# NOAA's Channel Islands National Marine Sanctuary

# **Channel Islands Marine Protected Area Network**



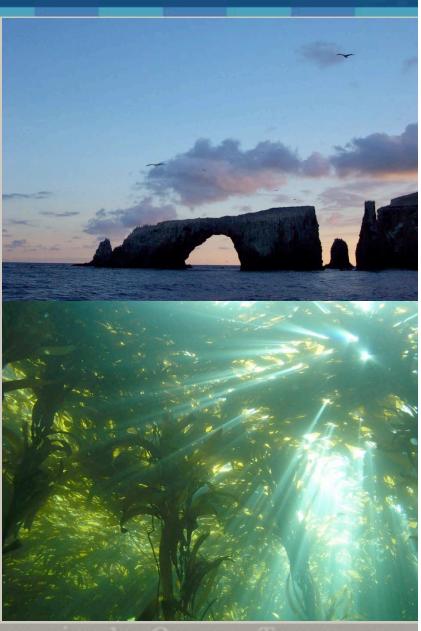




## **Presentation Outline**

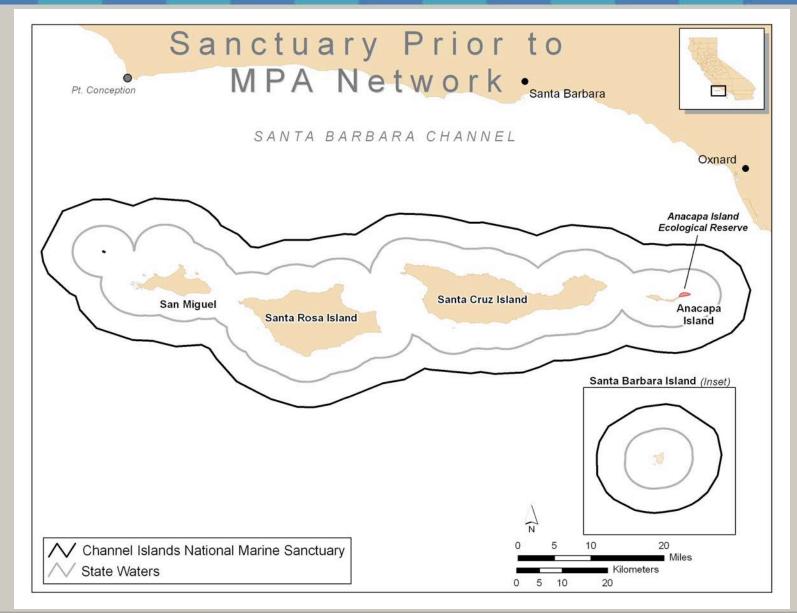


- Brief Designation History
- Overview of MPA Network
- Management of the Network:
  - Administration
  - Ecological Monitoring
  - Socioeconomic Monitoring
  - Education and Outreach
  - Cooperative Enforcement
  - Community Involvement
- Closing Thoughts
- Questions/Discussion



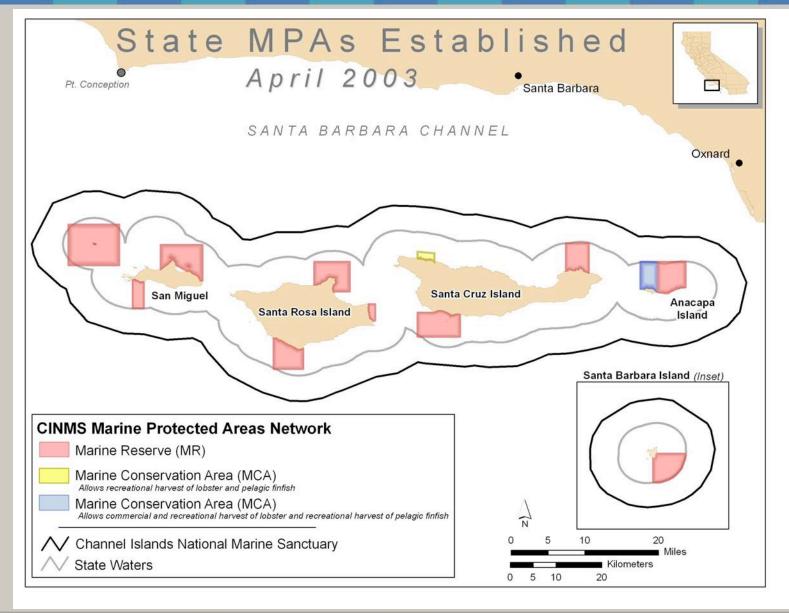






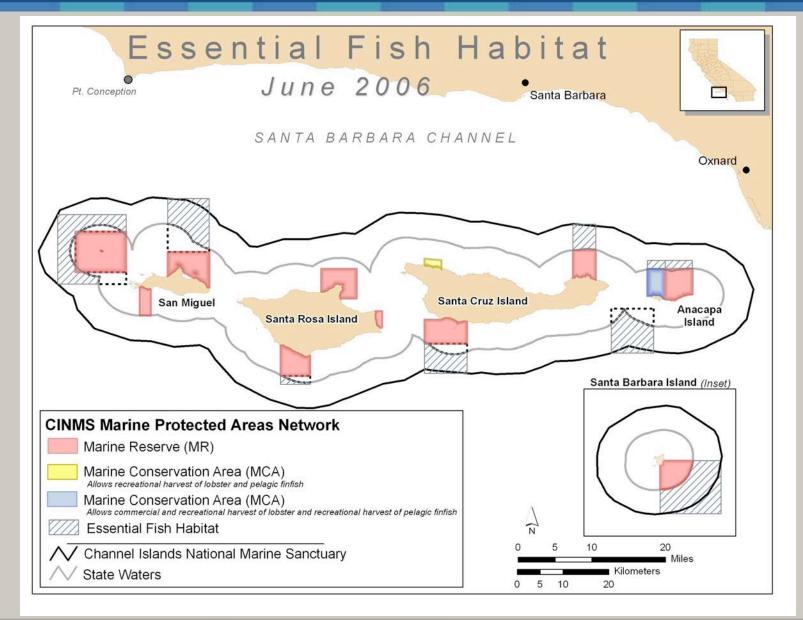






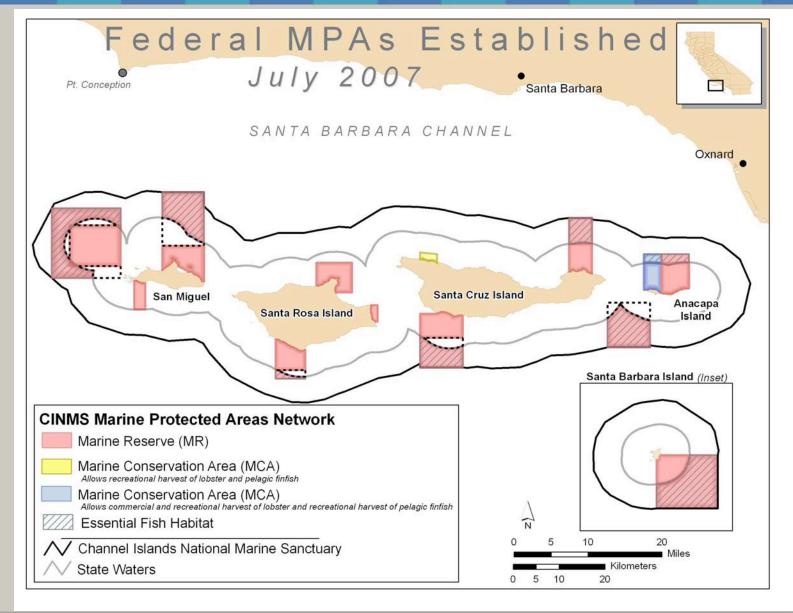












National Marine Sanctuaries . America's Ocean Treasures

# Complete MPA Network December 2007 Santa Barbara



SANTA BARBARA CHANNEL

• The Channel Islands MPAs Network encompasses 318 square miles

Scorpion
Marine Reserve
Anacapa Anacapa
Island Island
Marine Reserve
Anacapa Anacapa
Island Island
MCA MR

The MPA network includes 21% of Sanctuary waters

San Miguel
Santa Cruz Island
Santa Cruz Island
Anacapa
Island
Judith Rock
Arine Reserve

• Almost 80% of the Sanctuary is open to fishing (in accordance with other state and federal fishing regulations)



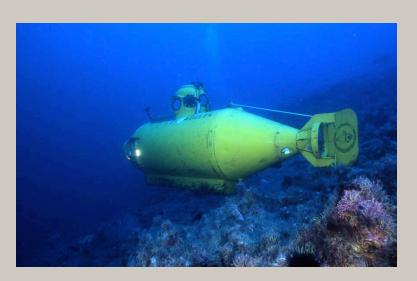




# **Management Elements**



- Administration
- Ecological Monitoring
- Socioeconomic Monitoring
- Education and Outreach
- Cooperative Enforcement
- Community Involvement







## **Administration**



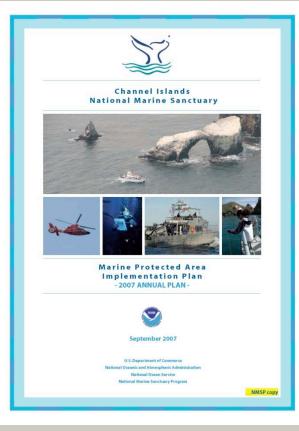
# Channel Islands Marine Protected Area Administration Plan

- Purposes:
  - (1) Guide Channel Islands MPA managers to effectively administer the MPA network
  - (2) Identify long-term trends in natural resources, economic impacts, public awareness and compliance
  - (3) Detail administrative capacity, including administrative challenges, such as funding
- Augments information contained in CINMS Management Plan

## **Memorandum of Agreement**

- Proposed agreement between CINMS and California Dept of Fish and Game
- Formally establishes partnership to cooperatively manage the MPA network

## **Permitting**





# **Ecological Monitoring**





### What is the impact of MPAs on:

- Changes in abundance, size, biomass, spawning biomass
- Changes in species composition
- Habitat changes due to reduced human impacts, and biological community changes
- Spillover for fish and invertebrates
   from reserves to surrounding areas



## **Monitoring and Questions**



## **Status Monitoring**

Serialized probabilistic *sampling* or census survey to ask:

- 1) What is the status of resource?
- 2) How is that changing over time?

## **Effectiveness Monitoring**

**Experimental design** that tests one of the following questions:

- 1) was a specific action effective?
- 2) were classes of actions effective?
- 3) were groups of diverse action effective across space?

where "effective" means that the actions had the desired effect on the habitat and/or target species

PNAMP monitoring guidelines: http://www.pnamp.org//web/workgroups/General/documents/General/2004\_05SpecialistTable.pdf

- Where you measure
- When you measure Are different



## **Ecological Monitoring**



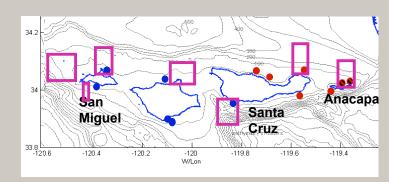
- Several Status Monitoring Programs
  - National Park Service Kelp Forest Monitoring
     Program (KFM)
  - California Fish and Game ROV surveys
  - Reef Environmental Education Foundation (REEF)
  - Long-Term Ecological Research (LTER) Network
  - Partnership for Interdisciplinary Studies of CoastalOceans (PISCO)
- 22 year time series at some sites (KFM)

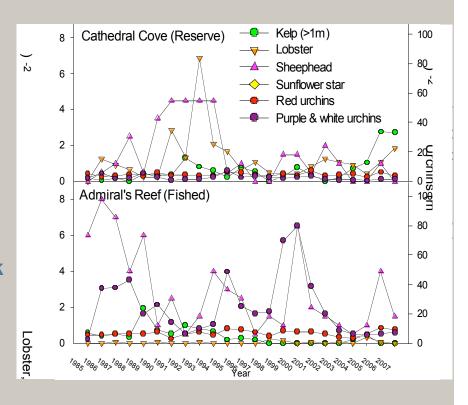
### Lemonade from Lemons:

**Look for patterns in time series** 

**Supplement with tactical experimental work** 

Smith Post Doctoral Fellow - Dr. Anne Salomon



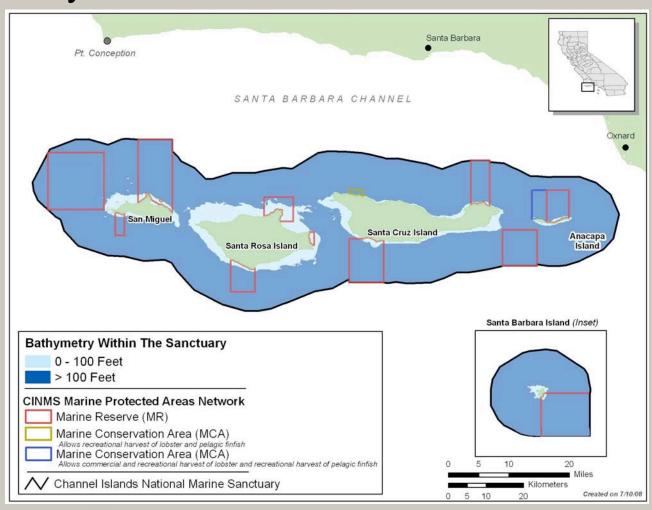




# **Monitoring Challenges**



 99% of the knowledge comes from 8.5% of the sanctuary – the areas shallower than 100 fsw



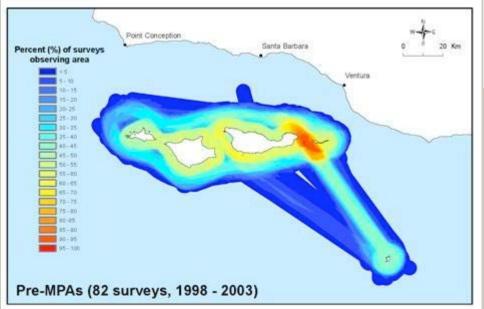


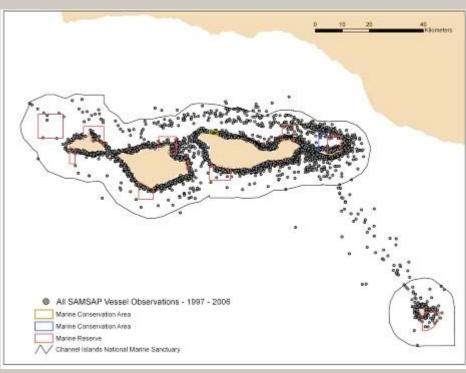
# Socioeconomic Monitoring





## **Aerial Survey Effort**



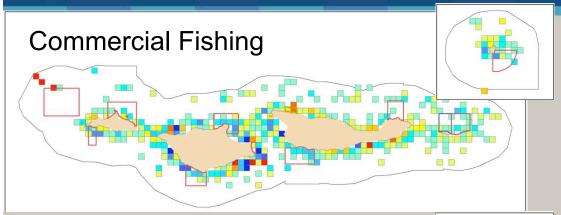


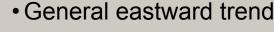
Activity	Pre	Post
Consumptive Commercial	35% (1708)	28% (1122)
Consumptive Recreational	14% (661)	18% (731)
Nonconsumptive Commercial	5% (257)	5% (182)
Nonconsumptive Recreational	46% (2240)	50% (2000)
TOTAL # Vessels	4866	4035



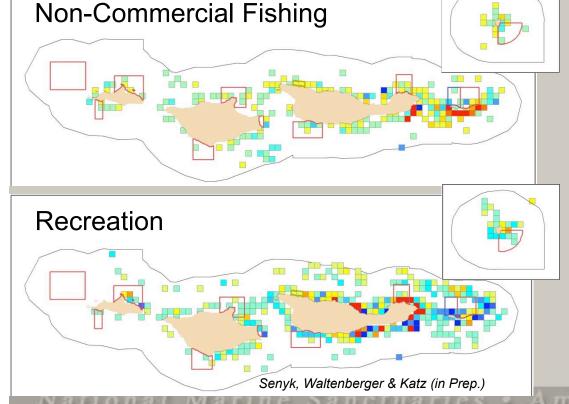
# Socioeconomic Monitoring

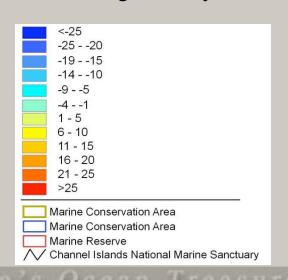






- Biggest MPA reaction among Recreational fishermen
- Fishing presence increases around S. Cruz and S. Rosa hotspots
- Recreation presence increases around S. Cruz generally







## **Socioeconomic Monitoring**



- Stakeholder importance of socioeconomic goal for MPAs
- Stakeholder workshops and the Sanctuary Advisory Council have helped shape monitoring plans
- CINMS Social Science Plan (2007-2010): Socioeconomic Research & Monitoring of Marine Reserves and Conservation Areas
- 2003-2007 Findings No big surprises
- Keeping the work going: An ongoing resource-limited challenge







## Role of Education and Outreach



- Increase awareness to promote understanding and support of Channel Islands MPA Network
- Develop effective communication strategies for different audiences
- Enhance Compliance through interpretive enforcement
- Develop a personal sense of ownership and responsibility



- Create an interagency team of educators
- Develop a training program for staff and volunteers
- Integrate marine reserves educational materials into existing educational programs
- Develop interagency web site for Channel Islands Marine Reserves
- Develop a program for organized public educational visits



## Channel Islands MPA Outreach



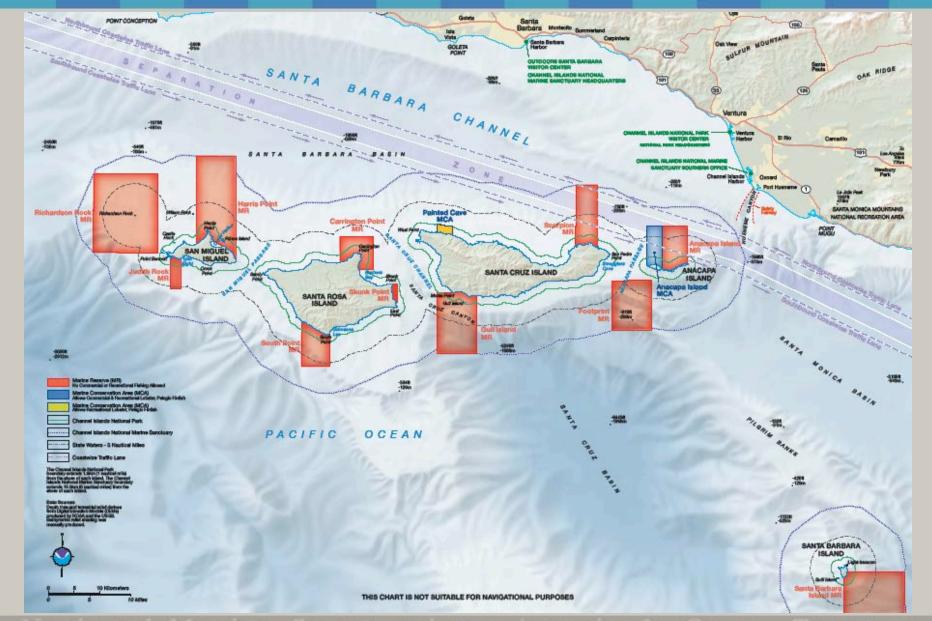
# Nine activities are defined in the Channel Islands NMS management plan.

- 1. Work with Sanctuary Education Team to conduct Needs Assessment
- 2. Printed educational products
- 3. Public Service Announcements
- 4. Sanctuary cruises
- 5. Volunteer Scientist Programs
- 6. Interpretive Kiosks and Signs
- 7. Website
- 8. Public outreach and events
- 9. Recreational Boater Survey



# **Updated Map Graphics**

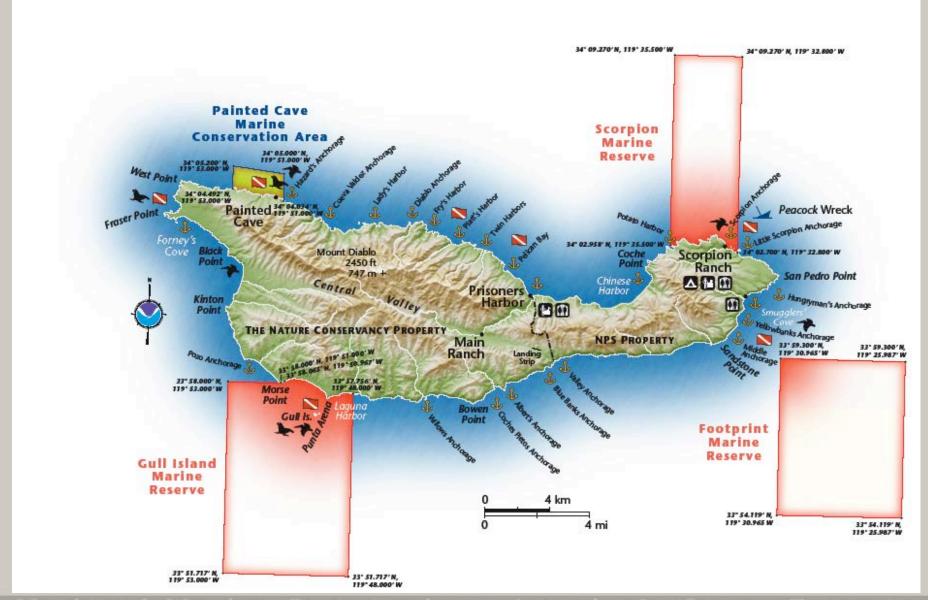






# Individual Island Graphics





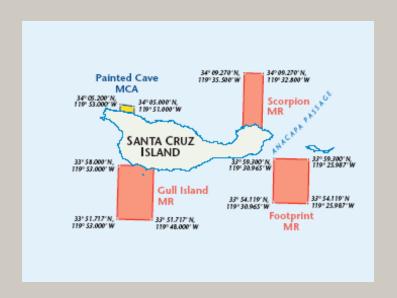
National Marine Sanctuaries . America's Ocean Treasures

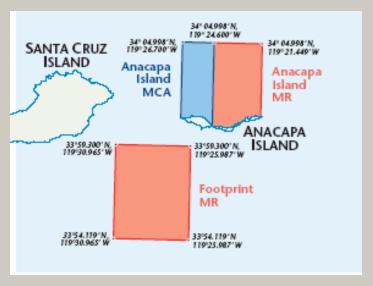


# Inset Maps



- Inset maps created for each island to provide full view of each marine zone
- GPS coordinates are included for each marine zone







## **Education and Outreach**



ISLANDS

### **Protecting Your Channel Islands brochure**

**GET INVOLVED** 







hinter. The colder winters support a distinct group of fait and its evisionates that are not found on the scothwin inleads, but are found mere communije soeth of Peiert Corposition. This biland is also an important from set and beending site for pinnipeds including the



Santa Rosa Island Seeta Form is the record largest of the nothern Channel bis size. The bland is there for its olding bits, constal service, windowest card; bandway, and the shade! largest constallingum a. The matter like soundarder with Seata Rose bland in otherwood by the cold California Cusent much bits Sar Migral bland.

Santa Cruz Island The largest of the northern Chromel Islands in it the transition your few arm consents





Steep cliffs of this profilest bilated—Gas assets or above one organ with—the claims the cody states to a giving mean The based on the impact. Some States bilated bore in large California and the modesy and over 11 species of useful fail must disrupt the bilate of the securities. Virtual gas the earther great California Stone of Polisics and as with barbant. How selfs White in must be asset of bases and claims and called and of the White in must be asset of bases and claims and called seating the security of the control of the White in must be asset of bases and claims and claims and color set of section the control of the

#### WORKING TOGETHER TO PROTECT THE CHANNEL ISLANDS

#### Special of Sanctury and Park Regulation?

раз, на отвеждаются из произвед.

в серои для из причителя для паким и ответивам,
и организация причителя причителя

Amount to extraggly school is duting according to wheat the posteriors artery.



ational Marine Sanctuaries · America's Ocean Treasures



# Targeted Audience Brochures



- Targets Boaters
- Mailed to all registered boaters in Ventura County (~25,000).
- Additional 3300 copies distributed to boaters in Santa Barbara Harbor
- Distributed at boat shows and by Park



VENTURA POWER SQUADRON OF UNITED STATES POWER SQUADRONS, SAIL AND POWER BOATING www.ventura-usps.org

www.ventura-usps.org (888) 367-8777



CHANNEL ISLANDS
www.channelislands.noaa.gov

SANTA BARBARA HARBOR OFFICE 113 Harbor Way, Suite 150 Santa Barbara, CA 93109

CHANNEL ISLANDS HARBOR OFFICE 3600 South Harbor Blvd., Suite 217 Oxnard, CA 93035



COUNTY OF VENTURA HARBOR DEPARTMENT 3900 Pelican Way Oxnard, CA 93035 (805) 382-3001 www.countyofventura.org



CHANNEL ISLANDS NATIONAL PARK ROBERT J. LAGOMARSINO VISITOR CENTER 1901 Spinnaker Drive Ventura, CA 93001 (805) 658-5730 www.nps.gov/chis

### **BOATING & SAFETY**

The purpose of this brochure is to provide a quick reference guide for safe and enjoyable boating. It includes weather tips, safely reminders, and resource information. While there is a good deal of important information offered here, there is no substitute for common sense, local knowledge, and good seamanship practices.





CPANS

Additional critical information about anchoring, cold water survival, and first aid for hypothermia can be found in the following free publications. These should be available for reference on your vessel.

- · ABC's of California Boating Law
- · Federal Requirements and Safety Tips for Recreational Boaters

These publications are available at most marine supply stores and online at www.dbw.ca.gov and www.uscgboating.org. See inside for additional helpful materials.

#### Santa Barbara Channel Weather

Before going boating, become aware of the dynamic weather patterns in the Santa Barbara Channel. There are many sources available to obtain this information. These sources include: newspapers, radio, TV, websites, information kiosks, the VHF/FM marine radio, and the Onward National Weather Service office.

www.nwsla.noaa.gov NWS Public Information: (805) 988-6610 Marine Weather Radio CH 3 for marine weather only

www.channelislands.noaa.gov Weather Kiosks located at Santa Barbara and Channel Island Harbors



Always be aware that the weather in the Channel Islands is in a continuous state of change. Fog and winds are a challenge to the most experienced boaters. All year expect fog if visibility is decreasing or there is a sudden drop in temperature when the winds are light and the sky is clear.

From November through April, expect high winds with clear skies and good visibility when the wind is warm and out of the northeast. Also, when the wind shifts to the northwest, expect high winds. Generally, the sky will initially be cloudy with restricted visibility; look for a cold northwest wind to rise with clearing skies and good visibility.

The prevailing sea breeze wind blows from the west to northwest throughout the year. It typically blows between 11 A.M. and 8 P.M. The average speed is 10 to 20 mph.



## **Education and Outreach**



Sea Landing

### **Getting the Word Out**

- Channel Islands Naturalist Corps
- "Adopt A Business" Program
- 5,000 Sanctuary brochures delivered in 2007
- Reaching 80+ local businesses:

Landings & Launch Ramps

**Harbor Master Offices** 

Whale Watching Boats

**Dive Boats/Charters** 

Fishing Piers

**Marine Stores** 

**Fuel Docks** 

Sporting Goods & Fishing Tackle Shops

Kayak Shops

Yacht Clubs & Brokers

**Visitor Information Centers** 

Campgrounds

Museums





## **Education and Outreach**

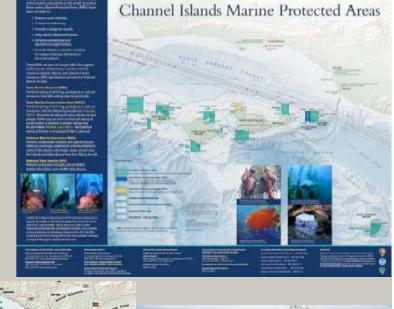


## Signage:

- At boat launch ramps -- departure points for the Channel Islands
- At major landing sites at the Channel Islands
- At Channel Island National Park Concessionaire businesses

## Maps & Graphics

- CINMS setting statewide standards
- Many electronic charting companies include the MPAs



Channel Islands National Marine Sanctuary & National Pari



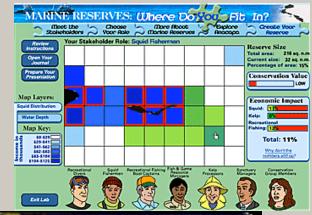


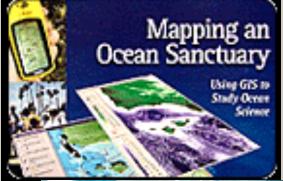


# Science of Marine Reserves



- Wild for the Future Educational Poster
- Mapping An Ocean Sanctuary GIS Curriculum
- JASON XIV From Shore To Sea
   Curriculum and Marine Reserves
   Digital lab: Where Do You Fit In?
- Channel Islands Live! Underwater Broadcasts in Anacapa Marine Reserve







# **Citizen Monitoring and Awareness**



- Reef Environmental Education Foundation (REEF) Fish and Invertebrate Surveys
  - ➤ Volunteer divers annually conduct fish surveys inside and outside the MPAs.
  - ➤ Since 2006, over 1,444 surveys conducted. Invertebrate surveys now included.
  - CINMS provides vessel support and NOAA divers





# **Community Involvement**



## Sanctuary Advisory Council and Working Groups

- Central to the development of the Channel Islands marine protected areas
- Formally recognized by State of California as official community group advising (through CINMS) on Channel Islands MPAs
- Research Activities Panel (RAP) focused on developing, implementing, assessing and reporting on biological monitoring of the MPAs
- Sanctuary Education Team (SET) has advised on development of valuable outreach products, and prioritized MPA education strategies (SET "Matrix")
- Commercial and Recreational fishing working groups provide an ongoing forum for the fishing community to learn more about the MPAs, and weigh in on management actions





# **Cooperative Enforcement**



By Land: Island based National Park Rangers

By Air: Fixed wing and helicopter

By Water: Patrol boats and other vessels





# **Cooperative Enforcement**



### 2003-2007: Statistics and Observations

- Awareness of MPAs by fishermen is high
- 2003-2007 MPA Violations (cited by Nat'l Park): 17
- 2003-2007 Dept. of Fish & Game MPA violation cases: 4
- Ratio of Warnings to Violation Notices is decreasing
- Nat'l Park Characterization of MPA Violators:
  - 1/3 had no knowledge of MPAs
  - 1/3 knew about the MPAs but did but did not realize they were inside an MPA
  - 1/3 knowingly broke the law
- Public does not completely understand differences between marine reserves and marine conservation areas





# **Closing Thoughts**



- The Channel Islands MPA network is a driving force for CINMS
- Nearly all CINMS operations and programs have been retooled to incorporate these zones
- Importance of partnership with the State of California
- Multiple partnerships are essential,
   bringing both opportunities and challenges
- Resource demands for proper deepwater MPA monitoring are significant
- Plans are in place for all aspects of MPA management just need adequate resources for implementation
- Potential for greater collaboration with NMFS
- Broader importance of "doing it right" at CINMS



# **Channel Islands Contacts**



- Channel Islands MPA designation and implementation
  - Chris.Mobley@noaa.gov Sean.Hastings@noaa.gov
- Channel Islands MPA Education and Outreach
  - Julie.Bursek@noaa.gov
- Channel Islands Naturalist Corps
  - Shauna.Bingham@noaa.gov

http://channelislands.noaa.gov