NATIONAL MARINE PROTECTED AREAS CENTER

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Science and Analysis at NOAA's National MPA Center

Update for MPAFAC
Charleston, SC
April 20, 2010

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National Ocean Service
Office of Ocean and Coastal Resource Management

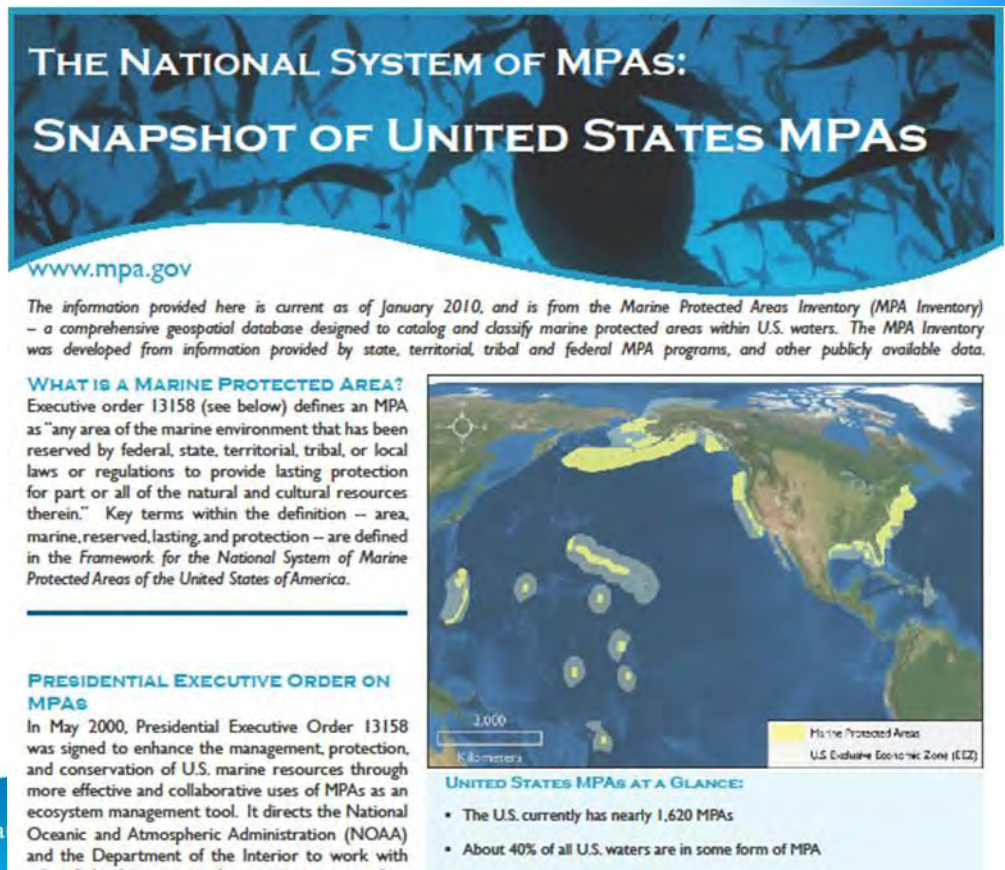
Overview

1. MPA Inventories
2. Ocean Uses Atlas
3. Gap Analysis
4. Coastal and Marine Spatial Planning

1. MPA Inventory

The Marine Protected Areas Inventory (MPA Inventory) is a comprehensive geospatial database designed to catalog and classify marine protected areas within US waters. The MPA Inventory was developed with extensive input from state and federal MPA programs, and drawn from other publically available data.

- Spatial Catalog of < 1,600 Sites
- GIS Boundaries from Authoritative Sources
- Classification Attributes
  - Conservation Focus
  - Level of Protection
  - Fishing Restrictions
  - Management
  - Legal Authority
  - Etc.
- Metadata



THE NATIONAL SYSTEM OF MPAS:

SNAPSHOT OF UNITED STATES MPAS

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The information provided here is current as of January 2010, and is from the Marine Protected Areas Inventory (MPA Inventory) – a comprehensive geospatial database designed to catalog and classify marine protected areas within U.S. waters. The MPA Inventory was developed from information provided by state, territorial, tribal and federal MPA programs, and other publicly available data.

WHAT IS A MARINE PROTECTED AREA?

Executive order 13158 (see below) defines an MPA as "any area of the marine environment that has been reserved by federal, state, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural and cultural resources therein." Key terms within the definition -- area, marine, reserved, lasting, and protection -- are defined in the *Framework for the National System of Marine Protected Areas of the United States of America.*

PRESIDENTIAL EXECUTIVE ORDER ON MPAS

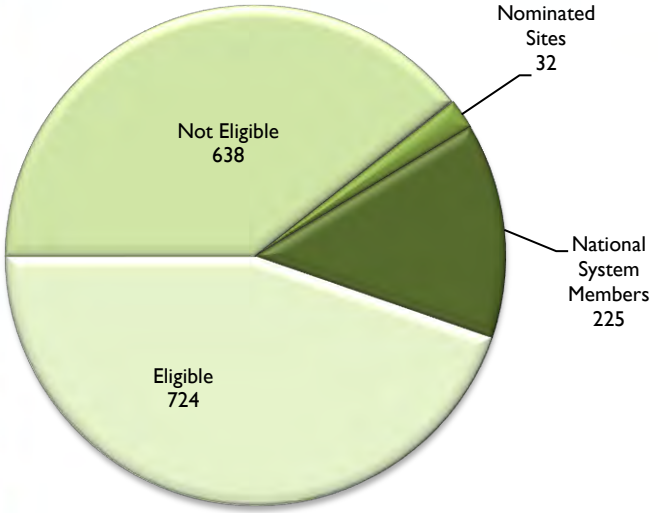
In May 2000, Presidential Executive Order 13158 was signed to enhance the management, protection, and conservation of U.S. marine resources through more effective and collaborative uses of MPAs as an ecosystem management tool. It directs the National Oceanic and Atmospheric Administration (NOAA) and the Department of the Interior to work with

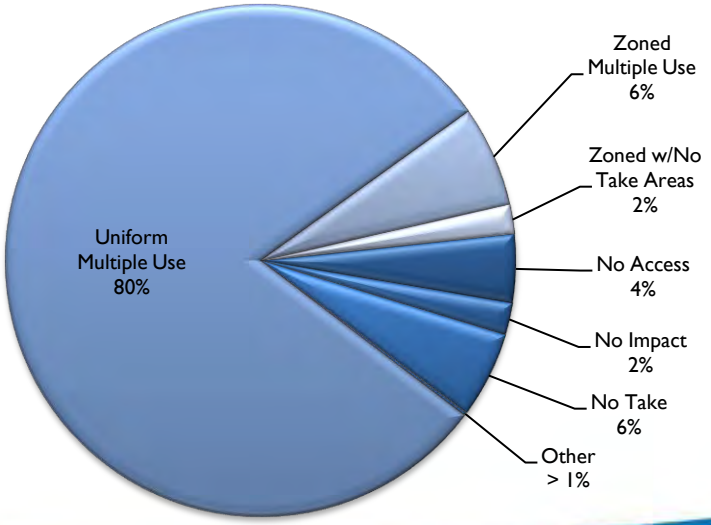
UNITED STATES MPAS AT A GLANCE:

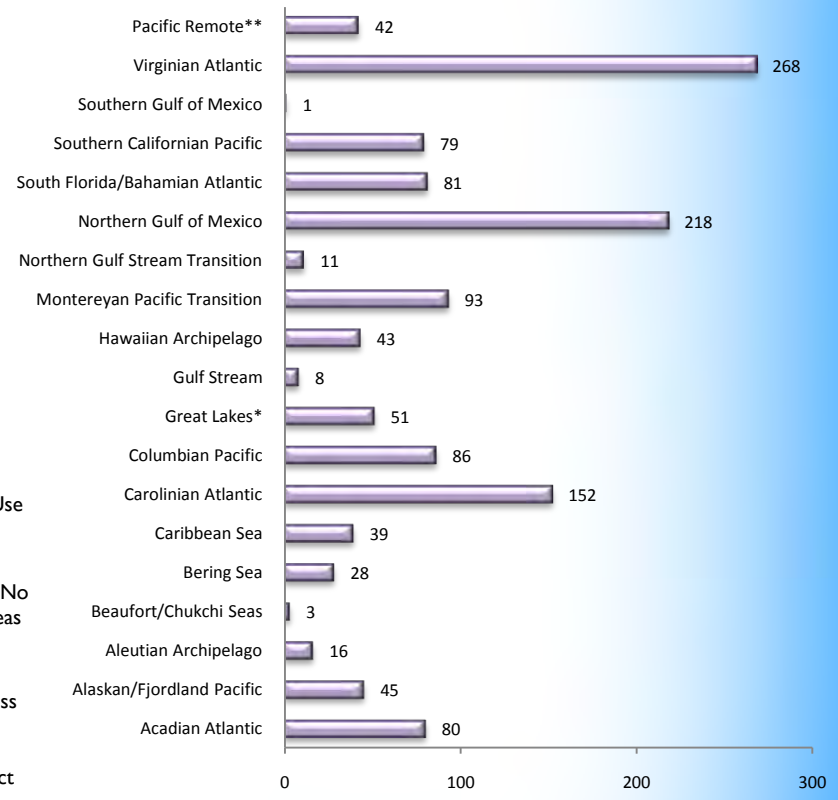
- The U.S. currently has nearly 1,620 MPAs
- About 40% of all U.S. waters are in some form of MPA

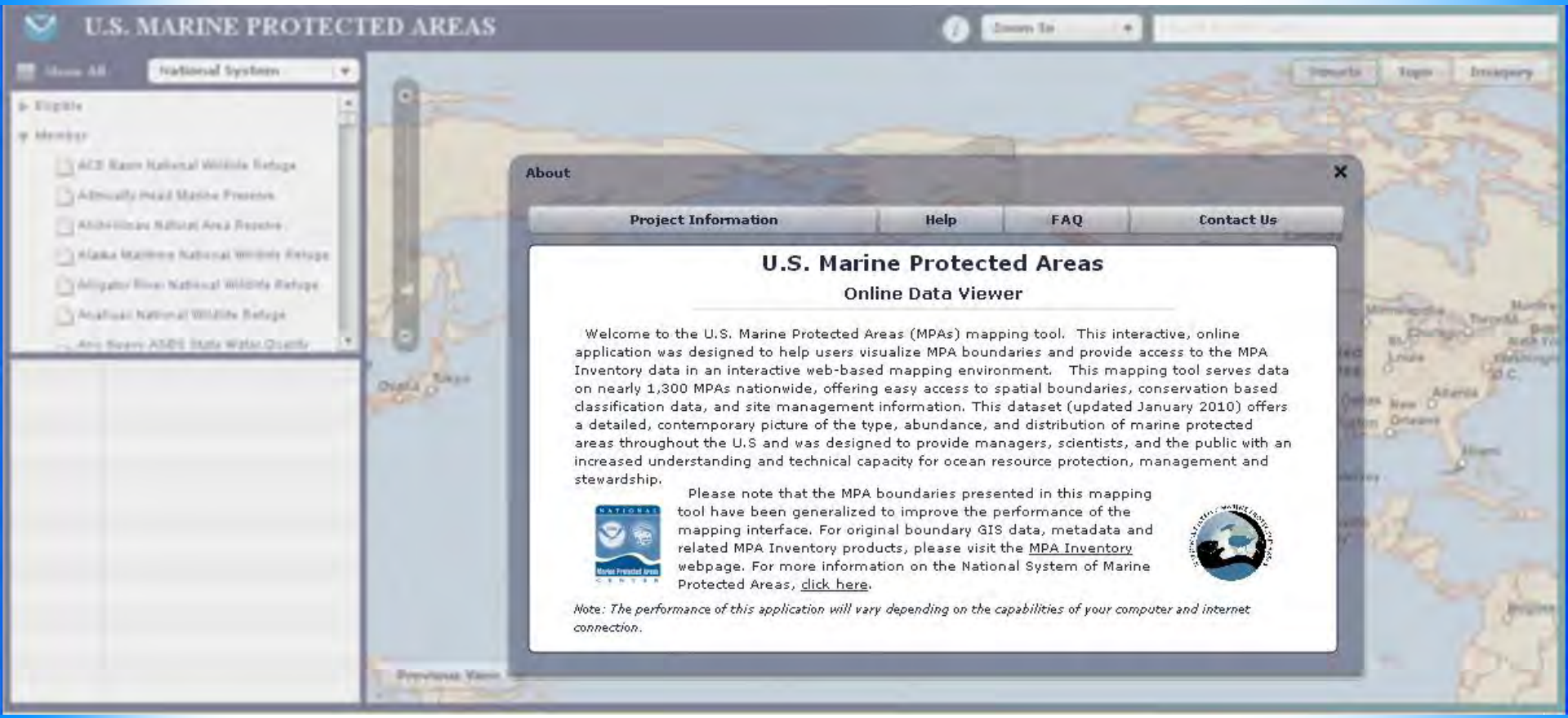
U.S. Department of Commerce, National Oceanic and Atmospheric Administra

How We Use It


Nominated Sites 32
Not Eligible 638
National System Members 225
Eligible 724


Zoned Multiple Use 6%
Zoned w/No Take Areas 2%
No Access 4%
No Impact 2%
No Take 6%
Other > 1%
Uniform Multiple Use 80%


Pacific Remote** 42
Virginian Atlantic 268
Southern Gulf of Mexico 1
Southern Californian Pacific 79
South Florida/Bahamian Atlantic 81
Northern Gulf of Mexico 218
Northern Gulf Stream Transition 11
Montereyan Pacific Transition 93
Hawaiian Archipelago 43
Gulf Stream 8
Great Lakes* 51
Columbian Pacific 86
Carolinian Atlantic 152
Caribbean Sea 39
Bering Sea 28
Beaufort/Chukchi Seas 3
Aleutian Archipelago 16
Alaskan/Fjordland Pacific 45
Acadian Atlantic 80
0
100
200
300



http://mpa.gov/helpful_resources/inventory.html

View all sites in the Inventory

Search by region

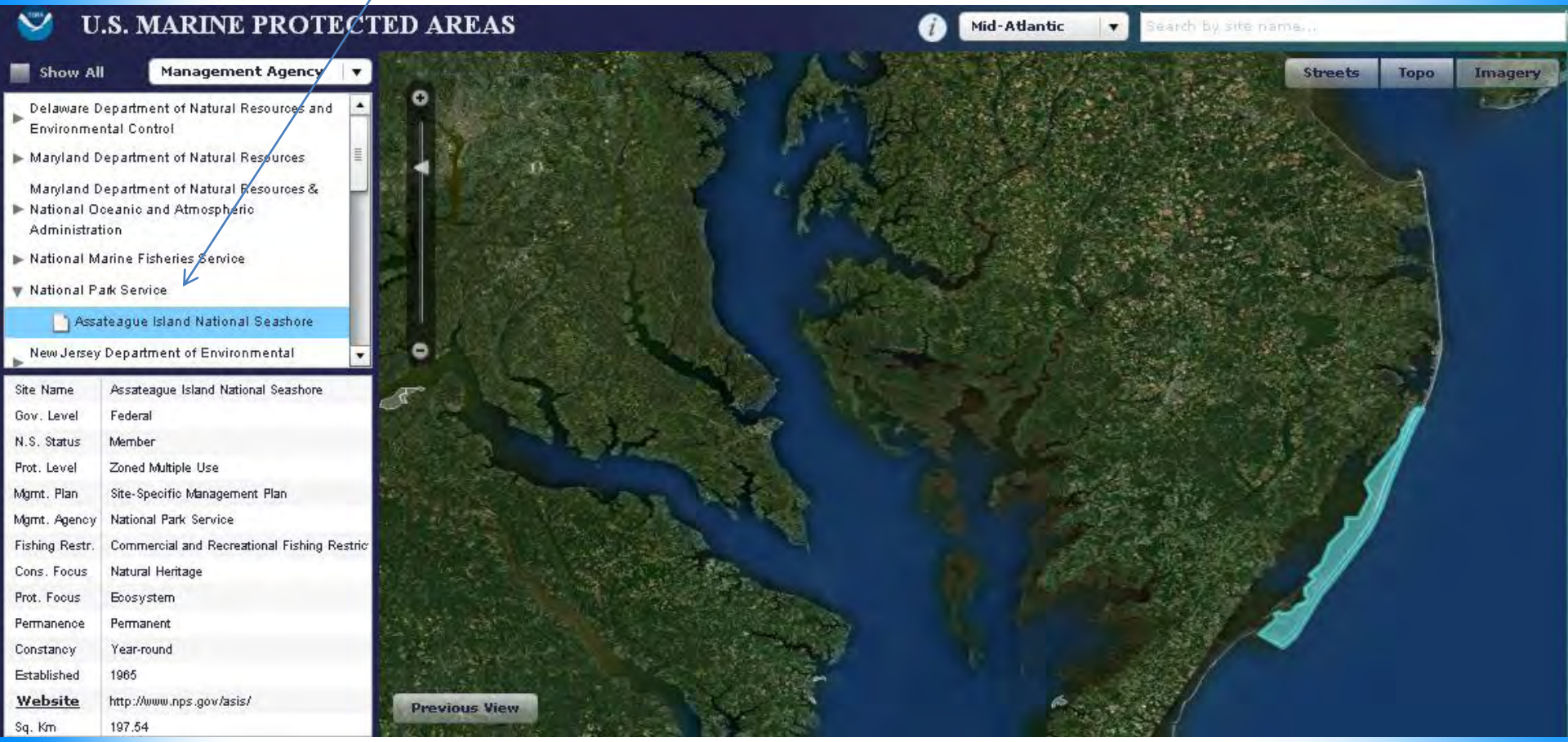
Boundaries include marine and terrestrial area

Search by site name

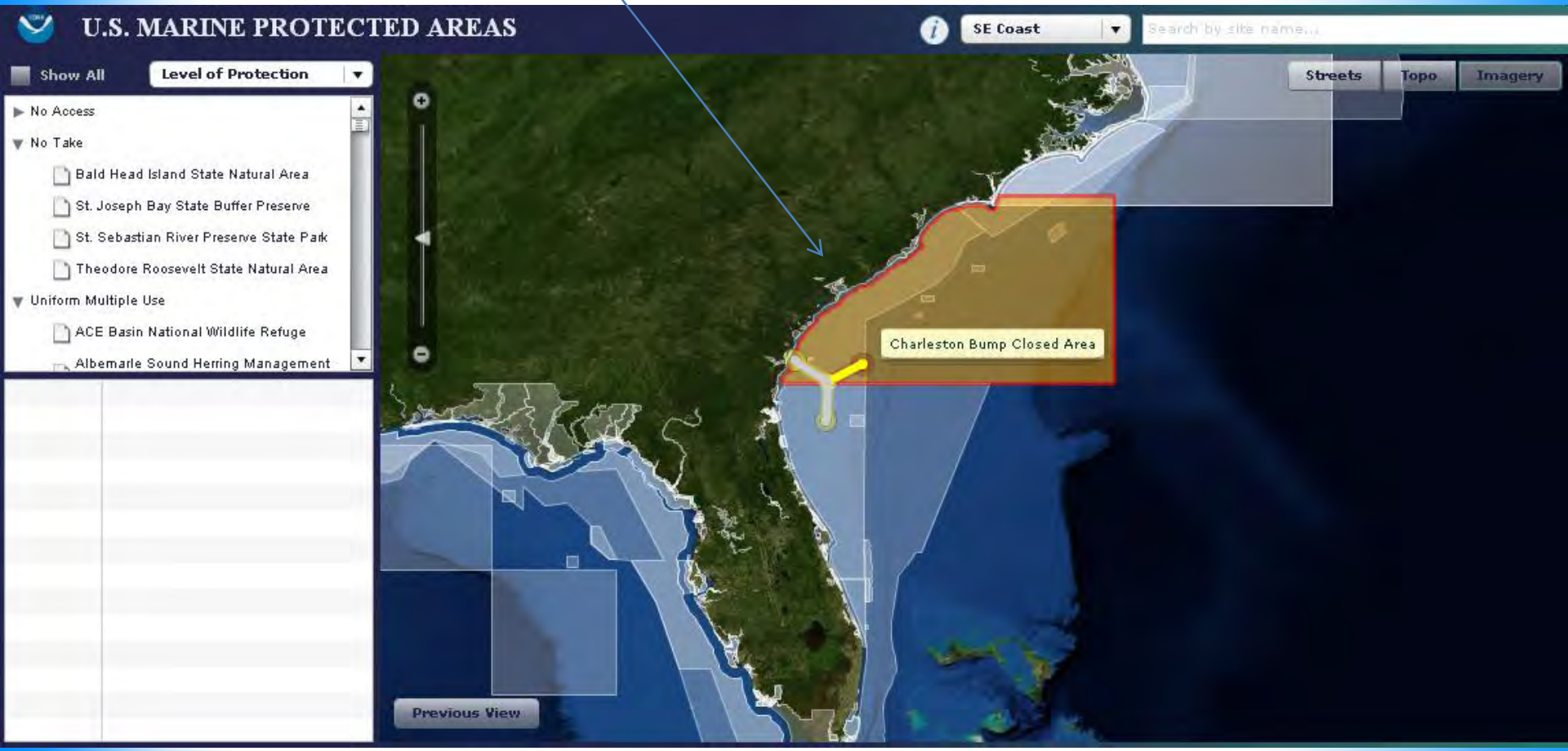
Select from satellite, topographic map and street map base layers

Select from various classification filters

View only certain sites (e.g. NPS sites)

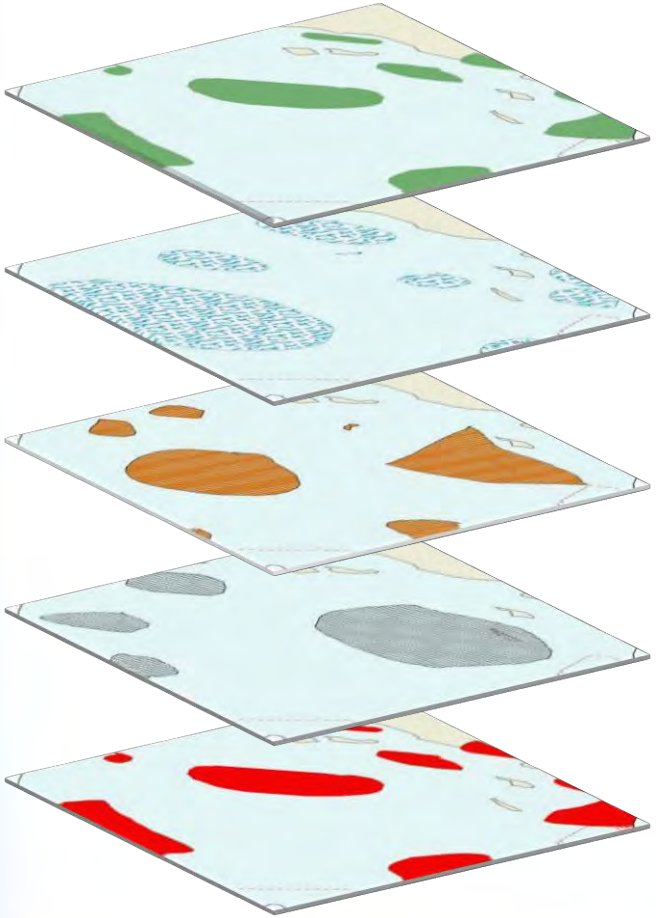


Explore overlapping sites



2. Ocean Uses Atlas - The Missing Puzzle Piece:

Comprehensive, Continuous, and Consistent Spatial Data on Current and Planned Ocean Uses



Aquaculture

Alternative Energy

Fishing Uses

Non-Consumptive Uses

Shipping

Filling the Knowledge Gap: The California Ocean Uses Atlas Project

- **Purpose** - to enhance California's ocean management by filling key data gap on the full range of human uses

- **Approach** – participatory GIS mapping of 30 ocean uses in 3 sectors by regional ocean experts

- **Partners –**
  - NOAA Marine Protected Areas Center
  - Marine Conservation Biology Institute
  - *Gordon and Betty Moore Foundation*
  - *Resources Legacy Fund Foundation*

- **Status –** All regions mapped; data being packaged for distribution

- **Timeline** – Jan 2008 – Nov 2009

Human Uses of California's Ocean: Non-Consumptive Sector

-Beach Use
-Motorized boating
-Paddling
-Sailing
-SCUBA/Snorkeling
-Surface water sports
-Swimming
-Tidepooling
-Wildlife viewing at sea







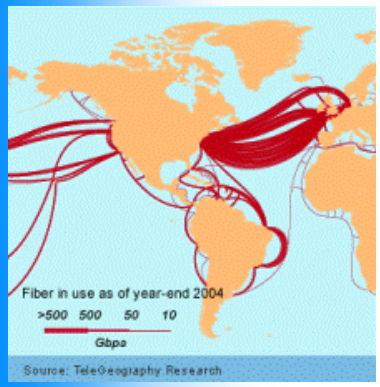


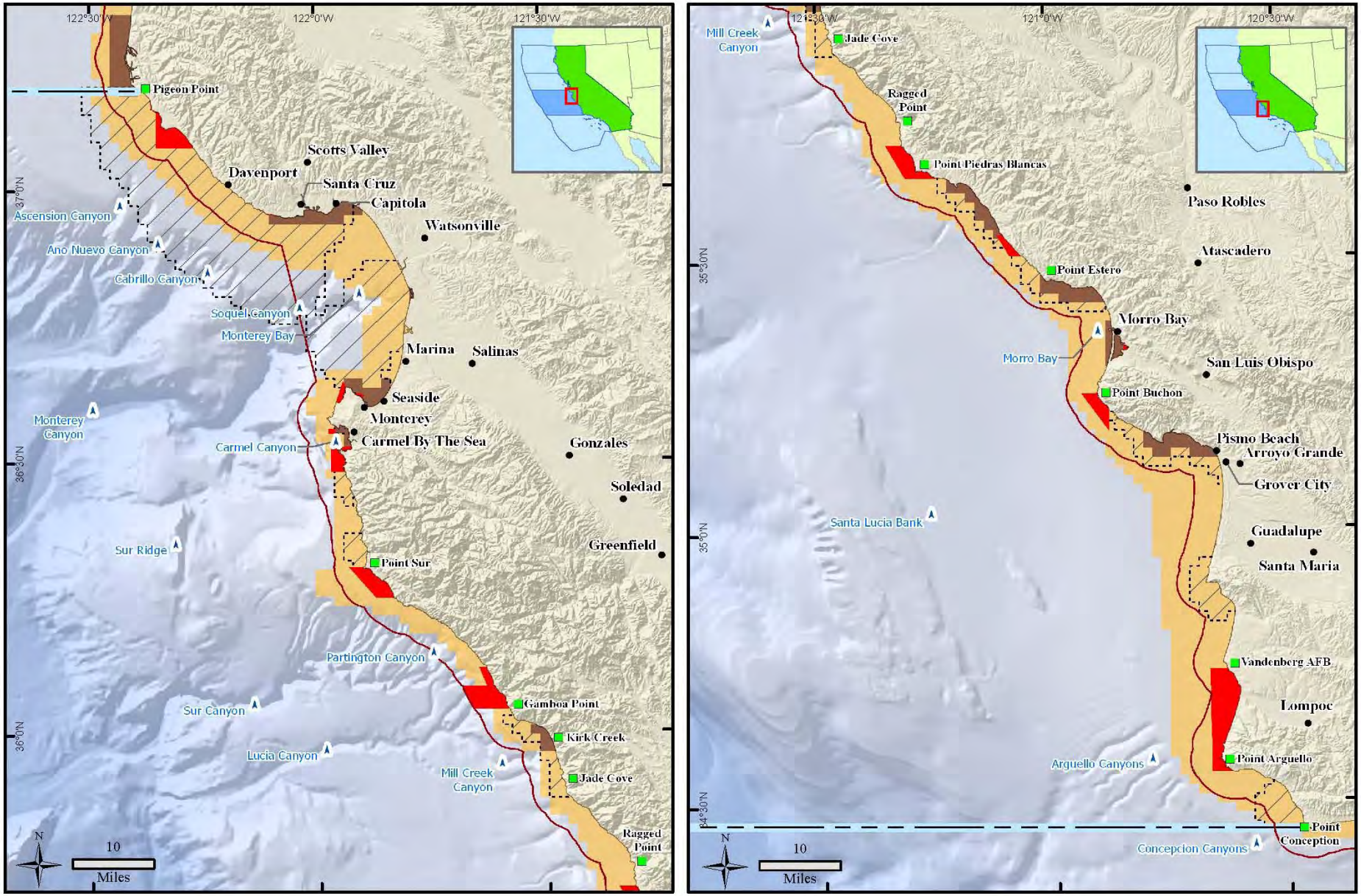
Human Uses of California's Ocean: Fishing Sector

- -Commercial dive fishing
- -Commercial fishing with benthic fixed gear
- -Commercial fishing with benthic mobile gear
- -Commercial kelp and algae harvest
- -Commercial pelagic fishing
- -Hunting for marine animals other than fish or invertebrates
- -Kayak fishing
- -Recreational and commercial fishing from shore
- -Recreational dive fishing
- -Recreational fishing from boats
- -Shore-based recreational harvest

Human Uses of California's Ocean: Industrial and Military Sector

-Aquaculture
-Cruise ships
-Military operations
-Mining and mineral extraction
-Offshore alternative energy
-Offshore oil and gas
-Shipping
-Underwater cables

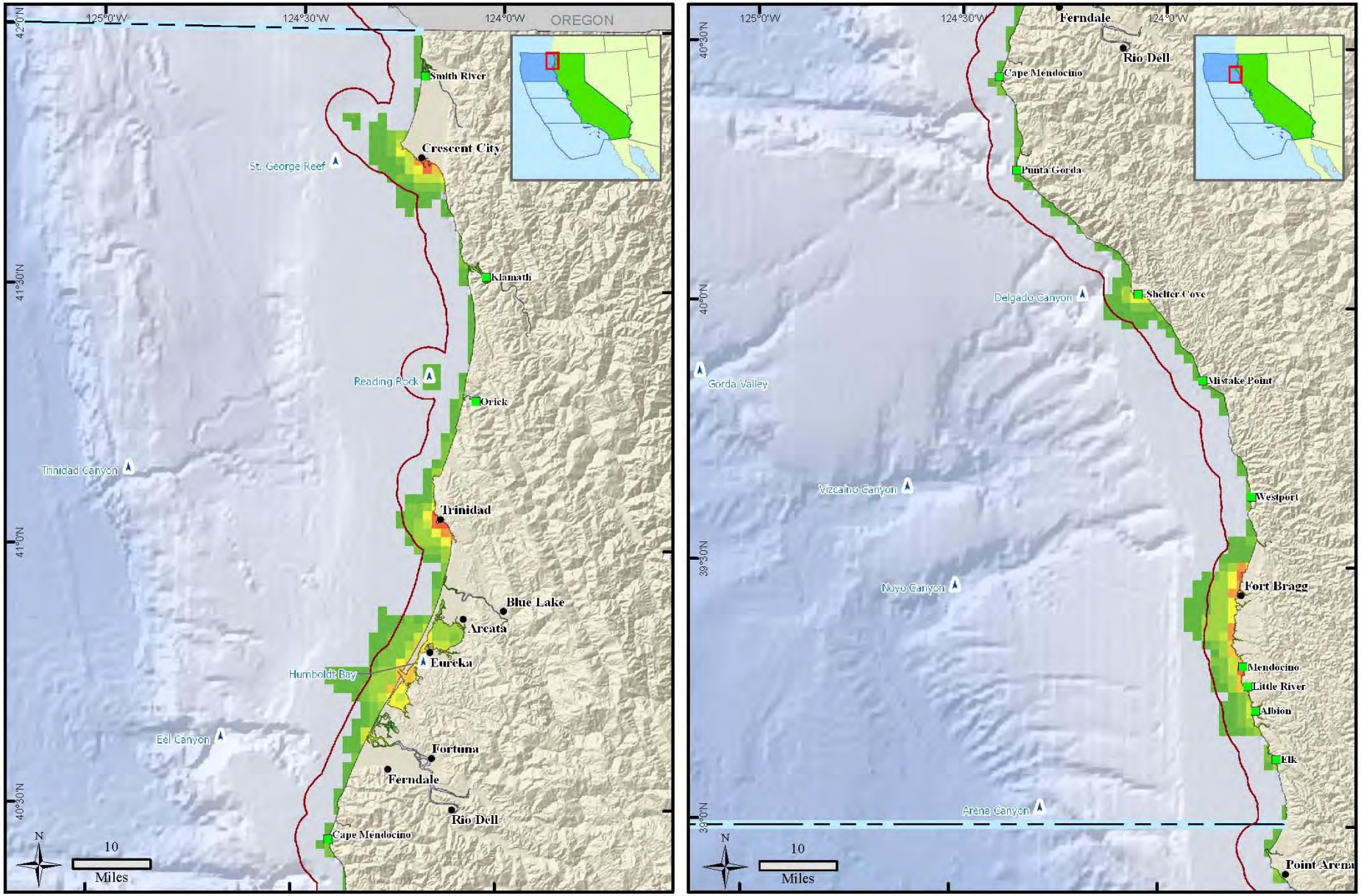




California Ocean Uses Atlas: Central California Region

Kayak fishing

December 2009



Other Landmark
City
Submerged Feature
State Waters
Atlas Northern California Region
Overlapping Dominant Uses
1 2 3 4 5 6 7 8 9

California Ocean Uses Atlas: Northern California Region

Non-Consumptive Sector

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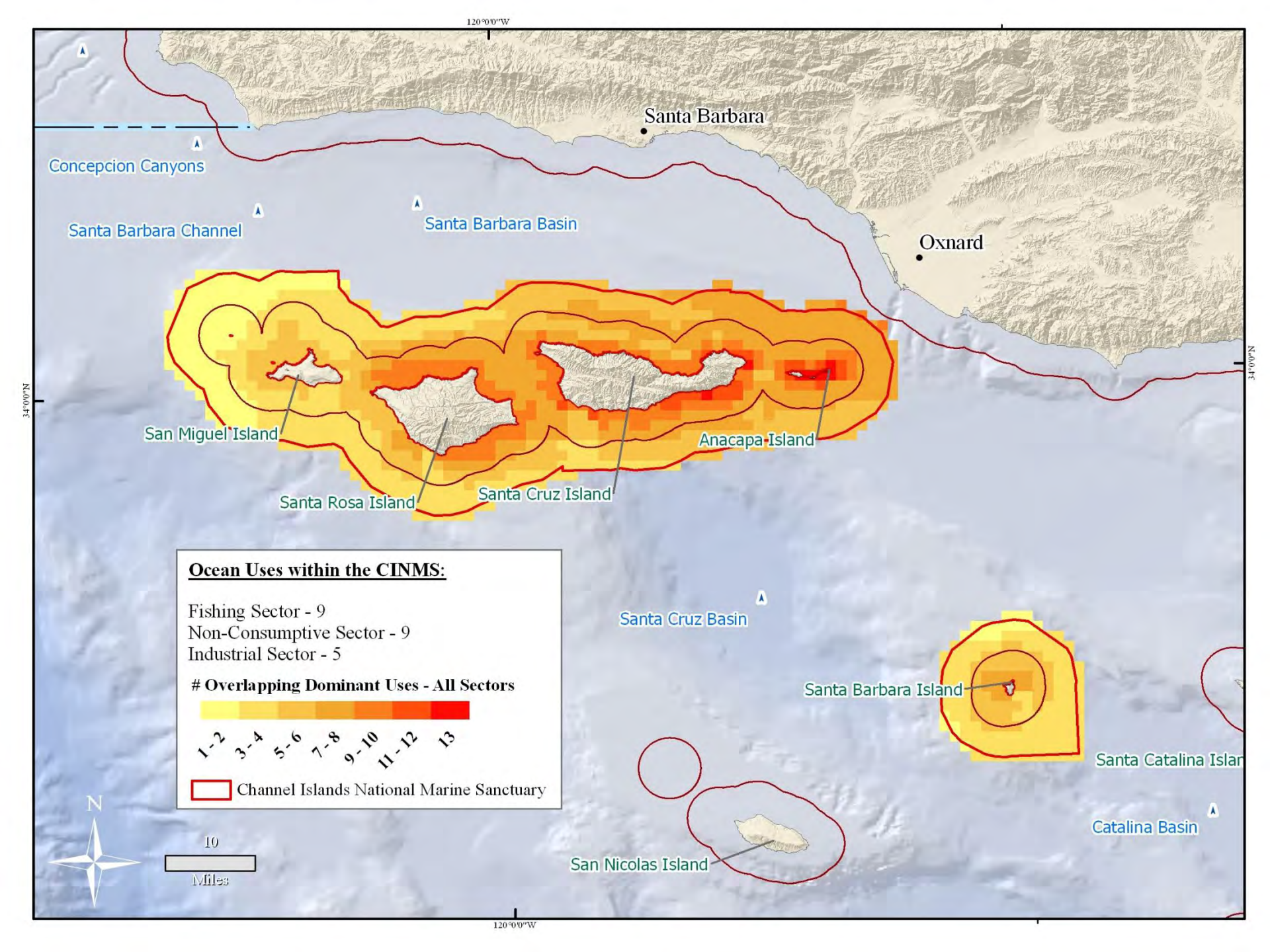
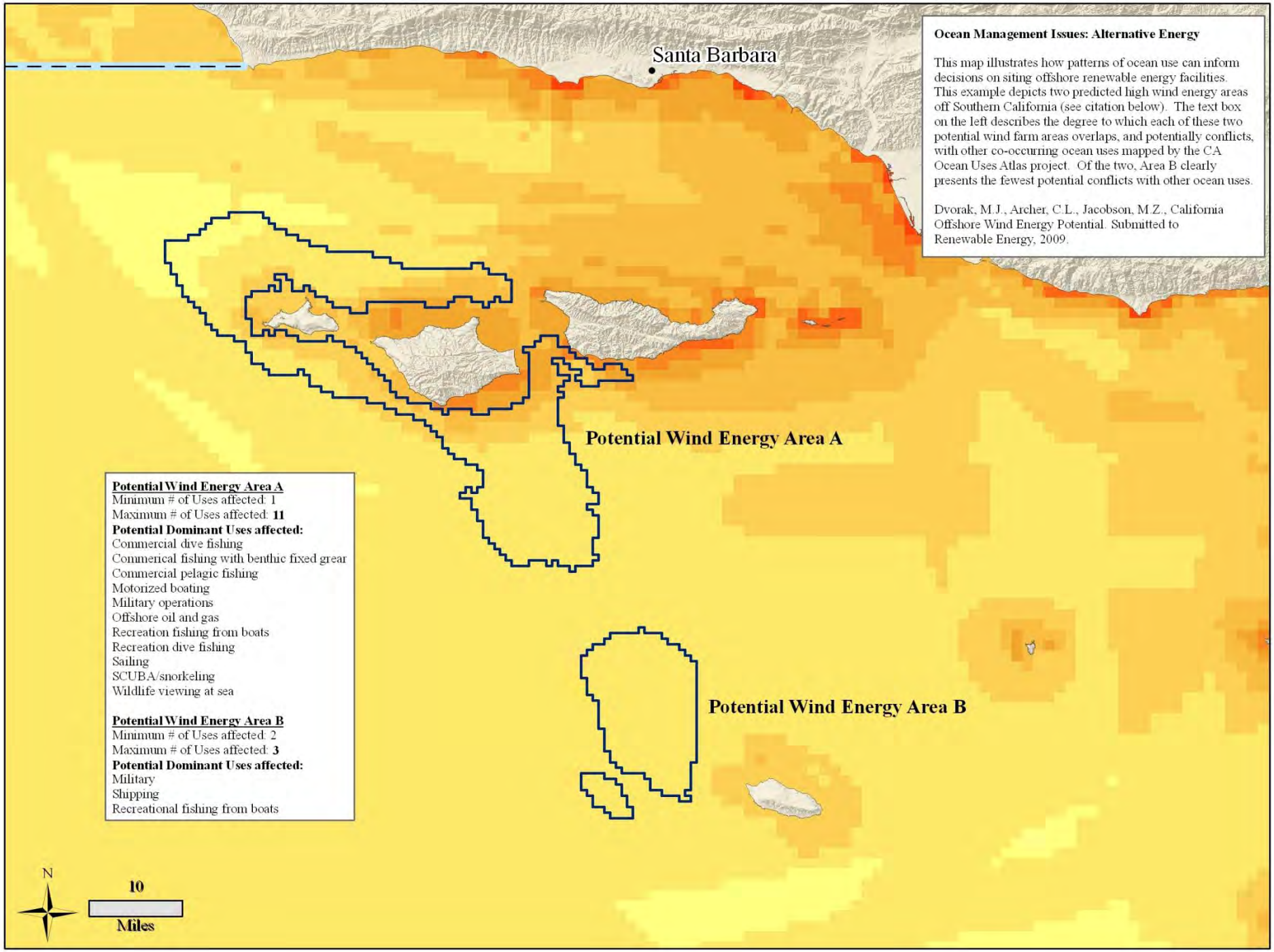
MCBI MARINE CONSERVATION BIOLOGY INSTITUTE

December 2009


120°0'0"W
34°0'0"N
Santa Barbara
Concepcion Canyons
Santa Barbara Channel
Santa Barbara Basin
Oxnard
San Miguel Island
Santa Rosa Island
Santa Cruz Island
Anacapa Island
Ocean Uses within the CINMS:
Fishing Sector - 9
Non-Consumptive Sector - 9
Industrial Sector - 5
Overlapping Dominant Uses - All Sectors
1 - 2
3 - 4
5 - 6
7 - 8
9 - 10
11 - 12
13
Channel Islands National Marine Sanctuary
Santa Cruz Basin
Santa Barbara Island
Santa Catalina Islar
Catalina Basin
San Nicolas Island
N
10
Miles


Santa Barbara
Ocean Management Issues: Alternative Energy
This map illustrates how patterns of ocean use can inform decisions on siting offshore renewable energy facilities. This example depicts two predicted high wind energy areas off Southern California (see citation below). The text box on the left describes the degree to which each of these two potential wind farm areas overlaps, and potentially conflicts, with other co-occurring ocean uses mapped by the CA Ocean Uses Atlas project. Of the two, Area B clearly presents the fewest potential conflicts with other ocean uses.
Dvorak, M.J., Archer, C.L., Jacobson, M.Z., California Offshore Wind Energy Potential. Submitted to Renewable Energy, 2009.
Potential Wind Energy Area A
Potential Wind Energy Area B
Potential Wind Energy Area A
Minimum # of Uses affected: 1
Maximum # of Uses affected: 11
Potential Dominant Uses affected:
Commercial dive fishing
Commerical fishing with benthic fixed grear
Commercial pelagic fishing
Motorized boating
Military operations
Offshore oil and gas
Recreation fishing from boats
Recreation dive fishing
Sailing
SCUBA/snorkeling
Wildlife viewing at sea
Potential Wind Energy Area B
Minimum # of Uses affected: 2
Maximum # of Uses affected: 3
Potential Dominant Uses affected:
Military
Shipping
Recreational fishing from boats
N
10
Miles

http://mpa.gov/dataanalysis/atlas/atlasmap/

US Department of Commerce
National Oceanic and Atmospheric Administration

MPA NOAA Search

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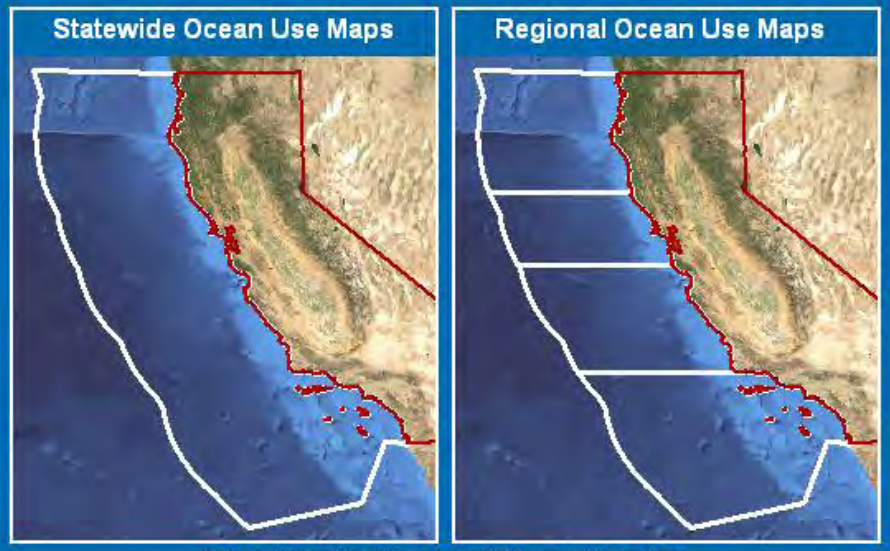
Data & Analysis

- MPA Inventory
- Ocean Uses Atlas
- De Facto MPAs
- Analysis of U.S. MPAs
- Maps

The California Ocean Uses Atlas Maps

> Data & Analysis > Ocean Uses Atlas Maps



Select statewide data or an individual region to view

Atlas Project Status

California

- Project completed January 2010. GIS data, project information, and maps available at http://mpa.gov/dataanalysis/atlas/
- Working with NOAA's Special Projects Office to build interactive mapping device, possibly with simple spatial analysis or decision-making functionality
- Exportable Methodology – portable, flexible, and scalable (but need to remain comparable between projects)

New Hampshire / Southern Maine

- January 2010 workshop to support oil spill response drill (SONS) and to expand coverage of human ocean use data in region
- Completed March 2010, used in ERMA during drill

Hawaii

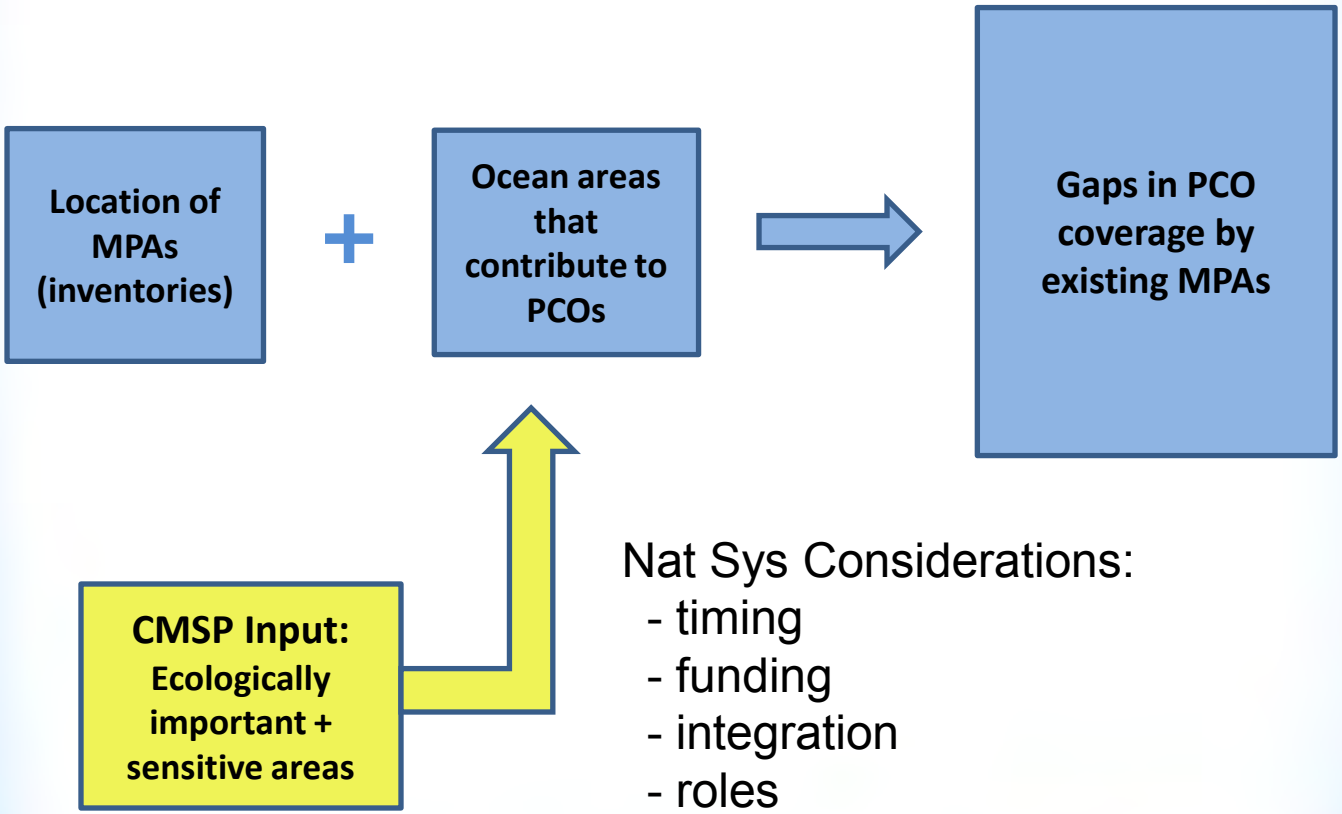
- Engaged in workshop planning to support the community of Puako's Conservation Action Planning process

3. Gap Analysis

- **Purpose**: to inform the development of the National System of MPAs by identifying gaps in spatial protection of important areas.

- **Status:**
  - data synthesis continues of West Coast
  - Briefings for NMFS, PFMC, etc.
  - Rethinking timeline and some input steps in light of opportunities posed by CMSP

Guiding the National System Development: Identifying Gaps in Spatial Management of Important Areas



Nat Sys Considerations:
- timing
- funding
- integration
- roles

4. CMSP and the Natl. System

- **Status** – national Framework for Effective CMSP due out this Spring

- **Linkages to Natl. System of MPAs** –
  - Both are science-based, multi-sectoral, stakeholder informed, regional spatial planning efforts
  - May provide funds for ocean uses and gap analysis
  - Question for FAC: Conservation role of Natl. System in CMSP? (tbd)

- **MPAC Engagement to date:**
  - Involved in OPTF writing teams
  - Leading NOAA planning for Framework implementation