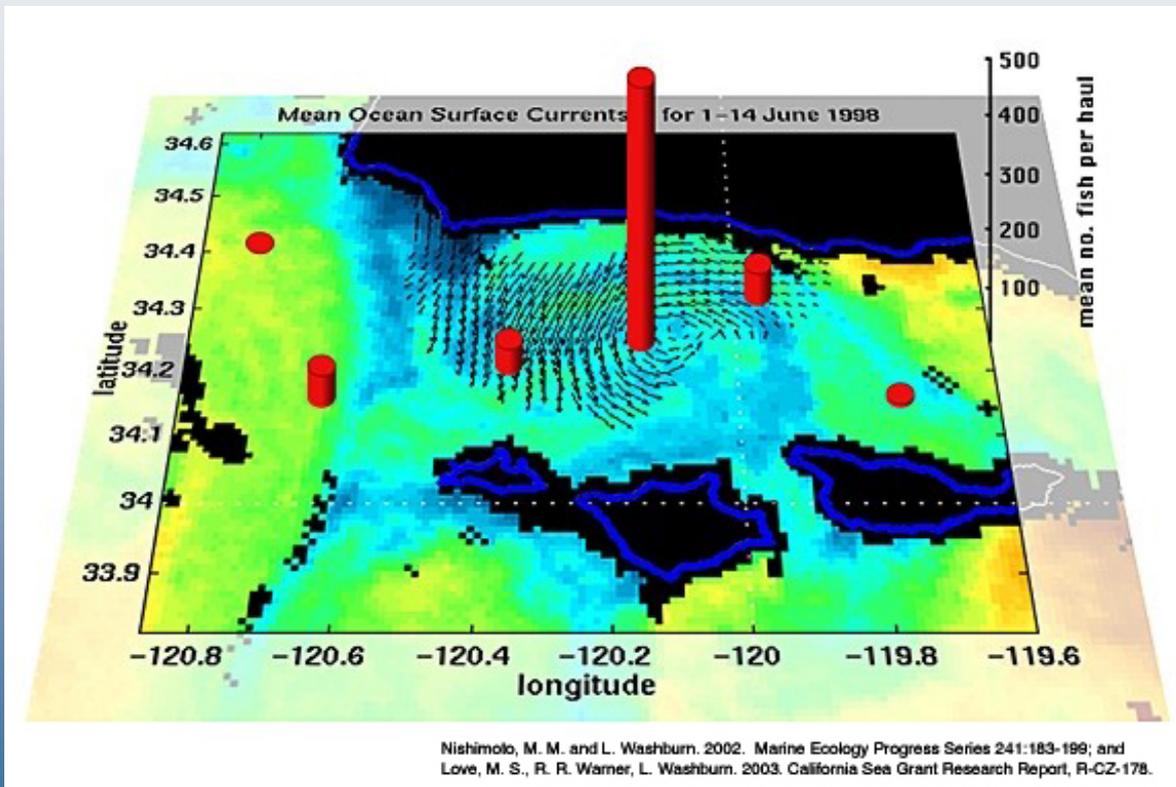


Biological monitoring



Design of Marine Protected Areas

Surface currents, satellite data and seafloor maps can help design and monitor MPAs more effectively by:



- Identifying optimal habitats
- Illustrating the source and distribution of larvae
- Indicating potential pollutant pathways from rivers and outfalls
- Improving our understanding of variation, both natural and human-induced



Coastal Conservancy
www.scc.ca.gov
Ocean Protection Council
<http://resources.ca.gov/copc/>



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