

# California MPA Outreach and Education Guide

November 2014



# Purpose

- This document contains examples of marine protected area resources used around the state of California including:
  - Communication Documents and Tools
  - Brochures
  - Regulatory and Interpretive Signs
  - Posters
  - Exhibits
  - Presentations
  - Videos
  - Curriculum
  - Programs
  - Kids Activities
  - The MPA Google Tour
  - Events
  - Online and Mobile Resources

We highly recommend seeking **California Department of Fish and Wildlife approval** for all MPA outreach and education products.

Contact: Christine Pattison

[christine.pattison@wildlife.ca.gov](mailto:christine.pattison@wildlife.ca.gov)

# A Living Document



- This guide is certainly not comprehensive!
- It is our hope that you can provide links of your local content that can be shared with others implementing MPA outreach and education programs.

Please contact [Katelyn@californiamsf.org](mailto:Katelyn@californiamsf.org) or [Danielle@californiamsf.org](mailto:Danielle@californiamsf.org) if you have something to add!

# Communications

# Quick Communication Tools

## MPA FAQ Sheet

- 2 page CA MPA FAQ
- Great for everyone!

## Frequently Asked Questions on California's Marine Protected Areas (MPAs)

### What are marine protected areas, or MPAs?

Like parks protect wildlife and habitats on land, marine protected areas (MPAs) protect and restore wildlife and habitats along the coast of California. California's marine protected areas come in many "flavors"; the size and level of protection, including fishing restrictions, can vary from one area to the next. Also called underwater parks, they're designed to protect plants and animals within an entire ecosystem, rather than protecting just a single species. In December 2012, California became an international leader in ocean protection by completing the United States' first statewide network of marine protected areas that are designed to ensure healthy, vibrant ocean life for generations to come.

### Why do we need marine protected areas?

California's coastal waters are some of the richest in the world, but real problems lurk below the ocean's surface. Ninety percent of the big fish that existed in the 1950s are missing and three-fourths of California's kelp forest has disappeared since the 1960s<sup>1</sup>. Meanwhile, California fishing communities are still recovering from the collapse of the west coast groundfish fishery and the closure of all five commercial abalone fisheries. In numerous studies worldwide, MPAs have proven to boost fish size, abundance and diversity, and increase the productivity and resilience of the protected area.

### How do they protect the entire ocean ecosystem?

Marine protected areas safeguard critical ocean habitat, allowing sensitive marine communities such as rocky reefs and seagrass beds to thrive and recover. These special places also protect biological hotspots and important foraging grounds. This in turn benefits a range of species including plants like bull kelp, invertebrates like sea stars, and marine mammals such as seals and otters. As safe havens, underwater

### How do the state marine protected areas affect the fishing industry?

California fishermen have suffered economic hardships in recent years due to declines in commercial fish and inadequate management. For example, landings in the commercial rockfish fishery declined statewide by 95 percent over the past 25 years<sup>3</sup>. Marine protected areas can help restore the ocean ecosystem, which can improve the sustainability of commercial and recreational fishing, draw visitors, and enhance tourism, California's biggest coastal industry.

### The central coast MPAs have been in place for five years. What changes are you seeing?

Five years is a short period of time for recovery of marine populations to occur, so recovery is expected to continue over many years. Short-lived species such as oysters or clams can recover quickly, but slow-growing species such as rockfish need more than five years to show signs of recovery. Some researchers, like Mark Carr of the University of California Santa Cruz, have seen some improvements in fish populations. Other scientists and fishermen are working together now to measure changes to tell us how our underwater parks are performing over time.

**What are you learning in other areas of California where marine protected areas have been in place longer?** In California's Channel Islands, where MPAs have been in place for 10 years, a 2012 study found that lobsters were more abundant and larger in protected areas, with over five more legal-sized lobsters caught per trap on average inside the refuges.<sup>2</sup> Recreational fishing in parts of the islands actually increased from 2003 to 2008, as did commercial landings for some of the Islands' largest fisheries, such as squid, urchin, lobster and crab. There are signs of success from places around the world that demonstrate the many benefits of conservation (see <http://californiampas.org/pages/about/success.html>).

# Quick Communication Tools

## Site-Specific MPA Fact Sheets

- Basic facts for Central Coast MPAs
- Easily adaptable statewide

**Morro Bay East State Marine Reserve; Morro Bay State Marine Recreational Management Area** Factsheet **12**



**Size of MPA(s):**  
3.31 mi<sup>2</sup> (combined area)

**Depth range of MPA(s):**  
Shore to 22 feet

**Key habitats protected:**  
Coastal salt marsh, eelgrass, tidal channels, mudflat



Angus



**Morro Bay National Estuary is one of the largest and most important wetland systems on the central coast, sustaining diverse habitats that support sensitive and endangered species.**

- Morro Bay serves as an important resting and foraging ground for migratory birds using the Pacific Flyway. Large and diverse invertebrate populations inhabit the mudflats of the Bay; fish use the Bay as a nursery ground and dense meadows of eelgrass support a highly productive environment.
- Morro Bay also supports a variety of recreational activities such as bird watching, sea kayaking, and recreational fishing and is a working commercial and sport fishing harbor. The Morro Bay State Marine Reserve and State Marine Recreational Management Area enhance protection and recreational values in this area.

**Big Creek State Marine Reserve and Marine Conservation Area** Factsheet **9**



**Size of MPA:**  
22.45 mi<sup>2</sup>

**Depth range of MPA:**  
Shore to 2393 feet

**Key habitats protected:**  
Submarine canyons, Canyon heads.



Photos © Marc Shagel / LivingSeascapes.com\* © Kip Evans Photography - www.MountainSeaGallery.com



**The Big Sur coast is world renowned for its spectacular views and rugged topography. Offshore, the submerged geography is equally dramatic - a series of unique narrow finger canyons plunge for the shoreline into the ocean's depths.**

- In the waters off the Big Sur/Big Creek coast are a unique series of narrow and steep finger canyons that serrate the continental shelf. The canyons provide habitat to a variety of deepwater rockfishes such as cabezon and bocaccio.
- The Big Creek MPAs expand upon an existing tiny underwater reserve established in recognition of the high natural heritage value of this area where underwater canyons and rock formations have been compared to Yosemite.
- The Big Sur coast is an important forage area for southern sea otters and also provides habitat for a variety of fish species such as cabezon, kelp greenling, and rockfish.
- These MPAs were designed specifically to address concerns raised by spot prawn fishermen and to allow continued fishing for spot prawns in adjacent, favored fishing grounds.
- This SMR is bordered by a SMCA that would allow some fishing. This allows a scientific comparison of similar habitats that are protected in MPAs and open to some forms of fishing.

\*Reproduction in print, web or other media may be obtained by email: marc@livingseascapes.com

Created by the Ocean Conservancy

# Quick Communication Tools

## Upwell MPA Communication Tip Sheet

- Tips for communicating **online** about MPAs
- Useful for all ocean communicators

### Communicating Online About California's Marine Protected Areas

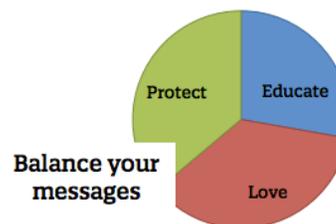
#### 1. Celebrate and protect

- Be human: use **humor** and stay topical
- Less data, fewer acronyms
- Stories of **success**
- **Excitement** about beauty



#### 3. Listen and be present

- Use social media monitoring tools (e.g., Tweetdeck) to **listen to topical conversations** (surfing, tidepooling, location-specific)
- Listen **beyond your own brand** and campaigns
- Listen to **curate**, to converse with and support **peers**, and to become **familiar** with the tone of the conversations that matter to you
- Track **geotagged** conversations (gramfeed)



#### 2. Use what's out there

- **Curate visuals** from enthusiasts, locals, tourists
- Tie into **shoreside** events and campaigns
- Meet people where they are online – don't make them come to you!
- Find your **brand ambassadors** (photographers, local businesses, B&Bs) and give them social media-ready content

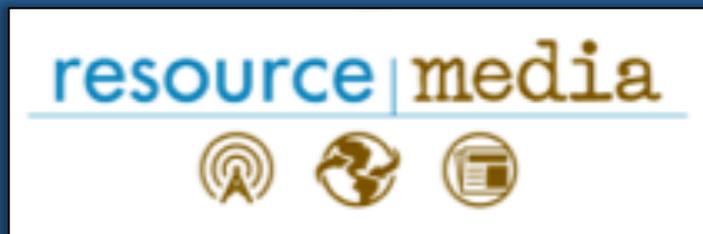


For more, visit Upwell 

# In-Depth Communication Tools

## Resource Media

- » A variety of in-depth communication resources
- » Easily adaptable statewide
- » Documents include:
  - Messaging Principles
  - MPA Messaging Guide
  - Messaging Roadmap
  - Values of MPAs
  - Economic Value of MPAs
  - MPA Communication PowerPoint
- » “Talking about MPAs” Powerpoint presentation



resource | media  
Central Coast Messaging Roadmap  
by Resource Media  
January, 2009

Outline/Table of Contents

Introduction	1
Audiences	1
How much do our audiences know?	
What information do they need?	
What do you want them to do?	
What barriers exist?	
Values-based messaging	
Overarching MPA messaging	
Targeting your message	
Additional ways to describe problem/s	
What's the best way to reach them?	

MESSAGING GUIDE | 2014

**MPA Message Guide: How to talk about California's underwater state parks**

CONTEXT

In 2012, California made history when the Fish and Game Commission voted unanimously to adopt a series of marine protected areas (MPAs) along the north coast, completing the nation's first statewide network of marine protected areas. Resource Media, a nonprofit communications firm that works at the intersection of science and communication, has been working to raise awareness about the value of these areas. In this message guide, we share our top tips for talking about them, whether you're talking about them in a classroom or at the shore.

Meet people where they are: connect around shared values. The three main values we want to emphasize when talking about MPAs are: science, recreation, and protection. Start with the primary point we hope to convey. Encourage the nation in smart, science-based ocean protection. In California, we have a statewide network of underwater parks designed to ensure the best possible future for generations to come.

\$39 billion economy, and 75% of ocean-related jobs are in hot spots is a smart investment that will pay major dividends for the future.

To manage our shared natural heritage so that our kids and grandkids can enjoy boating and surfing in a healthy ocean. Thousands of jobs are supported by marine protected areas, and many remain involved in the industry. There are opportunities to pitch in up and down the coast.

Talking about marine protected areas  
– California's underwater parks

www.resource-media.org

resource | media  
Unlock the Power of Communication

Contact Resource Media at [info@resourcemedia.org](mailto:info@resourcemedia.org)

# Communicating about MPAs Online

## Upwell's Online Communication Resources

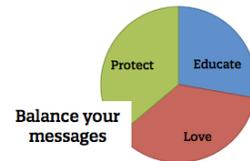
- Blog
- Webinar: Communicating Online About MPAS
- Slideshow
- Online Communication Tip Sheet



## Communicating Online About California's Marine Protected Areas

### 1. Celebrate and protect

- Be human: use **humor** and stay topical
- Less data, fewer acronyms
- Stories of **success**
- **Excitement** about beauty



### 2. Use what's out there

- **Curate visuals** from enthusiasts, locals, tourists
- Tie into **shoreside** events and campaigns
- Meet people where they are online – don't make them come to you!
- Find your **brand ambassadors** (photographers, local businesses, B&Bs) and give them social media-ready content



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For more, visit [Upwell](http://www.upwell.us)

In 2013, there were three reasons the conversation spiked:

1. **Celebratory events**, such as **Underwater Parks Day** or the birthday of California's MPAs
2. **News coverage** - most often about how **MPAs are working**
3. **Meetings and conferences**, such as the **#MPAsWork** Twitter chat in November 2013 and the **California Central Coast MLPA Symposium** in March 2013

<http://www.upwell.us/how-talk-about-californias-marine-protected-areas-online>



# Interpretive Signs

## Site-Specific Interpretive Panels

- Statewide coverage
- Great for coastal walkways, state parks and popular beaches.

## Conserving California's Coastal Treasures

**Marine Protected Areas Safeguard Our Ocean's Bounty**

A statewide network of Marine Protected Areas (MPAs) safeguards California's rich coastal resources. They stretch from the rocky intertidal shoreline, over vast kelp forests, out to deep, underwater canyons. Inside MPAs, marine life thrives.

**MPA Regulations**

- State Marine Reserves (SMR)**  
No fishing. No take of any living marine resources.
- Piedras Blancas State Marine Conservation Area (SMCA)**  
No fishing. No take, except commercial and recreational take of salmon and halibut.
- Cambria State Marine Park (CMP)**  
No commercial take. Recreational take is allowed.
- White Rock (Cambria) State Marine Conservation Area (SMCA)**  
No fishing. No take, except the commercial sale of giant kelp under specific conditions.
- Morro Bay State Marine Recreational Management Area (SMRMA)**  
Recreational hunting of waterfowl is allowed unless otherwise restricted by hunting regulations. No fishing. No take, except recreational fishing, open season, stowing of bait fish taken outside the SMRMA.
- Point Buchon State Marine Conservation Area (SMCA)**  
No fishing. No take except commercial and recreational take of abalone and halibut.

**Tips for Tidepooling**

- Stay safe - be aware of the waves and tides
- Step carefully-avoid crushing creatures
- Take nothing but pictures
- Please look but don't touch

**California leads the nation and the world with its network of MPAs.**

These MPAs—

- Have varying levels of protection
- Conserve marine habitats and diversity
- Allow marine life to thrive
- Make great places for education, research, and fun

MPAs - Good for the Ocean; Good for You!

To report violations call 1-888-DFG-CALIP  
For detailed maps and regulations go to [www.dfg.ca.gov/mpa](http://www.dfg.ca.gov/mpa)

## Conserving California's Coastal Treasures

**Marine Protected Areas Safeguard Our Ocean's Bounty**

A statewide network of Marine Protected Areas (MPAs) safeguards California's rich coastal resources. Stewarts Point MPAs protect rocky offshore reefs and kelp forests. Nearshore tidepools and beaches have limited protection in nearby SMCAs, allowing recreational fishing from shore and harvest of marine invertebrates and marine plants, except sea palm.

**MPA Regulations**

- Stewarts Point and Gerstle Cove State Marine Reserves (SMR)**  
Take of all living marine resources is prohibited.
- Stewarts Point State Marine Conservation Area (SMCA)**  
Take of all living marine resources is prohibited except the recreational take from shore only of marine aquatic plants other than sea palm, marine invertebrates, fish\* by hook and line, surf smelt by beach net and permitted species by hand-held dip net.
- Salt Point State Marine Conservation Area (SMCA)**  
Take of all living marine resources is prohibited except the recreational take of abalone and herring.\*

\*As defined by California Department of Fish and Game regulations.

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Visit [www.dfg.ca.gov/mpa](http://www.dfg.ca.gov/mpa) for detailed maps and regulations

## Conserving California's Coastal Treasures

**Marine Protected Areas Safeguard Our Ocean's Bounty**

A statewide network of Marine Protected Areas (MPAs) safeguards California's rich coastal resources. Natural Bridges MPA is a special place to explore, enjoy and protect. Along the rocky shore, visitors may spot sea stars, mussels, urchins, and anemones exposed during low tide. These animals endure changing tides and crashing waves. Each is adapted to a specialized location. Help safeguard these animals by not moving them from their homes.

**MPA Regulations**

- Natural Bridges Intertidal State Marine Reserve**  
No fishing. No take of any living marine resources.

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To report violations call 1-888-DFG-CALIP  
For detailed maps and regulations go to [www.dfg.ca.gov/mpa](http://www.dfg.ca.gov/mpa)

<http://californiampas.org/pages/resources/products-signs.html>



# Regulatory Signs

## Harbor and Marina Signs

- Major harbors and marinas targeted statewide
- Features maps with GPS coordinates and links to regulatory information
- Targets recreational boaters and ocean recreation users

### Conserving California's Coastal Treasures

California's marine protected areas (MPAs) conserve, restore, and improve the health of our ocean, similar to national parks and forests on land. The California MPA network includes MPAs and other protected areas. Each area is unique in its purpose and allowed uses.

Protected areas around Avalon Harbor are:

- Long Point State Marine Reserve (SMR)  
No take, damage, injury or possession of any living, geologic, or cultural marine resources is allowed.
- Casino Point and Blue Cavern Onshore No-Take State Marine Conservation Areas (No-Take SMCA)  
Prohibits the take of living, geological, and cultural marine resources.
- Lover's Cove, Blue Cavern Offshore, Arrow Point to Lion Head Point, Cat Harbor, Farnsworth Onshore, and Farnsworth Offshore State Marine Conservation Areas (SMCA)  
Some recreational and/or commercial take of marine resources may be allowed.

MPAs – Good for the Ocean; Good for You!  
Know the Rules Before You Head Out.

For Ocean Fishing Laws and Regulations go to: [www.dfg.ca.gov/marine/regulations](http://www.dfg.ca.gov/marine/regulations)

MPA Mobile Website  
Report Violations: (888) 334-CALTIP, (888) 334-2258

Avalon Harbor Patrol: (310) 510-0535

Maps not to be used for navigation.

### Conserving California's Coastal Treasures

California's marine protected areas (MPAs) conserve, restore, and improve the health of our ocean, similar to national parks and forests on land. The California MPA network includes MPAs and other protected areas. Each area is unique in its purpose and allowed uses.

Protected areas around Pillar Point are:

- North Farallon Islands, Southeast Farallon Island, and Montara State Marine Reserves (SMR)  
No take, damage, injury, or possession of any living, geologic, or cultural marine resource is allowed.
- Duxbury Reef, Southeast Farallon Island, Pillar Point, Año Nuevo, and Greyhound Rock State Marine Conservation Areas (SMCA)  
Some recreational and/or commercial take of marine resources may be allowed.
- North Farallon Islands, Southeast Farallon Island, and Egg (Devil's Slide) Rock Special Closures  
Prohibits access or restricts boating activities in waters adjacent to seabird nesting and rookery sites, and marine mammal haul-out sites.

MPAs – Good for the Ocean; Good for You!  
Know the Rules Before You Head Out.

For Ocean Fishing Laws and Regulations go to: [www.dfg.ca.gov/marine/regulations](http://www.dfg.ca.gov/marine/regulations)

Pillar Point Harbor: (650) 726-5727

Report Violations: (888) 334-CALTIP, (888) 334-2258

Additional MPAs exist within San Francisco Bay. For MPA boundaries, maps, coordinates, and allowed uses, go to: [www.dfg.ca.gov/marine/MPA](http://www.dfg.ca.gov/marine/MPA)

MPA Mobile Website

# Regulatory Signs

- Communicate simple information using universal symbols
- Useful at beach access points, coastal walkways, State Parks, etc.

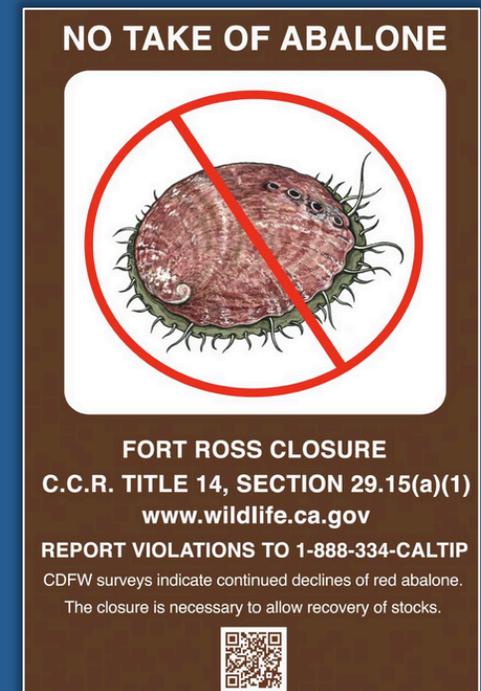
## No-Fishing or Collecting Signs



## No-Fishing Signs



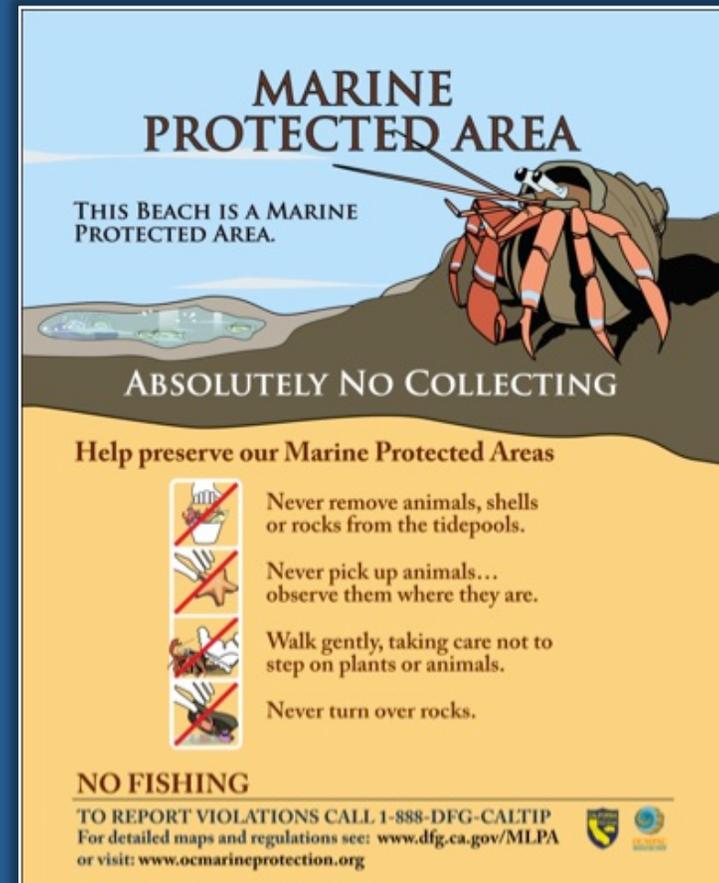
## Abalone No-Take Signs



# Regulatory Signs

## No Collection and No Fishing signs

- Unique approach adopted by Orange County.
- Useful at beach access points, coastal walkways, State Parks.



Contact: Orange County Collaborative

# Regulatory Signs

## Kiosk Signs: Recreational Fishing & MPAs

- Contains MPA and recreational fishing regulatory content
- Installed at highly visible locations
- Targets ocean recreation users
- CDFW plans to replicate and expand statewide; pilot kiosk being installed at Pillar Point Marina
- Joint collaboration between CDFW, NMS, CMSF, San Mateo MPA Collaborative and Pillar Point Harbor

### Going Fishing? Know the Rules Before You Head Out

Fisheries and marine resources must be managed in order to insure that the ocean's bounty and beauty will be enjoyed by future generations. Do your part to sustain our fisheries by knowing the regulations and following them.

Information not highlighted above can be found on adjacent signs.

#### Invertebrates Regulations

Crabs: No take, damage, injury, or possession of any living, geologic, or cultural marine resource is allowed.

Clams: No take, damage, injury, or possession of any living, geologic, or cultural marine resource is allowed.

Mussels: No take, damage, injury, or possession of any living, geologic, or cultural marine resource is allowed.

#### Groundfish Regulations

**Know What NOT to Take!**

Cooney Rockfish, Silvereye Rockfish, Greeneye Rockfish, Cowcod, Cunner, Lingcod, Rockfish, Salmon, Halibut, Surfperch, Invertebrates, Groundfish, Harbor, Marine Protected Areas.

**Prevent Pressure-related Injuries!**

**Help Rockfish Survive Barotrauma!**

#### Crabs

Crabs are important to the marine ecosystem and are a popular recreational resource.

**Measure Your Invertebrates!**

Crabs: No take, damage, injury, or possession of any living, geologic, or cultural marine resource is allowed.

Clams: No take, damage, injury, or possession of any living, geologic, or cultural marine resource is allowed.

Mussels: No take, damage, injury, or possession of any living, geologic, or cultural marine resource is allowed.

California Department of Public Health. Redfish for seafood consumption advisories. Visit us at: [www.cdph.ca.gov/od/odocs/publicaff/pdfs/000000.htm](http://www.cdph.ca.gov/od/odocs/publicaff/pdfs/000000.htm)

For more information, please visit: [www.dfg.ca.gov/marine/marine.htm](http://www.dfg.ca.gov/marine/marine.htm)

Support for these panels was provided by San Mateo MPA Collaborative.

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#### Ocean Salmon Regulations

**Take NO Coho!**

**Identify Coho:**

- Coho have white gills. Check for black gills.
- Coho tail fins are rough. Check tail fins for smooth.

**Avoid coho salmon:**

- Egg to fish disease - Coho are more often in the top 30 feet range.
- Fish vaccines for Chinook. Coho are usually farther offshore.
- Use large lines that select for larger Chinook and select Coho.

#### California Halibut Regulations

**Know Your California Halibut!**

Length: Check for the black spot on the side of the fish.

High back: Check for the high back on the fish.

Reddish-brown spots: Check for the reddish-brown spots on the fish.

Reddish-brown spots: Check for the reddish-brown spots on the fish.

#### Surfperch Regulations

**Know Your Surfperch!**

Round Surfperch, Broad Surfperch, Calico Surfperch, Redtail Surfperch, Blue Surfperch.

Information not highlighted above can be found on adjacent signs.

California Department of Public Health. Redfish for seafood consumption advisories. Visit us at: [www.cdph.ca.gov/od/odocs/publicaff/pdfs/000000.htm](http://www.cdph.ca.gov/od/odocs/publicaff/pdfs/000000.htm)

For more information, please visit: [www.dfg.ca.gov/marine/marine.htm](http://www.dfg.ca.gov/marine/marine.htm)

Support for these panels was provided by San Mateo MPA Collaborative.

### Conserving California's Coastal Treasures Know Your Marine Protected Areas

Know the Rules Before Heading Out

Information not highlighted above can be found on adjacent signs.

A network of Marine Protected Areas (MPAs) safeguards California's rich coastal resources. Designed to protect precious marine ecosystems and help restore depleted fish stocks, MPAs may restrict fishing and other extractive activities. MPAs in the waters close to where you are standing protect tidepools, kelp forests, rocky reefs, and prinnacles. They are some of the most biodiverse marine ecosystems in the state.

**MPAs help protect our ocean's bounty to allow future fishing opportunities for your children and theirs.**

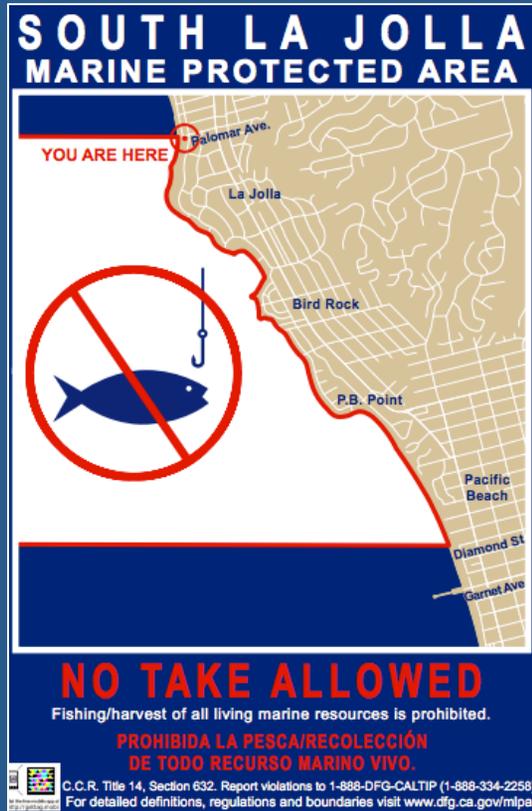
- **Monterey State Marine Reserve:** No take, damage, injury, or possession of any living, geologic, or cultural marine resource is allowed.
- **Pillar Point State Marine Conservation Area:** Take of all living marine resources is prohibited except:
  - The recreational take of pelagic finfish by trolling, Dungeness crab by trap, and market squid by hand-held dip net are allowed.
  - The commercial take of pelagic finfish by troll or round haul net, Dungeness crab by trap, and market squid by round haul net.
- **Egg (Devil's Slide) Rock to Devil's Slide Special Closure:** Special restrictions on boating and access apply as follows.
  - A special closure is designated from the mean high tide line to a distance of 300 feet seaward of the mean low tide line of any shoreline of any of the three rocks comprising Egg (Devil's Slide) Rock. Tanks in between the rock and the mainland between these points is prohibited at any time.
  - No person except employees of California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, National Oceanic and Atmospheric Administration, or United States Coast Guard, in performing their official duties, or unless permission is granted by CDFW, shall enter this area.
  - For more information about special closures in this area, visit the sign adjacent to the boat ramp.

MPA questions, concerns, or requests? Contact: [AMMP@wildlife.ca.gov](mailto:AMMP@wildlife.ca.gov) For a complete list of MPA regulations visit: [www.dfg.ca.gov/marine/mpa\\_summary](http://www.dfg.ca.gov/marine/mpa_summary)

Support for these panels was provided by San Mateo MPA Collaborative.

Contact California Department of Fish and Wildlife

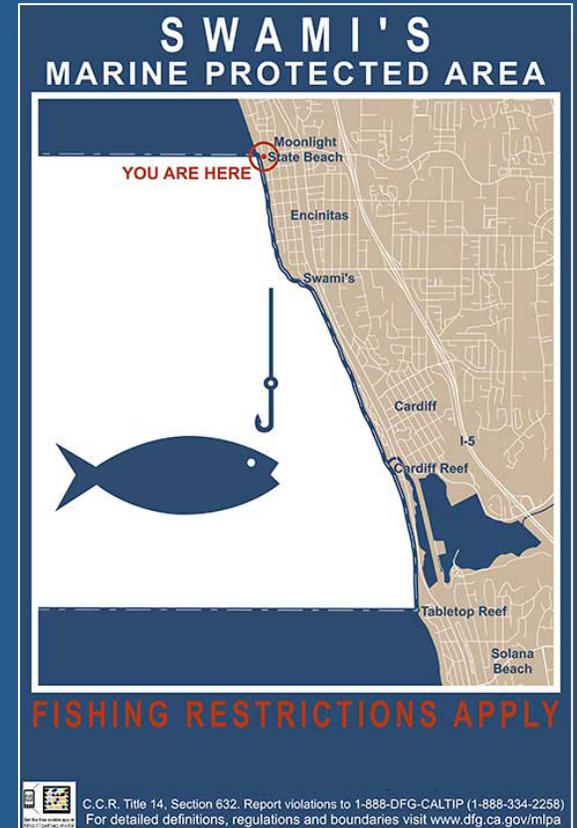
# Regulatory Signs



## 'You Are Here' Signs

- Posted at coastal access points, generally near MPA boundary.
- Includes a map of the MPA and a QR code for regulations
- Easily adaptable statewide

Created by WildCoast



<http://californiampas.org/pages/resources/products-signs.html>

# Brochures for Boaters and Fishers

## Guide to Fishing and MPAs

- Harbor specific waterproof and tear-proof brochures.
- Each brochure features maps and regulatory information.
- Great for reaching out to the recreational fishing community.
- Easily adaptable statewide.



To protect, maintain, enhance and restore California's marine ecosystems for their ecological values and their use and enjoyment by the public through good science and effective communication.

California Department of Fish and Wildlife, Marine Region

Image above: gray whale (Jan-Dirk Hansen) below: diver (Jerry Loomis)

**Monterey Harbor & Marina**  
(831) 646-3950 (day)  
(831) 594-7760 (night)  
www.bit.ly/MontereyHarbor

**California Department of Fish and Wildlife**

For more information:  
www.wildlife.ca.gov

For boundaries and regulations, go to:  
www.dfg.ca.gov/marine/MPA

Help stop poaching & polluting, call:  
1-888-334-CALTIP (1-888-334-2258)

Report lost fishing gear:  
1-888-491-GEAR (4237)  
or  
www.lostfishinggear.org

This publication is available in alternate formats by contacting Monterey Bay Sanctuary Foundation: 831-647-4209 or info@mnbmsf.org




Cover: left and center right (Bart Selby); top right (Chad King); bottom right (Steve Lonhart)

### A Guide to Fishing and Marine Protected Areas Monterey Harbor



Elkhorn Slough State Marine Reserve  
Elkhorn Slough State Marine Reserve  
Moro Cojo Slough State Marine Reserve  
Soquel Canyon State Marine Conservation Area  
Portuguese Ledge State Marine Conservation Area  
Edward F. Ricketts State Marine Conservation Area  
Lovers Point State Marine Reserve  
Pacific Grove Marine Gardens State Marine Conservation Area  
Asilomar State Marine Reserve  
Carmel Bay State Marine Conservation Area  
Carmel Pinnacles State Marine Reserve  
Point Lobos State Marine Reserve  
Point Lobos State Marine Conservation Area

**California Marine Protected Areas**  
The California statewide MPA network includes four different types of MPAs that vary in their purposes and level of protection, ranging from limited to no-take. The MPA designations are:

**State Marine Reserves (SMR):** No damage or take of king, geologic, or cultural marine resources is allowed.

**State Marine Parks (SMP):** No commercial take of resources is allowed, but some recreational take may be allowed (restrictions vary).

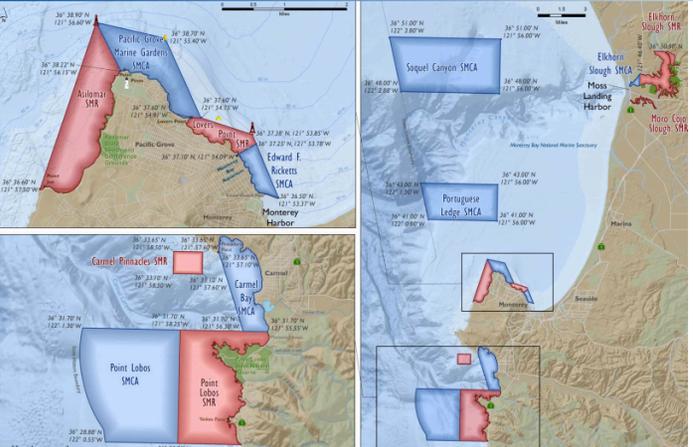
**State Marine Conservation Areas (SMCA):** Some recreational and/or commercial take of marine resources may be allowed (restrictions vary).

**State Marine Recreational Management Areas (SMRMA):** Restricts the take of living marine resources while allowing for waterfowl hunting to occur (restrictions vary).



black rockfish (Steve Lonhart)

### Monterey Harbor Marine Protected Areas (MPAs)



MPA	Allowed Uses
Elkhorn Slough, Moro Cojo, Lovers Point, Point Lobos, Asilomar & Carmel Pinnacles SMRs	Take of all living marine resources is prohibited.
Take of all living marine resources is prohibited EXCEPT:	
Elkhorn Slough SMCA	Recreational take of clams on north shore of slough near the Moss Landing Wildlife Area only and fishing by hook and line.
Edward F. Ricketts SMCA	Recreational take of finfish by hook and line. Commercial take of giant kelp and bull kelp by hand.
Pacific Grove Marine Gardens & Carmel Bay SMCA	Recreational take of finfish. Commercial take of giant kelp and bull kelp by hand.
Soquel Canyon & Portuguese Ledge SMCA	Recreational and commercial take of pelagic finfish.
Point Lobos SMCA	Recreational and commercial take of salmon and albacore. Commercial take of spot prawn.

**Regulations**  
This document does not replace the official regulatory language found in the California Code of Regulations Title 14, Section 632.

- A fishing license is required for any fishing.
- All existing take regulations still apply in addition to the ones listed above.
- Unless otherwise stated, all non-consumptive recreational activities are allowed.
- "Take" means to hunt, pursue, catch, capture or kill fish, mollusks, or crustaceans, or attempting to do so.

<http://californiampas.org/pages/resources/products-brochures.html>

# Brochures for Boaters and Fishers

## Area Specific MPA Fishing Guide

- Small, pocket-sized brochures with a map of MPAs, coordinates, rules and regulations.
- Useful for recreational fishers
- Available for San Diego only
- Easily adaptable statewide.



The San Diego MPA Community Collaborative is partnering with the California Department of Fish and Wildlife (CDFW) to inform the local community about San Diego's MPAs.

To report violations in any California Marine Protected Area call: 1-888-334-CALIF (1-888-334-2258)

For updated information about MPAs, detailed maps and regulations visit the CDFW website: [www.dfg.ca.gov/marine/mpa](http://www.dfg.ca.gov/marine/mpa)

To view MPAs on your mobile device go to: [www.dfg.ca.gov/mpa](http://www.dfg.ca.gov/mpa)

To view and download the CA Department of Fish and Wildlife "Guide to the Southern California Marine Protected Areas" visit: [www.dfg.ca.gov/marine/mpa/guidebooks.asp](http://www.dfg.ca.gov/marine/mpa/guidebooks.asp) and click on "Full Booklet" under "Southern California Marine Protected Areas".

To download this fishing guide please visit [www.californiampas.org](http://www.californiampas.org)

These websites are valuable tools for understanding and learning more about the network of MPAs that have been established along California's beautiful coast.



### SAMPLE CATCH









**San Diego Marine Protected Areas**  
Detailed Map  
Effective JANUARY 1, 2012  
For more information and complete regulations visit: [www.dfg.ca.gov/marine/mpa](http://www.dfg.ca.gov/marine/mpa)

**Legend:**

- State Marine Reserve (SMR) - Take, including fishing/harvest of some marine resources is prohibited
- No-Take State Marine Conservation Area (SMCA) - No-Take Allowed
- State Marine Conservation Area (SMCA) - Take, including fishing/harvest of some marine resources is permitted



Fishing Guide for San Diego's Marine Protected Areas (MPAs)




Created by WildCoast

### What is a Marine Protected Area (MPA)?

MPAs are areas off the coast of California dedicated to the protection of marine habitat and wildlife. MPAs have been established so that ocean ecosystems may recover and future generations can enjoy marine life for years to come.



### There are three types of Marine Protected Areas in San Diego.

**State Marine Reserve (SMR)** - Take, damage, injury, or possession of any marine resource (living, geological or cultural) is prohibited. Areas include Matlahuayl, South La Jolla and Cabrillo.

**No-Take State Marine Conservation Areas (SMCA)** - Take, damage, injury, or possession of any natural resource (living, geological or cultural) is prohibited. Foot traffic is restricted on designated paths. No swimming, diving or boating. Areas include Balliquitos Lagoon, San Eljo Lagoon and Famosa Sloughs.

**State Marine Conservation Areas (SMCA)** - Take, including fishing/harvest of some marine resources is permitted. Areas include Swami's, San Dieguito Lagoon, San Diego Scripps, outer water portion of South La Jolla and Tijuana River Mouth.

**Southern California Marine Protected Areas went into effect January 1st, 2012.**

### Is fishing still allowed from Southern California piers?

Yes, Southern California's public piers are generally open to recreational fishing. Even though licenses and stamps are not required while fishing from a public pier, all other regulations apply (including minimum size, bag limits, seasons, and report card requirements).

### Is anchoring allowed inside MPAs?

Yes, anchoring your boat is allowed inside MPAs under specific regulations listed in Section (§) 632(a) of Title 14 California Code of Regulations or at the official "Guide for Southern California Marine Protected Areas."

The maps show both State Marine Reserves SMRs (red) and "No-Take" State Marine Conservation Areas SMCA (purple). What is the difference between the two designations?

Both SMRs and "No-Take" SMCA's do not allow fishing or harvest of any living marine resource. However, in "No-Take" SMCA's, some indirect take is authorized during permitted operations within the MPA.

### Where can I find more information on Southern California MPAs?

The California Department of Fish and Wildlife is the managing government agency in charge of MPA enforcement, monitoring activities and regulations, and it maintains several websites with extensive MPA information. The websites are provided on the back of this brochure.

[www.dfg.ca.gov/marine/mpa](http://www.dfg.ca.gov/marine/mpa)

San Diego MPAs	Fishing/Harvest Restriction*
<b>Balliquitos Lagoon SMCA (No-Take)</b>	No Take Allowed. **
<b>Swami's SMCA</b>	No Take Allowed EXCEPT: recreational take by hook and line from shore only, and spearfishing of pelagic finfish (see definition 1 below) Pacific bonito and white seabass.
<b>San Eljo Lagoon SMCA (No-Take)</b>	No Take Allowed**
<b>San Dieguito Lagoon SMCA</b>	No Take Allowed EXCEPT: recreational take of finfish by hook and line from shore. ** +
<b>San Diego-Scripps Coastal SMCA</b>	No Take Allowed EXCEPT: recreational take of coastal pelagic species (see definition 2 below) by hook and line.
<b>Matlahuayl SMR</b>	No Take Allowed
<b>South La Jolla SMCA</b>	No Take Allowed EXCEPT: Recreational take of pelagic finfish (see definition 1 below), and Pacific bonito, by hook and line.
<b>South La Jolla SMR</b>	No Take Allowed
<b>Famosa Slough SMCA (No-Take)</b>	No Take Allowed
<b>Cabrillo SMR</b>	No Take Allowed
<b>Tijuana River Mouth SMCA</b>	No Take Allowed EXCEPT: Recreational take of coastal pelagic species (see definition 2), except market squid, by hand-held dip net, and commercial take of coastal pelagic species (see definition 2), except market squid, by round haul net.

**Definition 1**  
Pelagic finfish: Yellowtail, Northern anchovy, barracudas, billfishes, dolphinfish, Pacific herring, jack mackerel, Pacific mackerel, salmon, Pacific sardine, blue shark, salmon shark, shortfin mako shark, thresher sharks, swordfish and tuncas. The commercial take of Marlin is not allowed.

**Definition 2**  
Coastal pelagic species: Northern anchovy, Pacific sardine, Pacific mackerel, jack mackerel, and market squid.  
\* Other restrictions may exist. See [www.dfg.ca.gov/marine/mpa](http://www.dfg.ca.gov/marine/mpa) \*\* Swimming, bagging, wading & diving are prohibited.  
+ This area overlaps a State Ecological Reserve; access to the ecological reserve shoreline is currently closed to the public, as authorized under CCR Title 14, Section 630 (a)(10).

<http://www.wildcoast.net/media-center/news/964-mpa-informational-brochures-are-available-online>

# General Public Brochures

## Site-Specific MPA Brochures

- Detailed description of multiple MPAs and a full-page map with coordinates and recreational use information.
- Useful for aquaria, state parks and interpretive centers
- Easily adaptable statewide



### Marine Protected Areas

Conserve key marine life and habitats

Preserve natural diversity

Help rebuild depleted populations

Protect geologic features and cultural areas

**California State Parks**  
Monterey District: 831-649-2836  
711, TTY RELAY SERVICE  
www.parks.ca.gov

**California Department of Fish and Game**  
For more information:  
www.dfg.ca.gov  
For boundaries and regulations, go to:  
www.dfg.ca.gov/MLPA

Help stop poaching and polluting:  
1-888-DFG-CALTIP (1-888-334-2258)

This publication is available in alternate formats by contacting Monterey Bay Sanctuary Foundation: 831-647-4209



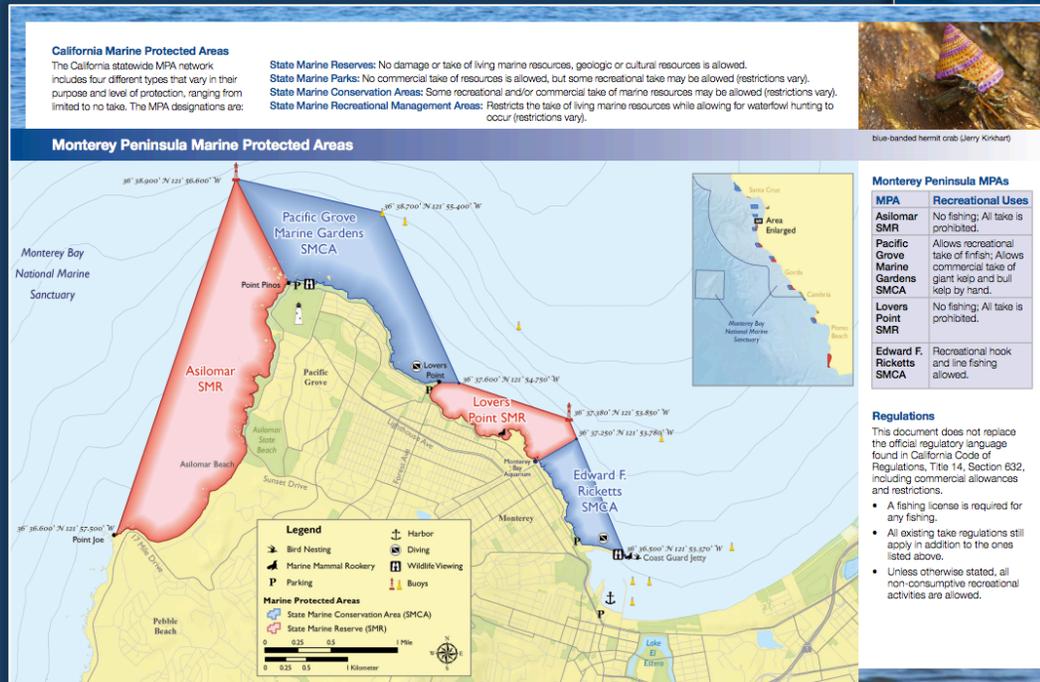
Cover: southern sea otter (Jerry Kirkhart)

## Monterey Peninsula Marine Protected Areas (MPAs)

Edward F. Ricketts State Marine Conservation Area  
Lovers Point State Marine Reserve  
Pacific Grove Marine Gardens State Marine Conservation Area  
Aillomar State Marine Reserve



Central Coast Marine Protected Areas



<http://californiampas.org/pages/resources/products-brochures.html>

# General Public Brochures

## MPAs by Region

- Features a map of MPAs, general information and specific regulatory information.
- Available for every region.

### What are Marine Protected Areas?

Marine protected areas (MPAs) are marine or estuarine waters set aside primarily to protect or conserve marine life and its associated habitat. MPAs have varying levels of protections and allowed uses.

### Types of MPAs

California uses three main MPA classifications: State Marine Reserve (SMR), State Marine Conservation Area (SMCA), and State Marine Park (SMP). The North Central California region also includes State Marine Recreational Management Areas (SMRMA) and special closures.

### North Central California MPAs

In 1999, California's Marine Life Protection Act was passed into law with a clear mandate: to re-evaluate all existing MPAs and potentially design new MPAs with input from a broad array of stakeholders. The California Department of Fish and Wildlife (CDFW) was integral to this effort. The MPAs in this brochure were designed, in part, to:

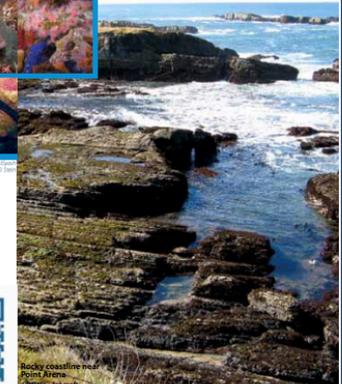
- Protect and sustain marine life, habitats and ecosystems
- Provide opportunities to learn from and enjoy marine areas subject to reduced human disturbance

For more information, visit the California Marine Protected Area website at [www.dfg.ca.gov/marine/MPA](http://www.dfg.ca.gov/marine/MPA)



## California Marine Protected Areas

### North Central California: Alder Creek, near Pt. Arena to Pigeon Pt.



Help stop poaching and polluting. Call CallTIP! 1-888-834-CallTIP



Sustainable Fish and Wildlife Resources



On January 1, 2013 the California Department of Fish and Game (CDFG) officially became the California Department of Fish and Wildlife (CDFW). Alternate communication formats of this document are available upon request. If reasonable accommodation is needed, call CDFW at (707) 964-9505. The California Relay Service for the deaf or hearing-impaired can be utilized from TDD phones at (800) 735-2929. CDFW Marine Region NCC MPA brochure M4, Polygon Version 1, Aug 2019

California Department of Fish and Wildlife

Created by CDFW

## North Central California MPA Regulations

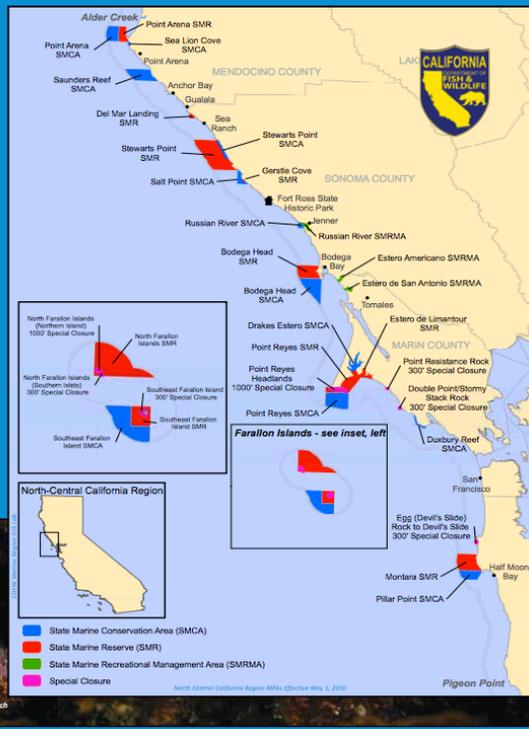
Effective May 1, 2010

Note: This document does not replace the official regulatory language found in California Code of Regulations Title 14

MPA Name	Permitted/Prohibited Uses
<b>SMR</b> Pt. Arena, Del Mar Landing, Stewarts Pt., Gerstle Cove, Bodega Head, Pt. Reyes, Estero de Limantour, North Farallon Islands, Southeast Farallon Island, Montara	Take of all living marine resources is prohibited. Additionally, for Bodega Head SMR: No anchoring or mooring except as permitted by federal law, or in hazardous weather. CDFW and Bodega Marine Laboratory director may authorize access and take for scientific or educational purposes.
<b>SMCA</b> Pt. Arena, Southeast Farallon Island, Sea Lion Cove, Saunders Reef, Stewarts Pt., Salt Pt., Russian River, Bodega Head, Pillar Point, Drakes Estero, Pt. Reyes, Duxbury Reef	Take of all living marine resources is prohibited, EXCEPT: Pt. Arena, Southeast Farallon Island: Recreational and commercial take of salmon by trolling. Sea Lion Cove: Recreational and commercial take of finfish. Saunders Reef: Recreational and commercial take of salmon by trolling. Commercial take of urchin. Stewarts Pt.: Recreational take of plants (no sea palm), invertebrates, finfish by hook-and-line, surf smelt by beach net, and species in CCR T14 §28.80 by hand-held dip net. Salt Pt.: Recreational take of abalone and finfish. Russian River: Recreational and commercial take of Dungeness crab by trap. Recreational take of surf smelt by hand-held dip net or beach net. Bodega Head, Pillar Point: Recreational take of Dungeness crab by trap, market squid by hand-held dip net, and pelagic finfish by trolling. Commercial take of Dungeness crab by trap, market squid by round-haul net, and pelagic finfish by trolling or round-haul net. Drakes Estero: Recreational take of clams. Commercial aquaculture of shellfish. Pt. Reyes: Recreational and commercial take of salmon by trolling and Dungeness crab by trap. Duxbury Reef: Recreational take of abalone, and finfish from shore only.
<b>SMRMA</b> Russian River, Estero Americano, Estero de San Antonio	Take of waterfowl in accordance with general waterfowl regulations.
<b>Special Closure</b> North Farallon Islands (Northern Islands) 1000' Special Closure, North Farallon Islands (Southern Islands) 300' Special Closure, Southeast Farallon Island 300' Special Closure, North Farallon Islands SMR, Southeast Farallon Island SMR, Drakes Estero SMCA, Point Reyes Headlands 1000' Special Closure, Point Reyes SMCA, Point Reyes Headlands 300' Special Closure, Point Resistance Rock 300' Special Closure, Double Point/Stormy Stack Rock 300' Special Closure, Duxbury Reef SMCA, Egg (Devil's Slide) Rock to Devil's Slide 300' Special Closure, Montara SMR, Pillar Point SMCA	Boating, access, and other specific activities are restricted as follows: • In waters surrounding Pt. Reyes Headlands, Pt. Resistance Rock, Double Point/Stormy Stack, North Farallon Islands, Southeast Farallon Island, and Egg (Devil's Slide) Rock to Devil's Slide, boating and access is restricted. No person shall enter these areas (except employees of CDFW, USFWS, NOAA, or USCG during performance of their official duties, or unless permission is granted by CDFW). • Additional restrictions related to boating speed limits, anchoring, seasonal closure, commercial diving operation exhaust procedures, and transit exist for North Farallon Islands, Southeast Farallon Island, and Egg (Devil's Slide) Rock to Devil's Slide special closures. See CCR T14 §632 for details.

MPA boundaries, maps, coordinates and allowed uses are available on your smartphone or other mobile or web-enabled device at [www.dfg.ca.gov/m/MPA](http://www.dfg.ca.gov/m/MPA). This information is also available on the CDFW website at [www.dfg.ca.gov/marine/MPA](http://www.dfg.ca.gov/marine/MPA) and through your local CDFW office.

## North Central California Marine Protected Areas



<http://californiampas.org/pages/resources/products-brochures.htm>

# General Public Brochures

## Recreational Brochure

- General overview of the area for locals and visitors
- Provides a map of MPAs and suggestions for activities that can be enjoyed
- Created for San Diego MPAs
- Easily adaptable statewide



## MARINE PROTECTED AREAS

### What is a Marine Protected Area (MPA)?

MPAs are areas off the coast of California dedicated to the protection of marine resources, habitat and wildlife. Like national parks on land, these "underwater parks" have been established so ocean ecosystems may recover and future generations can enjoy marine life for years to come!

### There are three types of Marine Protected Areas in San Diego:

**State Marine Reserves (SMR)** –Take, damage, injury, or possession of any marine resource (living, geological or cultural) is prohibited. While resource extraction is NOT permitted, marine based recreational activities are encouraged! Areas include Matlahuayl, South La Jolla and Cabrillo. Some recreational activities are not allowed within Cabrillo National Monument's jurisdiction. Please be aware that other rules and regulations may apply.

**No-Take State Marine Conservation Areas (SMCA)** –Take, damage injury, or possession of any natural resource (living, geological or cultural) is prohibited. Areas include Batiquitos Lagoon and San Elijo Lagoon

**State Marine Conservation Areas (SMCA)** –Take, including fishing/harvest of some marine resources is permitted. Some conservative recreational and commercial activities are allowed at Swami's, San Dieguito Lagoon, San Diego-Scripps, outer water portion of South La Jolla and Tijuana River Mouth.

## ENJOY MPAs your "underwater parks"

### Kayaking

Kayaking is one of the easiest and most popular ways to explore most MPAs in San Diego County and marine wildlife viewing can be amazing! In places like La Jolla's Matlahuayl MPA you can find dolphins, sea lions, a diversity of fish, and migratory sea birds. During November through March you could even spot a migrating gray whale! Naturalist guides can be hired to accompany you on your kayak tour. For information on kayak shops please check your local listings.

For information on kayak shops please check your local listings.

### Fishing

Each MPA has specific fishing rules and regulations. Before heading out to fish, please check all restrictions and allowed practices at the California Department of Fish and Wildlife. website: [www.dfg.ca.gov/marine/mpa](http://www.dfg.ca.gov/marine/mpa)

Or download the fishing guide for San Diego MPAs at [www.californiampas.net](http://www.californiampas.net)



**Diving/ Snorkeling**  
San Diego's coastline boasts some of the richest marine ecosystems in the world, and is a prime destination for thousands of divers and snorkelers each year. Divers have the opportunity to see unique wildlife such as black sea bass, sharks and garibaldi, the California state marine fish.

When you dive into one of our many MPA's in San Diego don't be surprised to see a group of seals swimming next to you! For more information on equipment rental, best places to dive, and SCUBA certification courses visit one of San Diego's many local dive shops.

### Tidepooling

You don't have to get in the water to experience San Diego's marine life.

During low tide look for pools of water forming in rocky intertidal zones in South La Jolla SMR, Cabrillo SMR, and San Diego-Scripps Coastal SMCA. Sea stars, mussels, sea urchins, anemones, shore crabs, and sea hares are just some of the sea life found in San Diego's tidepools. Enjoy and explore these areas, but remember that removal and disturbance (including touching) are prohibited. You can find "Good Tidepooler Rules" in this brochure. And don't forget: kids love tidepooling! Consult a tide chart before you plan your trip.



**Surfing**  
Surfing is an essential part of California's beach culture. San Diego County offers quality waves year-round. Many of San Diego's most well known surf spots are found within our MPAs. Beginners can rent wetsuits and surfboards at many local San Diego surf shops.



**Birding/Bird Watching**  
Casual bird watchers and serious birders alike flock to San Diego's many diverse ecosystems to take advantage of the impressive array of local and migratory bird life. MPAs such as Matlahuayl and the Tijuana River Mouth offer opportunities for sighting a variety of shore-birds, waterfowl, hawks, and more. Remember to keep a respectful distance from all wildlife, avoid using flash photography, and take care when walking along the beach as some bird species, such as Snowy Plovers, nest in the sand.

For more information on San Diego shops please check your local listings.



**PROTECTING OUR OCEAN LEGACY**  
FOR FUTURE GENERATIONS TO ENJOY

## TIDEEPOOLING



### The "Good Tidepooler Rules"

The following guidelines have been set up to help tidepool explorers minimize their impact on tidepool organisms and habitat.

- It is unwise to disturb the tidepool habitat in SMR and some SMCA's.
- Follow the good tidepooler rules:
  - Never remove animals, shells or rocks from the tidepool.
  - Never pick up animals...
  - Observe them where they are.
  - Walk gently, taking care not to step on plants or animals.
  - Never tam over rocks.

The San Diego MPA Community Collaborative is partnering with the Department of Fish and Wildlife to inform the local community about San Diego's MPAs

**TO REPORT VIOLATIONS IN ANY MARINE PROTECTED AREA CALL 1-888-8-CALIF (1-888-822-5266)**

For detailed maps and regulations visit:  
[www.dfg.ca.gov/marine/mpa](http://www.dfg.ca.gov/marine/mpa)  
Or view MPAs on your mobile device at:  
[www.dfg.ca.gov/marine/mpa](http://www.dfg.ca.gov/marine/mpa)

For more information, please visit:  
[www.wildcoast.net](http://www.wildcoast.net)



Created by WildCoast

# General Public Brochures

## MPA Pocket Brochure

- Small brochure introduces MPAs and MPA Watch
- Created for Southern California MPAs
- Easily adaptable statewide

### Why Do We Need MPAs?

- Local marine ecosystems are stressed
- CA fisheries and kelp beds have declined
- MPAs protect whole ecosystems and replenish our seas



### MPA Watch



- Local "citizen scientists" monitor shoreline
- Helps MPA science, management, and enforcement
- Builds stewardship of our special places

### How You Can Help

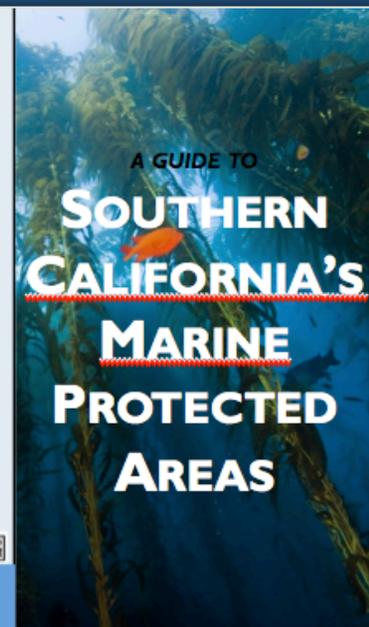
- Join MPA Watch:  
[www.healthebay.org/mpawatch](http://www.healthebay.org/mpawatch)
- Report violations to:  
1-888-DFG-CALTIP
- Volunteer for other monitoring programs like Reef Check
- Become a member and support Heal the Bay



1444 9<sup>th</sup> St.  
Santa Monica, CA 90401  
(310) 451-1500



[www.healthebay.org](http://www.healthebay.org)



Created by Heal The Bay

<http://californiampas.org/pages/resources/products-brochures.html>

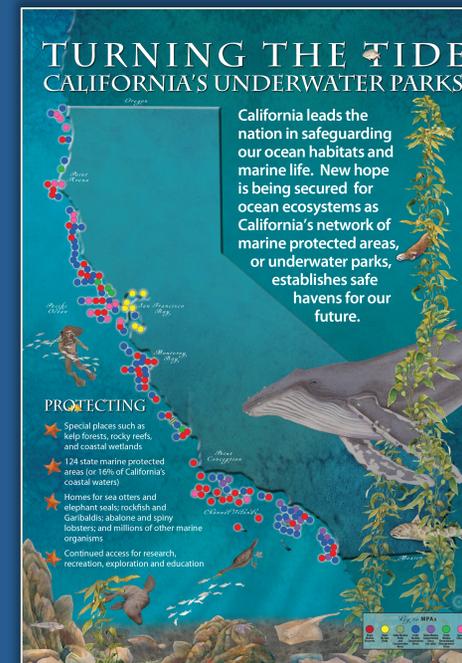
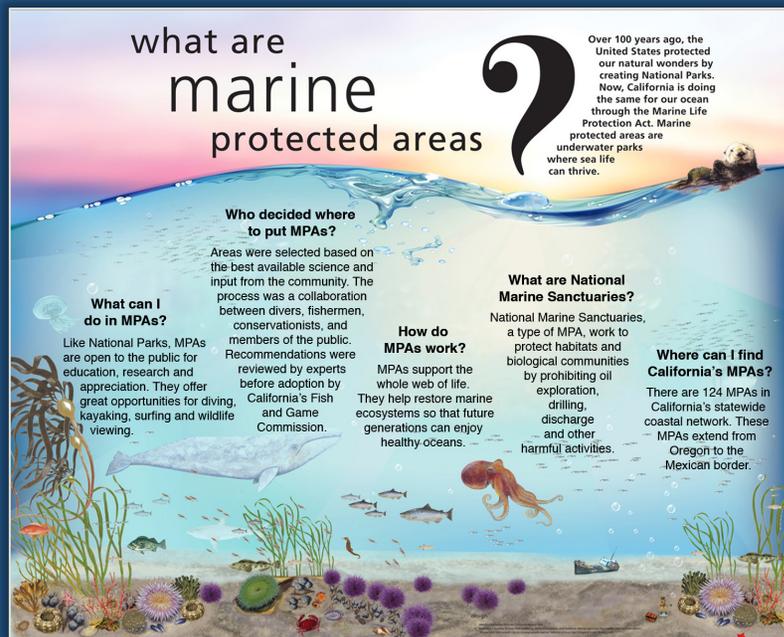
# Posters

## 'What Are MPAs' Poster

- Answers FAQ about MPAs
- Ideal for a general public audience
- Adapted from Pt. Reyes National Seashore

## California's MPA Network Poster

- Celebrates CA's MPA network
- An engaging visual display of state MPAs
- A minimalist poster created for elected officials, chambers of commerce and ocean recreation businesses



Contact [CMSF@CaliforniaMSF.org](mailto:CMSF@CaliforniaMSF.org)

# Posters

## Underwater Parks Day Poster

- Covers CA MPA basics
- Can be used statewide

### Marine Protected Areas California's Underwater Parks Safeguard Ocean Life

Marine protected areas (MPAs) are special underwater places designed to protect key ocean habitats and species by managing activities that threaten their integrity.

Just as the nation's parks, forests and wilderness areas protect special places on land, California's MPAs safeguard our underwater wildlife.

Also called underwater parks, they restore marine ecosystems, ensuring the ocean's bounty and beauty remains for future generations to enjoy.



California's network of underwater parks protects many different marine habitats found along our coast from lush kelp forests to sheltered estuaries to intertidal areas and steep underwater canyons. Protecting habitats benefits a range of species including plants (kelp), invertebrates (sea stars), and marine mammals such as seals and otters.

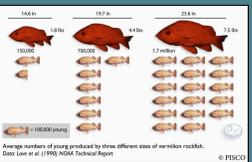


Research from around the world provides strong evidence that MPAs work, providing economic, ecological and cultural benefits. Studies show that MPAs lead to higher biodiversity and abundance of marine life compared to unprotected areas.

There are many ways to enjoy California's underwater parks. You can swim, dive, kayak, surf, watch birds or simply relax in nature.



For more information, please visit [www.CaliforniaMPAs.org](http://www.CaliforniaMPAs.org)



Female Size	Average Number of Young
14.6 in	10,000
19.7 in	30,000
21.6 in	17,000

Source: Loefer et al. (1995) NGA Technical Report © PISCO

Big, Old, Fertile, Female Fish (BOFFF)

California's north coast boasts 20 MPAs & 7 special closures protecting special places like Pyramid Point.

California's central coast MPAs were the first to be established in the state. Here, 29 MPAs safeguard places such as historic Point Sur.

Along California's north central coast, 25 MPAs & 6 special closures help to manage and restore places like the Russian River estuary.

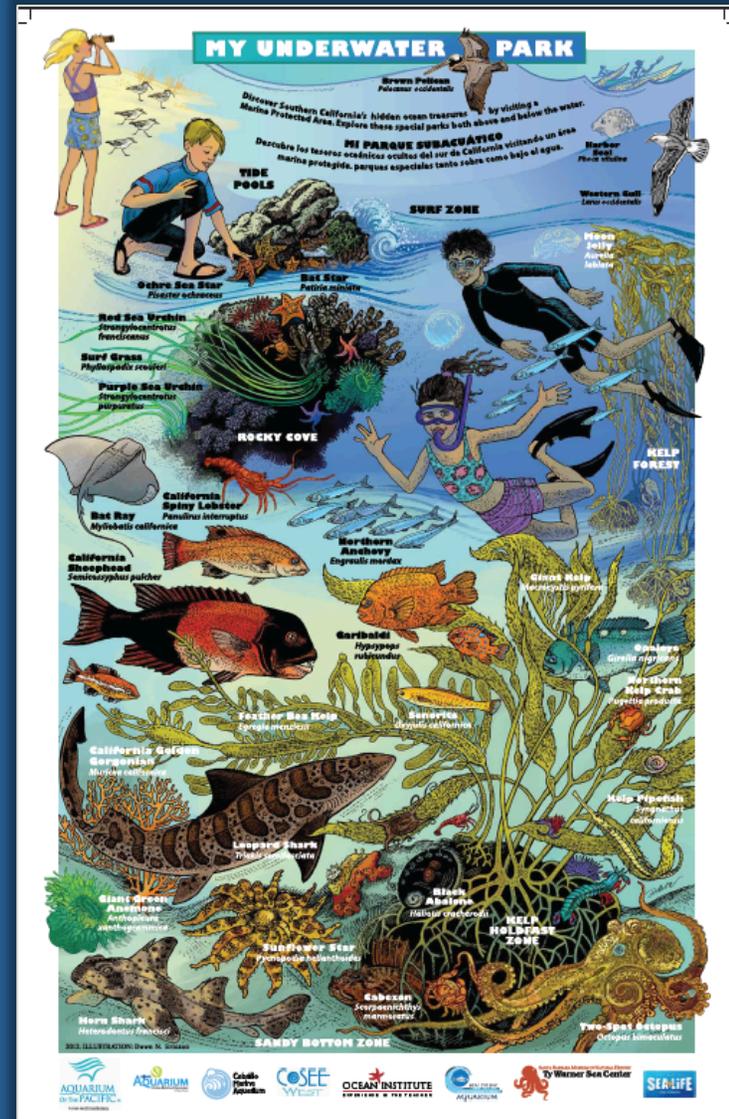
California's south coast is protected by 50 MPAs & 2 special closures, including iconic places like Point Vicente and the Channel Islands.

Contact [CMSF@CaliforniaMSF.org](mailto:CMSF@CaliforniaMSF.org)

# Posters

## “My Underwater Park” Poster

- Kid friendly MPA poster
- Features ocean animals and plants
- Information in English and Spanish
- Great hand outs for Underwater Parks Day and other outreach events
- Easily adaptable statewide



Created by Southern California Aquarium Collaborative

<http://californiampas.org/pages/resources/products-exhibits.html>

# Posters

## “My Underwater Park” Poster

- Poster of 4 public MPA lectures held at various South Coast locations.
- Easily adaptable to other MPA lecture series state wide

*The Southern California Aquarium Collaborative Presents*  
**MARINE PROTECTED AREAS**  
 LECTURE SERIES 2012 - 2013



**FALL 2012**  
 December 7, 2012 • 7-8pm  
**CABRILLO MARINE AQUARIUM**  
 3720 Stephen M. White Dr., San Pedro, CA 90731  
 For ticket information call 310-548-7562.

**“Marine Protected Areas from the Perspective of the California Department of Fish and Game”**

**Paul Hamdorf** is Assistant Chief, Southern District, California Department of Fish and Game and will talk about the Department's role in educating the public about the newly designated Marine Protected areas along the 1,100 mile California coastline including enforcement efforts.



**SPRING 2013**  
 April 11, 2013 • 6:30-8:30pm  
**TY WARNER SEA CENTER**  
 211 Stearns Wharf, Santa Barbara, CA 93101  
 For ticket information call 805-962-2526.  
 Pre-registration required. Tickets also available online at [www.sbnature.org/tickets](http://www.sbnature.org/tickets)

**“Seeking Sanctuaries for Sharks” - Come meet CSU Long Beach Shark Lab Scientist, Dr. Chris Lowe,** and hear about his research dedicated to the study of the physiology and behavior of sharks, rays, and other game fishes. Advance your understanding of shark ecology, gain awareness of shark conservation efforts, and discover the importance of marine protected areas.



**WINTER 2013**  
 January 17, 2013 • 7-8pm  
**OCEAN INSTITUTE AQUARIUM**  
 24200 Dana Point Harbor Dr., Dana Point, CA 92629  
 For ticket information call 949-496-2274 x 0.

**“Rocky Intertidal Habitats - Recent Insights into Human Activities in MPAs”**

**Dr. Jayson Smith** is a marine ecologist and conservation biologist in the Biological Sciences department at California State Polytechnic University, Pomona. He conducts research primarily in rocky intertidal habitats along the California coast with particular interests in the effects of urbanization on rocky shore population and community dynamics.



**SUMMER 2013**  
 July 8, 2013 • 6:30-8pm  
**BIRCH AQUARIUM AT SCRIPPS INSTITUTION OF OCEANOGRAPHY**  
 2300 Expedition Way, La Jolla, CA 92037  
 For ticket information call 858-534-3474.

**“Shark Conservation: Safeguarding the Future of our Ocean”**

Join Scripps Oceanography researcher **Dr. Andy Nosal** for a discussion on shark conservation. Learn about threats facing sharks, such as overfishing, finning, and negative public perception. Protecting these essential marine predators from population decline has never been more important.



Learn more about the Southern California Aquarium Collaborative













Created by Southern California Aquarium Collaborative

# Exhibits

## MPA Exhibit

- A multi-panel display (up to 16!)
- Great for introducing the public to CA's network of MPAs
- Easily adaptable statewide



## Celebrating Our Underwater Parks!

California leads the nation in ocean protection



Beautiful beaches and breathtaking views abound along our California coast.

years ago, a few visionary leaders recognized the importance of protecting Yosemite. Their work helped shape a new conservation ethic in America. Today, millions of acres of wild California's natural cultural heritage—the protected in national state parks, forests and wilderness areas. California is leading the way in conserving our ocean heritage.

## Tools for Protection

It takes a whole kit of tools to protect the ocean



Worldwide we have a variety of tools to help us protect the ocean, but marine protected areas (MPAs) are among the most useful.

MPAs come in different sizes and have many uses. Some protect entire ecosystems. Others safeguard a particular fishery, rare species, critical habitat for marine life, or underwater historical sites.

This map shows locations of no-take marine protected areas worldwide.

They also differ in what they allow. Some are "no take" areas that ban all fishing, drilling, mining and other extractive activities. Others allow some commercial and recreational fishing. Most allow research, education and recreational uses like kayaking, surfing and scuba diving.



Swimming in a dark blue sea, the manta ray is a common sight in the Great Barrier Reef.



Flammarion Marine Protected Area in Sicily, Italy.



Exposed reef at Low Island, Australia's Great Barrier Reef.

## MPAs Along the Central Coast

Twenty-nine MPAs line our coast



A network of twenty-nine MPAs now protect our coastal waters from Pigeon Point to Point Conception. They cover 204 square miles (529 km<sup>2</sup>), including 85 square miles (220 km<sup>2</sup>) designated as fully protected marine reserves. Eventually the network will be expanded to include the entire California coast.



Aerial view of Point Sur SMR and SMCA.



Aerial view of Piedras Blancas SMR and SMCA.



Aerial of Point Lobos SMR and SMCA.

# Exhibits

## Traveling MPA Exhibit

- A 3 panel display
- Great for introducing the public to CA's network of MPAs
- Easily adaptable statewide
- Available in English and Spanish

## California is Leading the Nation in Ocean Protection

Marine Protected Areas protect California's ocean



Fish shelters to seafloor, MPAs are being created to include each type of ocean habitat.

Nearly 150 years ago, visionary leaders recognized the importance of protecting millions of acres of land, our nation's crown jewels, in national and state parks, forests and wilderness areas. Similarly, today California is engaged in a historic effort to safeguard our rich coastal resources by being the first state in the nation to establish a statewide network of marine protected areas (MPAs). Like parks protect wildlife and habitats on land, MPAs protect and restore wildlife and habitats in our oceans. They help ensure that the ocean's bounty and beauty remains for future generations to use and enjoy.



A kayaker enjoys the beauty of an ocean sunset.



MPAs can protect endangered species like the black abalone.

California's system of MPAs is being implemented through a collaborative effort that includes the California Department of Fish and Game and California State Parks with contributions from state and federal agencies, universities, NGOs, and stakeholder groups. All are integral to the success of California's MPAs.

## The Marine Life Protection Act

Creating a network of Marine Protected Areas (MPAs)



The design and implementation of this network began with the Central Coast, continued with the North Central Coast, and will proceed sequentially to include the entire 1,100 miles of California's coastline. Scientists, stakeholders, teams of experts, and the public, are working together to understand the best placement of MPAs in the remaining sections of California's coast. The statewide MPA network is set for completion by 2012.



Passed in 1999, the Marine Life Protection Act (MLPA) is a landmark legislation that recognized the importance of California's existing MPAs and required that they be re-evaluated for consistency and effectiveness. Using the best available science, the state determined that a network of MPAs, linking protected areas along the coast and including a variety of habitats would provide even greater protection to the health of marine ecosystems.

## Tools for Protection

MPAs can protect entire ecosystems



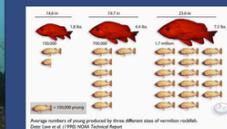
Sloughs and wetlands provide rich habitat for a diverse range of plant and animal species.

MPAs are among the most useful tools for protecting the ocean and complement other conservation efforts by providing a place for marine ecosystems to recover and thrive. MPAs have many different levels of protection. Since each MPA is designed for a specific purpose, some permit research and fishing while others are more restrictive 'no-take' marine reserves.

Strict 'no-take' reserves have been shown to have more fish and marine life compared to unprotected waters. Also, fish and invertebrates inside reserves are older and larger; producing more young that are healthier and help to replenish depleted populations inside and outside marine reserves.



Highly productive, fish-generating reefs are important for rockfishes and provide habitat and food for a variety of marine life.



Older, larger female fish play an important role in supporting healthy fish populations. Compared to smaller females, they produce far more and healthier young. MPAs that limit fishing can help provide a safe refuge.

# Exhibits

## MPA Exhibit

- Focuses on process of choosing and creating MPAs
- Meant to encourage Southern California residents to become engaged in the process



Created by the Southern California Aquarium Collaborative

<http://californiampas.org/pages/resources/products-exhibits.html>

# Presentations

## MPA Webinar Series

- Three, on demand one-hour webinars that showcase California's MPAs
- Overview of purpose, science, and messaging tools of California's MPAs



### 1. California Leads the **Nation** in Ocean Conservation

<https://www.youtube.com/watch?v=ZDKhUWDjsJc&list=UUxMEudznTI6wdXOvS6QfRwA>

### 2. Science of MPAs

<https://www.youtube.com/watch?v=HDGC1fyGRYU&list=UUxMEudznTI6wdXOvS6QfRwA>

### 3. Communicating About MPAs

<https://www.youtube.com/watch?v=MKX3p7II9P4&list=UUxMEudznTI6wdXOvS6QfRwA>

**Or find all three here:**

<http://californiampas.org/pages/resources/programs-ondemand.html>

# PowerPoint Presentations

## MPAs Speakers Bureau Presentation

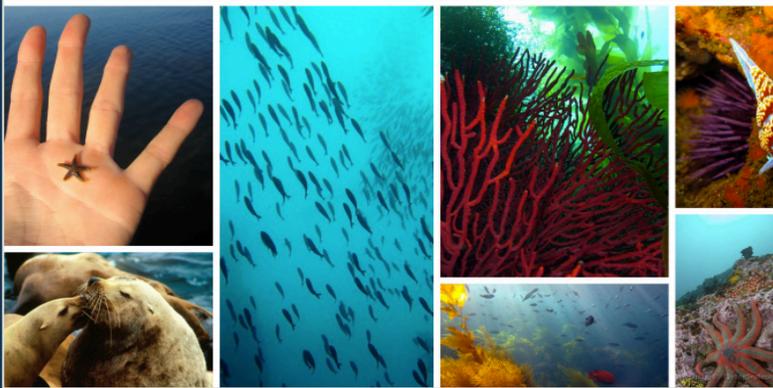
- Scripted presentation for volunteers and docents to use.
- Topics covered include:
  - 1) Statewide network
  - 2) Science of MPAs
  - 3) Communication tips
  - 4) Opportunities to get involved

## CMSF Website

- Hosts a variety of different presentations
- Topics covered include:
  - MPA docent enrichment
  - Past MPA trainings
  - Monitoring
  - Research

## Central Coast Marine Protected Areas

Underwater Parks Ambassadors Speakers Bureau



About MPAs | California MPAs | Outreach Toolkit | Fun Stuff | Get Connected

### MPA PowerPoint Presentation

A key strength of the MPA Education and Outreach Initiative is the breadth and depth of experts on marine protected areas and ocean conservation that are involved in the project. Several important PowerPoint presentations explaining the purpose, design, and scientific basis for MPAs are assembled below. They may be used to increase your understanding of the concepts or to augment your outreach and training sessions. The presentations are provided in Zipped PowerPoint and PDF formats. Please do not distribute without credit to the author(s).

General MPA and MLPA Information

**Central Coast MPAs Speakers Bureau Presentation**  
A scripted presentation that can be adapted and given to various audiences. Topics covered include: 1) the statewide network, 2) science of MPAs, 3) special communication tips for talking about MPAs, and 4) opportunities to get involved and support MPAs.  
[Zipped PowerPoint](#) (22.4M Zip file) [PDF of Powerpoint](#) (12M PDF file)

**Marine Protected Areas: Science 101**  
Basic information on MPAs including what they are, the different types, how they work, and the scientific benefit.  
[Zipped PowerPoint](#) (7.4M Zip file) [PDF of Powerpoint](#) (7.1M PDF file)

**California's Marine Life Protection Act**  
Kaitlin Gaffney – Director, Pacific Ecosystem Protection Program/Ocean Conservancy  
California's Marine Life Protection Act (MLPA) Initiative – basic information, goals, MPA designations, scientific guidelines, and about the Central Coast subregion.  
[Zipped PowerPoint](#) (11.9M Zip file) [PDF of Powerpoint](#) (14.3M PDF file)

**Importance of MPA Monitoring**  
Dan Canestro, Director, U.C. Norris Rancho Marine Reserve.  
Importance of monitoring MPAs to evaluate established goals and improve the science behind MPAs.

<http://californiampas.org/pages/resources/digital-powerpoints.html>

# Videos

## MPA Interpretive Videos

- Several 10-17 minute films
- Multiple engaging topics

### *A Wave of Change*

*A Wave of Change* highlights the need for marine protected areas along the coast for the California Marine Sanctuary Foundation



### *Travels with Central Coast Photographers*

This 17-minute travel documentary film with central coast photographer Doug Steakley highlights several photographic opportunities along the central California coast and provides the viewer with technical advice for producing great photographs.

#### Part 1



#### Part 2



### *California's Hope Spots, Riding a Wave of Change*

Along the California coast, teams of dedicated individuals log thousands of hours monitoring and researching some of the most special places on Earth. Stretching from Oregon to Mexico, these are the Yosemite's of the Seas—a string of underwater parks, featuring a spectacular range of habits. Hear what fishermen, scientists and conservation leaders have to say about California's MPAs after 5-years of extended protection.



neral public, teachers, kids, etc

help celebrate California's central coast marine protected areas after years of extended protection.

duced and directed by Kip Evans. Shot by Kip Evans and Phillip well. Written by Dr. Tierney Thys. Edited by Loren Sorensen, Kip ans, Phillip Powell and Sean Ayers. Narrated by Todd Lueders.

nitied Web and DVD distribution

uTube: <http://youtu.be/V091Q2AcqL0>

u can also request a DVD from the [California Marine Sanctuary](http://www.californiamarine.org) undation.

<http://www.californiampas.org/pages/resources/digital-videos.html>

# Videos

## Short MPA Interpretive Videos

- Several 3-4 minute films
- Highlight particular MPA sites
- Provide exciting interpretive information for potential visitors
- Allow those who cant visit the chance to experience MPAs from afar.

### Tide Pools

If you haven't been to a tide pool lately, the central California coast boasts some of the finest anywhere on earth. Tide pools are important to hundreds of plants and animals, especially young organisms. Learn about nudibranchs, sea stars, shore birds and some of the historical characters that first studied these rocky pools.



### California's Sea Change: A Network of Hope Spots

Hope Spots are special ocean places that are cause for hope in a time when the ocean faces many threats. In this video Sylvia Earle, marine biologist and ocean explorer, discusses how California's growing network of marine protected areas are a cause for hope.



### Point Sur Lightstation

Pt. Sur lighthouse is a California State Historic Park. It sits atop a dramatic volcanic rock along the Big Sur coast. Its beacon guides ships along the treacherous Central California Coast. Established in 1889, the lightstation has a colorful past including shipwrecks, ghost stories, and tales of family hardship. In 2008, its offshore waters were designated as a marine protected area.

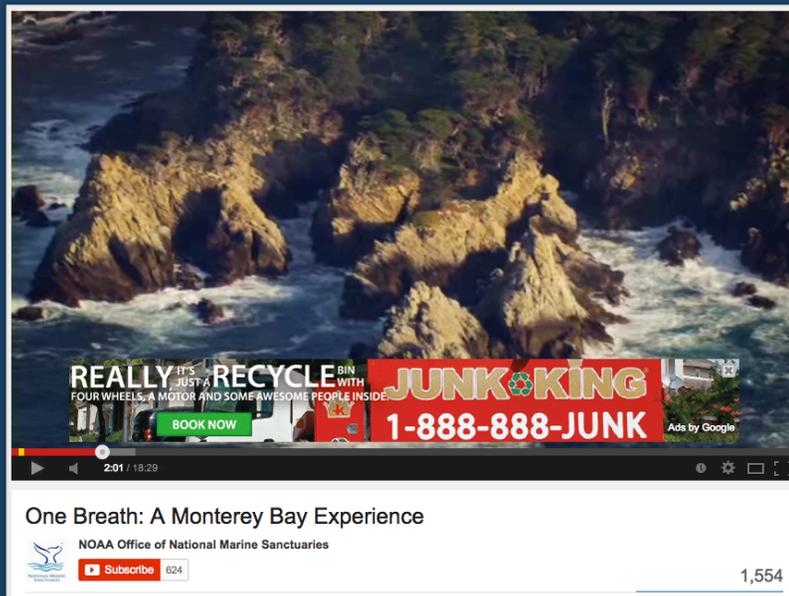


<http://www.californiampas.org/pages/resources/digital-videos.html>

# Videos

## More MPA Videos!

- Several short videos
- Educational and inspiring films



## How Do You MPA?

California's 124 marine protected areas (MPAs) are home to thousands of birds, mammals and fish and are prime recreation destinations for people who love the coast. Like parks on land, marine protected areas provide safe havens for ocean life to rebound. Wildlife such as elephant seals, sea otters and leopard sharks can be spotted in various MPAs. Activities for people are also endless, including diving, surfing, paddleboarding, walking on the beach, wildlife watching, exploring tide pools and bird-watching. This video promotes the recreation and fun to be had in the state's MPAs.



## Marine Protected Areas – Restoring the Beauty, Bounty and Diversity of our Natural Undersea World

This short, educational film produced by Aquarium of the Bay answers many important questions about marine protected areas including why they're so important to our world ocean, how they help to protect marine life, and ways everyone can help to protect the ocean and spread the good news about MPAs.



<http://www.californiampas.org/pages/resources/digital-videos-partners.html>

# Videos

## More MPA Videos!

- 13 minute video on the South Coast MPAs
- Created by the Aquarium of the Pacific



<http://www.youtube.com/watch?v=3ynkWIZO1JE>

# Spanish Translated Materials

- A variety of materials available including:
  - Brochures
  - Maps
  - Site specific fact sheets
  - Videos
  - Scientific Publications
  - Kids Activities
  - Exhibits
- Easily adaptable statewide

## BÚSQUEDA DE TESORO DE LAS PLAYAS DE CALIFORNIA

¡No necesita recoger estos tesoros! Mejor, dibújalos, toma unas fotos, o simplemente observa y entonces señala las cosas en tu lista. Siempre ten cuidado del mar. No se puede encontrar todas las cosas en cada playa. ¿Cuántas puedes encontrar en TU playa?



- unas huellas de gente
- un insecto
- una cometa
- unas huellas de otro animal
- una hoja
- arena negro

## Reservas Marinas Estatales "Lovers Point" y Asilomar, y Áreas Estatales de Conservación Marina "Edward F. Ricketts" y "Pacific Grove"

Hoja Informativa 5

**Extensión del Área Marina Protegida (AMP):**  
2.96 mi<sup>2</sup> (área combinada)  
**Rango de profundidad del AMP:**  
Desde la orilla hasta 172 pies

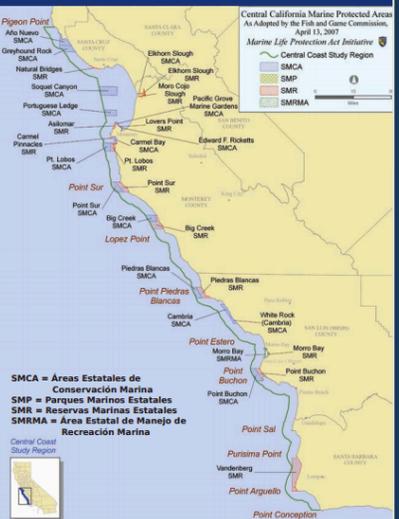


**La belleza natural y los abundantes recursos de la Península de Monterey, atraen a millones de visitantes de todo el mundo cada año, incluyendo a más de 60,000 buzos scuba, inspirados por los vibrantes tesoros vivientes que habitan sus paisajes submarinos.**

- Ubicada en el margen de las ciudades de Monterey y Pacific Grove, esta serie de pequeñas AMPs ayuda a proteger algunas de las áreas más usadas, y de mayor acceso en la costa central, a la vez que mantiene el acceso tradicional para usos recreativos y pesca, en aguas un poco más retiradas de la costa.
- La península de Monterey contiene numerosas pozas intermareales con abundante vida marina, playas arenosas que albergan focas y sus crías, y densos lechos de algas que ofrecen refugio a nutrias marinas.
- Las AMPs de la península de Monterey ofrecen oportunidades inmejorables para la investigación, que son aprovechadas por instituciones científicas y educativas como Estación Marina Hopkins, El Acuario de la Bahía de Monterey, y el Laboratorio Marino de Moss Landing.

Reglamentación de AMPs en la Costa Central		
Nota: Este documento no reemplaza la reglamentación oficial descrita en el título 14 del Código Reglamentario de California.		
AMP	Reglamentación de Usos	Más Información
Natural Bridges, Elkhorn Slough, West Cajo Slough, Lovers Point, Asilomar, Carmel Pt., Piedras Blancas, Pismo Bay, Point Buchon, Vandenberg SMRs	No se permite ningún tipo de extracción (ni comercial ni recreativa). Algunas Porciones de esta AMP están sujetas a reglas de acceso de los Parques Estatales de California.	Para más información sobre la ubicación exacta (límites y coordenadas), mapas y usos permitidos para cada AMP en la Costa Central, se encuentra disponible en: <a href="http://www.dfg.ca.gov/milpa">www.dfg.ca.gov/milpa</a> . También puede contactar a su oficina local del Departamento de Pesca y Caza de California.
Point Lobos SMR	No se permite ningún tipo de extracción (ni comercial ni recreativa). No se permite ancla a menos de 10 brazas de profundidad.	
Big Creek SMR	No se permite la extracción recreativa. Se permite la extracción manual de alga gigante (queat todo) para fines comerciales.	
Alto Nuevo SMCA	Se permite la extracción manual, con líneas recreativas, de alga gigante, calamar, sardinas y otros peces, utilizando línea y anzuelo desde la orilla. Se permite la extracción manual de salmón, calamar, y alga gigante, para fines comerciales.	
Greyhound Rock SMCA	Se permite la extracción recreativa de almejas y peces únicamente con línea y anzuelo. Las almejas solo se pueden extraer de la costa norte del estero, junto al Área Estatal de Vida Silvestre de Moss Landing.	
Elkhorn Slough SMCA	Se permite la extracción recreativa y comercial de peces pelágicos.	
Snowell Canyon y Portuguese Ledge SMCA	Se permite la extracción recreativa únicamente con línea y anzuelo. Se permite la extracción manual, con fines comerciales, de alga gigante y alga tona (queat todo) en ciertas áreas designadas.	
Edward F. Ricketts SMCA	Se permite la pesca recreativa. Se permite la extracción manual, con fines comerciales, de alga gigante y alga tona.	
Pacific Grove Marine Gardens, Carmel Bay SMCA	Se permite la pesca recreativa de salmón y silbancas. Se permite la pesca comercial de salmón, albacora, y langostino manchado.	
Point Sur, Big Creek, Piedras Blancas, y Point Buchon SMCA	Se permite la pesca recreativa y comercial de salmón y albacora únicamente.	
Cambria SMCA	Se permite todo tipo de extracción recreativa. No se permite extracción comercial.	
White Rock (Cambria) SMCA	No se permite la extracción manual, con fines comerciales, de alga gigante y alga tona.	
Mono Bay SMRMA	No se permite la extracción recreativa ni comercial en la parte sur. Algunos tipos de extracción recreativa y comercial son permitidos en la parte norte.	
*Veces peñónes, delimitados según la regulación de la Comisión de Caza y Pesca de California.		
Actividades no extractivas como el buceo, surf, natación, y canotaje son generalmente permitidas dentro de las AMPs, a menos que se indique lo contrario, y siempre y cuando se sigan las restricciones de extracción.		

## Áreas Marinas Protegidas de la Costa Central



<http://www.californiampas.org/pages/spanishresources.html>

# Educational Resources

# Success Stories

- Stories across locations and species
- Short summaries of recent scientific findings in simple language

## Success Stories

### No-Trawl Zones Benefit Great Scallops in the Isle of Man



photo © Ian Woolner

For the great scallop in the waters off of the Isle of Man, a small, no-trawl MPA is a win-win for both conservationists and fishermen. By protecting a small area of habitat, not only have the populations within the MPA recovered, the larvae of these older, larger scallops will help rebuild populations outside of the protected zone, benefiting local fishermen as well.

### Large-Scale Study of MPAs Identifies Key Features of Successful Reserves



photo © Leighton Wallis

Earlier this year, 25 scientists from around the world conducted the most comprehensive analysis of MPAs comparing fish communities inside and outside their boundaries. Several key features were identified and MPAs with all features showed over 200% increase in fish biomass and nearly 2000% increase in shark biomass!

### Reserves Offer Long-Term Protection to Norwegian Lobsters



photo © Jo-o-Pedro-Silva

A series of small reserves along the Norwegian coast have been shown to protect populations of the European lobsters with higher densities and larger sizes. This research has also shown how these benefits can spillover and aid local fishers.

### Scientific Models Demonstrate Recovery of a Reef Fish in Two South African MPAs



photo © Wilhelm van Zyl

Using powerful computer models, South African scientists simulated how Red Roman species would respond to MPA protections over time. The models indicated that both male and female Red Romans responded differently to protection and that their responses varied between the two MPAs.

## No-Trawl Zones Benefit Great Scallops in the Isle of Man

The great scallop is important to commercial fishermen in the Isle of Man; a rugged outcrop in the Irish Sea bordered by Ireland, Scotland, England, and Wales. It was here that a small, 2 square kilometer inshore area was closed to destructive trawling in 1989. Because scallops stay in one place for much of their relatively long lives and grow rapidly, it was expected that populations would rebound easily with protection. Given that great scallops reproduce by releasing vast numbers of larvae into the water column, which can drift for up to 40 days before settling and maturing on the sea floor, recovery was anticipated both inside and outside the protected areas.



Photo copyright Ian Woolner

A group of Irish scientists jumped into the cold waters to count scallops, categorizing them by size and age to determine the health of populations inside and outside of the no-trawling area. In addition, scientists trawled a small subset of the protected region to directly measure the effects of dredging on great scallop populations.

The no-trawl area clearly benefits great scallops. This study shows that after 14 years of protection, scallops were more abundant and much larger inside protected areas. In fact, the overall density of great scallops was nearly 5 times higher than in the fished area, and the density of legal-sized scallops (> 110 mm in diameter) was nearly 10 times higher. Inside protected areas older, more reproductively mature scallops thrived; the reproductive potential was 12.5 times higher inside the no-trawl zone. This reproduction reservoir suggests that some of the larvae produced inside the protected area will settle in fishable waters and help rebuild nearby exploited populations. This "spillover" effect is supported by the increase in commercial catch-per-unit-effort, a metric used to measure target species populations, in the fishable waters near the protected area.

For the great scallop in the waters off the Isle of Man, this small no-trawl zone is a classic win-win. By protecting a small area of habitat, not only have the populations within the no-trawl zone recovered, the larvae of these older, larger scallops will help rebuild populations that will provide a livelihood to trawlers in the future.

To read more:

[Beaukers-Stewart, B.D., B.J. Vause, M.W.J. Mosley, H.L. Rossetti, A.R. Brand. 2005. Benefits of closed area protection for a population of scallops. 298:189-204. \(422K PDF file\)](#)

# Curriculum

## O'neill Sea Odyssey

- Online resources for teachers and students
- Oceanography programs with components in and out of classroom
- Marine Biology, Marine Ecology and Navigation



## O'NEILL SEA ODYSSEY

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LET'S GET STARTED

• **Weather is the single most important safety consideration!** High winds can create large waves as the ripples on the ocean get larger and more powerful as they travel across the water. It is really difficult for people who are navigating on the ocean.

• **What are the most important instruments to aid sailors in navigating across the ocean? If you could only use two of the instruments we have shown you, which two would it be?** The most important instruments would be the online weather station, the sonar depth finder, the radar and the GPS. The weather station would help us to safety by telling us when to head back to the harbor in case of an oncoming storm, and the radar would help us avoid collisions with other boats or rocks if there was low visibility due to bad weather.

**On Board Navigation Activity—**  
**How to read a hand-bearing compass**

**Teacher Background.** One of the most commonly used navigational tools is a compass. Magnetic compasses have been used for navigation for hundreds of years. Though electronic equipment such as GPS is used most often now, a compass is still a practical tool for navigation for small craft and for people on foot, and even airplanes and ships equipped with more sophisticated equipment carry compasses as backups. All the new technology relies upon electricity and what would happen if they lost electrical power? Compasses don't need electricity to work. Most compasses operate on the same basic principle: a small, elongated, permanently magnetized needle placed on a pivot rotating freely in the horizontal plane. Earth's magnetic field results from electric currents in the earth's spinning molten iron core. This field is shaped similar to the field around a simple bar magnet. Earth's magnetic field exerts forces on the compass needle, causing it to rotate until it comes to rest in the same horizontal direction as the magnetic field. Over much of Earth, this direction

Compasses designed for navigation, hand-bearing compasses, are read from the side, or outside edge. These instructions are for a hand-bearing compass.

LET'S GET STARTED

**Materials**

- Assorted pieces of stony coral. Dome-shaped pieces such as brain coral are best.
- Plastic wrap
- Sheet of paper with grid of one-inch squares (laminated, one for each small group of three)
- Graphic of typical coral life cycle

*Note: images for photocopying are in Appendix I.*

*(Do not collect samples of "live" corals for this activity. The type of coral sample you choose will determine the difficulty of the task; easy with dome corals, difficult with irregular pieces.)*

**On Board Marine Ecology Activity—**  
**Students calculate how much of the coral reef is alive.**

- **What portion of coral is alive?** Divide the class into small groups of two or three. Give a sample of coral to each group. Hand a large enough square of plastic wrap to cover the piece of coral. Instruct students to cover the coral with the plastic wrap so it fits into all of the convolutions on the top of the coral piece using a single thickness of wrap. Cut off extra. Tell students that the thickness of the plastic wrap is about the same thickness of the living coral on the surface. Have students unwrap their coral and calculate the surface area in square inches. This surface area equals the entire living portion of the coral piece.
- **Lead a discussion** on the overall size of a coral reef versus the amount of living tissue that sustains it. What do you think happens to a coral reef if a boat drags its anchor over the top, or people walk on it? What about fishing practices that drag fishing nets over coral reefs? Or the practice of shooting cyanide into the coral reef to stun the fish so they float to the surface? What happens to the coral reef reefs when they put cyanide on them? Many people take chunks of living coral as souvenirs. Is this a wise practice? Why not? In some areas, people harvest coral reefs to use as building materials. Why is it so important to keep coral reefs intact? The coral reefs in the National Marine Sanctuary system are protected from these harmful practices, but the majority of coral reefs throughout the world are not.

<http://oneillseaodyssey.org/>

# Curriculum

## Discovery Lecture Series

- Different programs for school groups and individuals of all ages
- Emphasis on raising awareness of our coastal environment

**DISCOVERY LECTURE SERIES**  
Presented by AltaSea & Cabrillo Marine Aquarium

Discovery Lecture Series Teacher and Community Resources

Lecture 2: Unearthing the Historical Wetlands of Southern California  
[Lesson Plan - Globetrotters A Lesson on Bird Migration](#)  
[Reading Handout - Globetrotters of the Bird World](#)  
[Worksheet - Adaptations of Birds' Beaks](#)  
[Worksheet Answers - Adaptations of Birds' Beaks](#)  
[Worksheet - Parts of a Bird Skeleton](#)  
[Worksheet Answers - Parts of a Bird Skeleton](#)  
[Worksheet - Bird Skeleton Coloring Sheet](#)  
[Graphic - Migration Game Cards](#)  
[CMA Saltmarsh Poster](#)  
[Wetland Website Resources](#)  
[Library Pathfinder on Wetlands](#)

Lecture 1: Return of Big Predators to California Waters  
[Lesson Plan - JAWnormous](#)  
[Lesson Plan - Swimming with Blue Sharks Migration](#)  
[Lesson Plan - Shark Bingo and other JAWsome Activities](#)  
[Reading Handout - Blue Shark](#)  
[Reading Handout - How Megalodon Worked](#)  
[Worksheet - Megalodon - Biggest Shark to Roam the Seas](#)  
[Worksheet - Megalodon Crossword Puzzle](#)  
[Worksheet - Parts of a Shark](#)  
[Parts of a Shark Answer Key](#)  
[Worksheet - Shark Coloring Sheet](#)  
[Worksheet - Shark Word Search](#)  
[Worksheet - Track a Blue Shark Lesson Activity](#)  
[Shark Graphic - Cut and Paste Words](#)  
[Library Pathfinder on Sharks](#)

Our [Educator Workshops](#) are also an excellent resource to stay on issues facing our marine environment.

Wonder when the low tide is? [Click here](#) for a tide table for Cabrillo

Need links to other [environmental organizations](#)?

**Cabrillo Marine Aquarium Lesson Plan**

Grade Level: First through Fourth Grades

Title: Globetrotters: A Lesson on Bird Migration

Objective: Students will learn about natural habitats and the many dangers and threats faced by birds along their migration routes.

California Science Standards: 1<sup>st</sup>: 2a-d 2<sup>nd</sup>: 4d, 4g 3<sup>rd</sup>: 3a-d 4<sup>th</sup>: 2a, 2b, 3a, 3b

Time to Complete: 60 minutes

Materials Provided by CMA Ocean Discovery Kits: *Reading Handout: Globetrotters of the Bird World, Worksheet: Bird Skeleton Coloring Sheet, Worksheet: Parts of a Bird Skeleton, Graphic: Parts of a Bird Skeleton Answer Key, Graphic: Migration Game Cards, Bird Specimens, Great Blue Heron Bones (Hands-on Specimen box), Feathers, Nests, Eggs, Posters, Eyewitness Books & DVD*

Materials Provided by Teacher: Outdoor play area or gym, 10 to 15 hula hoops (or chalk or rope for marking habitats), whistle, migration props: clothespins ("bird beaks"), elastics, pipe cleaners, twist ties and/or dried pasta ("bird food"), stopwatch, photocopies of handouts

♦ NOTE: All Marine Birds are protected by Federal Law. It is illegal to collect or possess marine birds or any parts of a marine bird (bones, feathers, etc.) without a permit.

Vocabulary: Migration, predator, fragmentation, molt, flock, breeding, conservation

Background Information: Many animals periodically migrate over long distances in search of food, water, and a place to mate, lay their eggs and raise their young. Disruption of any part of their migratory route can threaten their existence and the future of their species.

Lesson Outline:

- Activity 1: *Reading Handout: Globetrotters of the Bird World*
- Activity 2: Introduction to Bird Migration: Discussion Questions
- Activity 3: Outdoor Migration Game

Lesson Procedures:

Name: \_\_\_\_\_  
Date: \_\_\_\_\_

**Worksheet: Megalodon - Biggest Shark that Ever Roamed the Seas**



**Cabrillo Marine Aquarium**



Megalodon is the largest shark to have ever lived!  
But just how big was Megalodon?

Today, you will determine its size using the exact methods of professional scientists.

**Background**  
Complete shark skeletons are not found in the fossil record. Do you know why that is? (Hint: wiggle your nose and ears for the answer.) Because we don't have complete fossilized skeletons of Megalodon, we must instead look at living sharks as a model.

**Key Question**  
Is there a predictable relationship between tooth width and body length in modern-day sharks?

**Directions**

- Develop a hypothesis to help answer the key question.
- Use the data in the Data Table to test your hypothesis.
- Plot tooth width (your independent variable) on the x-axis and body length (your dependant variable) on the y-axis. The first data point has already been plotted on the graph.
- After you have plotted all of the data...

DATA TABLE	
Tooth Width (inches)	Body Length (inches)
0.2	26
0.5	64
0.8	100
1.0	127
1.2	150
1.4	180

Created by Cabrillo Marine Aquarium

<http://www.cabrillomarineaquarium.org/education.asp>

# Curriculum

## Southern California MPA Curriculum

- Background materials, lesson plans and activities for middle school students
- Easily adaptable statewide
- Created by the Southern California Aquarium Collaborative

**OUR UNDERSEA LEGACY:**

*A Curriculum Resource for Marine Protected Areas in Southern California*

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### II. Swimming into the Science of MPAs | LESSON: MPAs - WHAT'S AT STAKE?

Adapted from National Geographic Educations Marine Protected Area: Stakeholder Debate

**OVERVIEW**  
This lesson looks at the process of creating MPAs using the input of multiple stakeholders via student participation in a mock stakeholder meeting and debate.

**LEARNING OBJECTIVES**  
After completing this lesson, students will be able to:  
• Describe the process of creating or establishing guidelines engaging multiple stakeholders

**TIME**  
2 class periods - one for research & one for mock stakeholder process

**SUGGESTED GROUP SIZE**  
Students will each serve a specific role within the class

Internet queued to a video or podcast from our resources section for "Which Stakeholder am I?" worksheet per student

**OR PRIOR KNOWLEDGE**  
Information on how laws are made and implemented can be helpful to this lesson.

Managed by MPA Institute Staff ("1-Team")

Graphic provided by Dana Roebler Murray

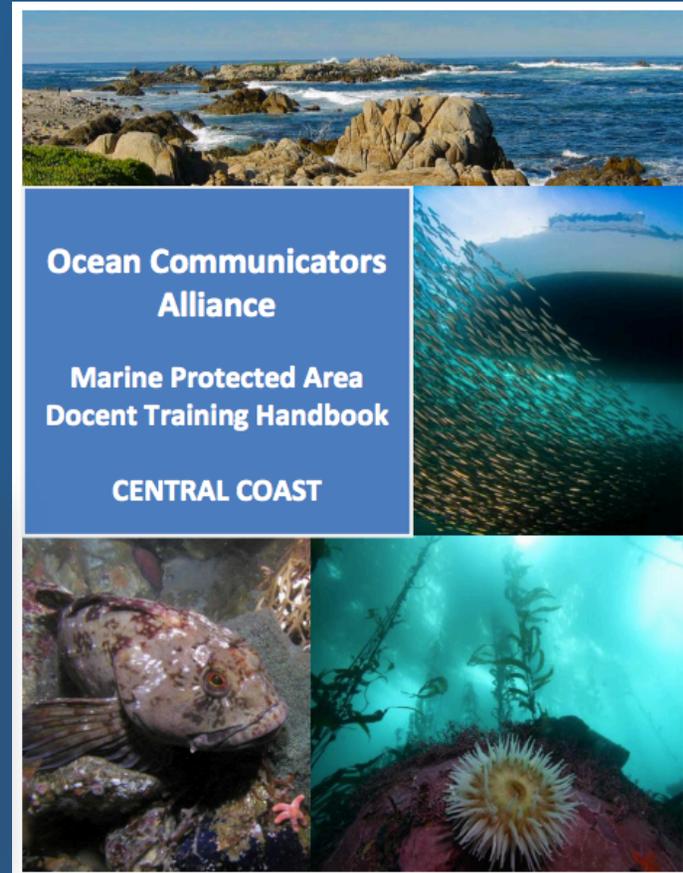
# Curriculum

## Regional MPA Docent Handbooks

- Concise MPA training resource for docents and naturalists.
- Can act as a stand alone document or a chapter in a pre-existing docent training handbook.
- Region specific.

The Central Coast Marine Protected Area (MPA) Docent Training Handbook will introduce you to:

**Federal and State Marine Protected Areas**  
**California's Network of Marine Protected Areas**  
**Central Coast Marine Protected Areas**  
**Ocean Etiquette and Guidelines for Viewing Wildlife**  
**How to Get More Involved in Your Local Marine Protected Areas**  
**Links to Additional Resources**



Created by Thank You Oceans

- **The Central Coast Docent Handbook**

[http://www.thankyouocean.org/wp-content/uploads/2014/09/140924\\_Central\\_Coast\\_OCA\\_MPA\\_Handbook.pdf](http://www.thankyouocean.org/wp-content/uploads/2014/09/140924_Central_Coast_OCA_MPA_Handbook.pdf)

- **Stay tuned! The handbooks for the remaining regions are currently under development.**

<http://www.thankyouocean.org/ocean-communicators-alliance/toolkit/>

# Curriculum

## CA State Parks PORTS Program

- Interactive videoconferencing
- Teaches K-12 common core standards

### PORTS Programs by Topic

The Units of Study are written for target grade levels and corresponding academic content standards. All programs can be modified for any grade level. Contact us and we will work with you.

Topic	Unit of Study	Target Grades
<u>Natural History</u>		
Desert Stories	X	2, 6, 7
Salmon Life Cycle	X	3, 5
Tidepool Ecology	X	4, 5
Elephant Seals Evolution and Adaptations	X	7
Redwood Ecology	X	4, 6
Weather & Climate	X	5
<u>Cultural History</u>		
Gold Rush	X	4
Ancient Civilizations	X	6
<u>Other</u>		
Special Requests		Any

→ Tide Pool Ecology



**OVERVIEW**  
**General Description**  
 Over three miles of beachfront borders the western edge of Crystal Cove State Park. On certain areas of the beach where the ocean meets the rocky shore you can find an amazing ecosystem full of life. This ecosystem is called the intertidal zone, or tide pools. At low tide this world is exposed for visitors to see.  
 The tide pool unit of study provides three, one hour, in-class lessons to familiarize your students with key concepts concerning tide pools. The fourth lesson is a live, interactive videoconference with Park Interpreters at the ocean's edge. The interpreter will talk directly to your students about the constant struggle that plants and animals in the tide pool face every day.  
Academic Content Standards Subject Area: Science-Biology and Ecology

• Units of Study  
• Content Standards

Lessons

Lesson One  
Just what is a tide pool?

Lesson Two  
Living in a tide pool is no day at the beach

Lesson Three  
Between a Rock and a Hard Place

Videoconference Lesson  
Live from the Beach!

Resources:  
Animal Information & Images  
Movie Gallery

To Schedule this Program  
 Jenn Langer  
 PORTS Program Interpreter  
 (949) 315-0241  
 jennifer.langer@parks.ca.gov  
 Brad Key  
 PORTS Program Coordinator  
 (919) 228-8785  
 brad.key@parks.ca.gov  
 Program Availability  
 Tuesday - Friday Starting September 23, 2014

### → Lesson One-Just what is a tide pool?

**Have you ever been to a tide pool?**  
 What makes a tide pool a tide pool?



Challenge #1: Brainstorm some things you might expect to see, hear and discover in a tide pool.



**Tide pool Research Questions**      *Group/Name* \_\_\_\_\_

- Prior Knowledge** - What do you know or what can you guess about tide pools?
- Observation** - What are 3 ingredients needed to form a tide pool?
- Check for understanding** - When is the best time to see tide pools? Explain.
- Research** - What causes the tides to change or how can we find out?
- Discuss/Collaborate** - How can sea animals to survive the tides?
- Reasoning** - Why might plants live in the tide pools?
- Recalling & Research** - What is special about invertebrates? List some types of invertebrates that live in tide pools.
- Inquiry-based research** - Sea life in tide pools includes living (biotic) things such as \_\_\_\_\_ and non-living (abiotic) things such as \_\_\_\_\_.
- Writing for understanding and review** - Use 5-7 key words from your study to create a paragraph welcoming visitors to a tide pool. (Use true facts, with a fictional or actual tide pool name and location)
- Chart Reading & Analysis (Map & Tide Table)**
  - Which California State Park has tidepools near your school?
  - Tide Table: Find a tide table for today's tides.
    - List the location name, date, and times for high and low tides.
    - Compare the information with high and low tides for tomorrow.
    - Compare your findings with a partner or the class.

<http://www.ports.parks.ca.gov/>

# Exciting Programs

## Underwater Parks Ambassadors

- Volunteer MPA docents
- Trained and provided with the resources to facilitate awareness and involvement with MPAs
- Cool projects like: MPA geocaches, interpretive MPA walks, Speakers Bureau presentations, MPA mobile cart, MPA Jeopardy
- Easily adaptable statewide



Contact [CMSF@CaliforniaMSF.org](mailto:CMSF@CaliforniaMSF.org)

# Exciting Programs

## Geocaching

- Hunt for geocaches using GPS
- Great way to engage others without getting wet
- Fun for kids and families
- 10 along Central Coast
- Easily adaptable statewide



**GEOCACHING** 7 SOUVENIRS OF AUGUST

Learn ▾ Join Play ▾ Community ▾ Shop ▾ Partnering ▾ Videos Follow Us ▾

Geocaching > [Hide and Seek A Geocache](#) > Geocache Details

**CA Underwater Parks - Natural Bridges SMR**

A cache by [CA Underwater Parks](#) Hidden : 10/8/2013 In California, United States

Difficulty: ★★★★★  
Terrain: ★★★★★

Size:    (small)

For more information on geocaching and how to create one of your own follow the links below.

<https://www.geocaching.com/>

<https://www.geocaching.com/about/hiding.aspx>

Contact [CMSF@CaliforniaMSF.org](mailto:CMSF@CaliforniaMSF.org)

# Exciting Programs

## Mobile Cart

- Traveling exhibit for community events
- Full of maps, brochures and other engaging items that can be given out to public
- Easily adaptable statewide



Contact [CMSF@CaliforniaMSF.org](mailto:CMSF@CaliforniaMSF.org)

# Exciting Programs



## MPA Interpretive Walks

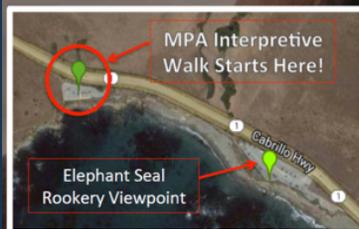
- Scripted tours given by docents and underwater ambassadors
- Easily adaptable statewide

### MPA INTERPRETIVE WALK!

with

Friends of the Elephant Seal's Bette Bardeen

Hope to see you there!



### UNDERWATER PARKS

#### CALIFORNIA'S INVESTMENT IN THE FUTURE

Set up: The three posters from Underwater Parks Day plus kelp samples including holdfasts around my car. As people arrive, I talk about the kelp and the posters.

Welcome and introductions

Who I am – state park and FES docent and underwater parks ambassador

Logistics – “We will walk about a mile, stopping several times. At the end of the walk you can continue on the coastal trail or come back with me.

We are here today to learn about some of the newest parks in the California system - over 100 underwater parks created as part of a statewide system of marine protected areas

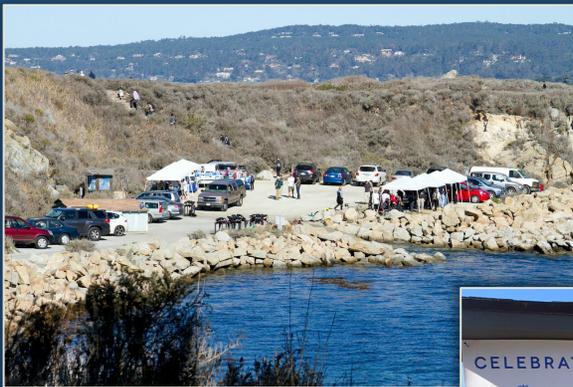
The ones we are standing above, the Piedras Blancas MPAs were created in 2007 – the most recent in December of 2012...”

Contact [CMSF@CaliforniaMSF.org](mailto:CMSF@CaliforniaMSF.org)

# Events

## Underwater Parks Day

- Annual event, the Saturday of Martin Luther King, Jr. weekend in January
- A great way for the public to celebrate California's MPAs
- Began over 5 years ago in Southern CA and has spread up the coast to multiple locations
- Activities include photography and video exhibits and contests, arts and crafts, marine science presentations, MPA exhibit displays, interpretive walks and more!



# Kids Activities

## Beach Bingo

- Available in English and Spanish
- Four versions

BEACH BINGO			
			
Kelp	Surfer	Driftwood	Sand castle
			
Seagull	Seashell	Beach towel	Beach grass
			
Trash (please pick it up!)	Kelp	Boat	Shorebird
			
Seashell	Seal or sea lion	Dog	Plastic (please pick it up!)

Instructions: Look for the animals and objects on the beach or in the water. When you find one, mark off the square. The first person to get four squares in a row (horizontal, vertical, or diagonal) is the winner. \*\*Note: Plastic takes hundreds of years to biodegrade -- the average plastic bottle takes at least 450 years to break down -- and certain types of plastic will never decompose. Plastics are the most common type of trash found in the ocean. Please pick up and throw away or recycle any garbage you see on the beach.

BEACH BINGO			
			
Trash (please pick it up!)	Dog	Seashell	Shorebird
			
Kelp	Seagull	Beach towel	Boat
			
Sand castle	Seal or sea lion	Kelp	Seashell
			
Surfer	Driftwood	Plastic (please pick it up!)	Beach grass

# Kids Activities

## Beach Treasure Hunt

- Engaging for the whole family
- No need to take anything, just check it off the list!
- English version created by CA Coastal Commission
- Spanish version available through CMSF.

**CALIFORNIA BEACH TREASURE HUNT**

No need to collect these treasures! Instead, draw a picture, snap a photo, or just take a moment to observe your find and then check it off the list of treasures. Remember to always keep an eye on the ocean and stay safe! Not all of these items will be found at every beach. See how many you can find at YOUR beach!

 <input type="checkbox"/> People footprints	 <input type="checkbox"/> An insect	 <input type="checkbox"/> A kite
 <input type="checkbox"/> Footprints from another animal	 <input type="checkbox"/> A leaf	 <input type="checkbox"/> Black sand
 <input type="checkbox"/> A white shell	 <input type="checkbox"/> A crustacean (such as a crab, lobster, or barnacle).	 <input type="checkbox"/> A smooth, round rock
 <input type="checkbox"/> A shell of 2 or more colors	 <input type="checkbox"/> A feather	 <input type="checkbox"/> A jagged, rough rock
 <input type="checkbox"/> Seaweed	 <input type="checkbox"/> A surfer	 <input type="checkbox"/> A lifeguard
 <input type="checkbox"/> A bottle cap (pick this one up and drop it in a trash can!)	 What did you think about that bottlecap? Did you see more trash on your beach? Help out by doing a beach cleanup after your treasure hunt. Use a beach bucket or a bag and carefully collect trash and carry it to a trash can. Use caution with sharp objects (Ask an adult for help!)	 Visit <a href="http://www.coastforyou.org">www.coastforyou.org</a> for tips on how to conduct a beach cleanup. Take any good photos during your hunt? Let us know through Twitter (@cleanupday) or

<http://www.californiampas.org/pages/resources/cool-activities.html>



# Kids Activities

## MPA Kids Brochure

- Fun activities for children
- A coloring page, word search, a word scramble, 'connect the dots' game and more.
- Easily adapted statewide

**Help Me Find My Home**

Connect each object on the left to its home on the right

Ocean

Toy Chest

Tide Pool

Recycle Bin

Marine Protected Areas are safe places for our plants and animals to live and grow. We need your help to keep our Marine Protected Areas safe, clean homes for our animals and plants.

**Coloring Marine Animals**

**Learning About Marine Protected Areas**

Find the hidden words in the word search to learn more about Marine Protected Areas

OG O I R G A R I B E L D I P  
B R R D V S Z E V E H A M I  
C O R E P R O D U C I N G O F  
Z W Y E E H O E N U C V Z F H  
S I R R X H B W G A R I S O L  
E N A H M N O E E D O I B O  
A G V Z I T I R P R O D F T B  
L S L Q H D O L P H I N R S S  
I L K S E A I T L O H M K T  
O I I E H O E N O J K B H A E  
N X F D S L I O G R K P N R  
S G A R I B A L D I F I S H S  
X K T P R T T X G T R O N N O

Animals we can Find in Marine Protected Areas:	Animals use Marine Protected Areas for:
Sea Lions	Hiding
Garibaldi Fish	Growing
Dolphins	Reproducing
Labsters	Feeding

San Diego is historically one of the richest marine ecosystems in the world. Forty years ago abalone were abundant up and down the coast - but due to severe overfishing, abalone are now rare to find.

**Connect the dots and Find out Who is Swimming in the San Diego Waters.**

**What are Marine Protected Areas (MPAs)?**

They are areas of ocean set aside to protect wildlife and habitat.

**Where are they located in San Diego?**

San Diego's new MPAs include areas of: **La Jolla, Encinitas and Imperial Beach.**

MPAs will ensure that future generations will be able to enjoy the natural heritage of California's coastal waters.

To view a map for other locations of MPAs and for more information please visit [www.wildcoast.net](http://www.wildcoast.net).

**Who Lives Under the Waves?**

**Find the Six Differences**

**WILD COAST COSTASALVAJE**

Brochure re-created by Diane Castaneda and Oscar Castaneda. Special Thanks to Rickell's Baker & Sarah Dunton from Surfrider Foundation for providing us with a former version.

**Marine Protected Areas: Refuge for Ocean Creatures Like Me**

Photo by Dana Reeder Murray

**Activity Brochure for Kids**

**WILD COAST COSTASALVAJE**

Created by WildCoast

<http://californiampas.org/pages/resources/cool-activities.html>

# Kids Activities

## MPA Reusable Canvas Bag

- One side defines MPAs, the other is open for artwork!
- Perfect for handing out at Underwater Parks Day and other outreach events!
- Easily adapted statewide



### Marine Protected Area (mə-rēn' prə-těkt'ed âr'ē-ə) n.

1. A special place in the ocean where marine resources can be saved for future generations.
2. An underwater park similar to a National Park on land.
3. A special place for fat old female fish to have lots of babies.
4. A unique ocean habitat I can visit and enjoy.



Created by Southern California Aquarium Collaborative

<http://californiampas.org/pages/resources/cool-activities.html>

# Kids Activities

## MPA Fish Pillows

- Stuffed fish pillows provide a hands on approach to understanding the BOFFF concept
- Perfect for Underwater Parks Day and other outreach events!
- Easily adapted statewide



Created by Southern California Aquarium Collaborative

# Kids Activities

## MPA Jeopardy

- A fun game for all kids!
- Created by State Parks

Area...



MPA's are making a positive difference around the world T/F?

Answer

[Click Here to Return](#)

## MPA Jeopardy!

Marine

Protected

Area



Marine



MPA stands for Marine Park Area. True/False

Answer

[Click Here to Return](#)

Marine?



MPAs have restored the ocean to its original state. True/False

Answer

[Click Here to Return](#)

Protection



The MPA's main concern is protecting marine life. True/False?

Answer

[Click Here to Return](#)

# Kids Activities

## Post Card Pledge

- Great for outreach events
- Great way to engage kids
- Calls for action
- Kids make a pledge to CA Fish and Game Commission President



My  
**M**arine  
**P**rotected  
**A**reas  
Pledge

Dear President Sutton,

Today I learned about marine  
protected areas at

\_\_\_\_\_

and I pledge that I'm going to  
do my part by

\_\_\_\_\_

\_\_\_\_\_.

Thank you for continuing to  
support the protection of these  
special ocean areas!

Sincerely,

\_\_\_\_\_ (name)

\_\_\_\_\_ (city,state)

Monterey Bay Sanctuary Foundation  
99 Pacific Street, Building 455  
Monterey, CA 93940

California Fish and Game Commission  
Attn: Michael Sutton, President  
P.O. Box 944209  
Sacramento, CA 94244-2090

[CMSF@CaliforniaMSF.org](mailto:CMSF@CaliforniaMSF.org)

# Kids Activities

## Ocean Guardian Kids Club

- Opportunity to express insights, observations and understanding of the natural environment through creation of stories, poetry and art.
- Encourages a personal connection between students and oceans.
- K-8<sup>th</sup> grade audience



### *The Ocean Guardian Pledge:*

Because I want to help the ocean and all the creatures that live in it and around its shores, I pledge today to do these things and accept membership into Nim's Ocean Guardian Kids Club:

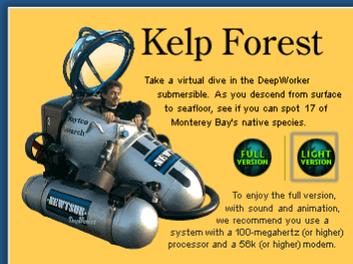
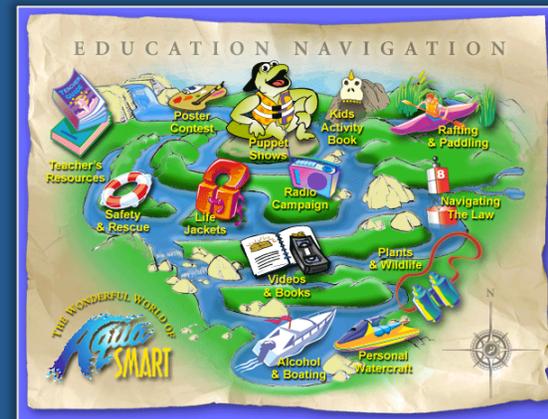
- Conserve water and other natural resources.
- Reduce use. Reduce your eco-footprint, and reduce waste.
- Reuse or repurpose products to extend their usable life.
- Recycle, and use products made of recycled materials.
- Be considerate of ocean wildlife and seabirds.
- Clean up the beach, park, or river and leave it better than I found it.
- Devote time every year to community service to benefit and beautify the environment.
- Increase my own awareness of the effects that I have on the ocean and our environment.
- Learn all I can about the environment, including special ocean areas like national marine sanctuaries.
- Promote ocean awareness and pass on my knowledge to friends and family.
- Encourage my family and friends to protect the ocean and our environment.



# Kids Games and Activities

## Thank You Ocean Online Kid Zone

- Links to games and activities
- Engaging and informative



<http://www.thankyouocean.org/kid-zone/games-activities/>

# Kids Games and Activities

## Junior Scientist Scavenger Hunt

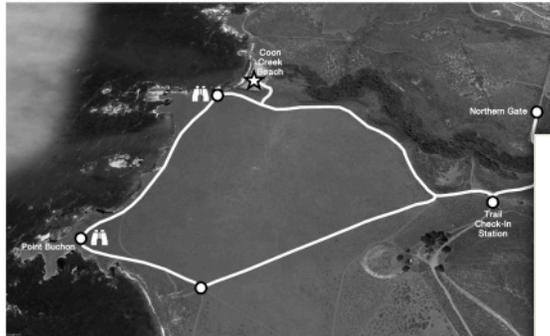
- Fun and engaging activities for kids
- Developed for Pt. Buchon
- Easily adaptable statewide

## Junior Scientist Notebook



Point Buchon Marine Protected Areas Scavenger Hunt

Welcome to the Point Buchon Marine Protected Areas (MPAs)



Walk the 1.8-mile Point Buchon Trail loop to discover the beauty and benefits of MPAs. Look for marine mammals and birds, take pictures of this beautiful coastline and complete the tasks at each station. Give your completed notebook to the Point Buchon Trail Attendants for a special prize.

### Question #6 & 7

Continue walking towards the Point Buchon headland and read the interpretive signs near the benches overlooking Point Buchon.

Can you harvest mussels in the Point Buchon MPA that is designated as a State Marine Reserve?

Answer: YES or NO

Hint: Look at the red section of the interpretive sign.

What type of fish can you catch in the Point Buchon MPA that is designated as a State Marine Conservation Area?

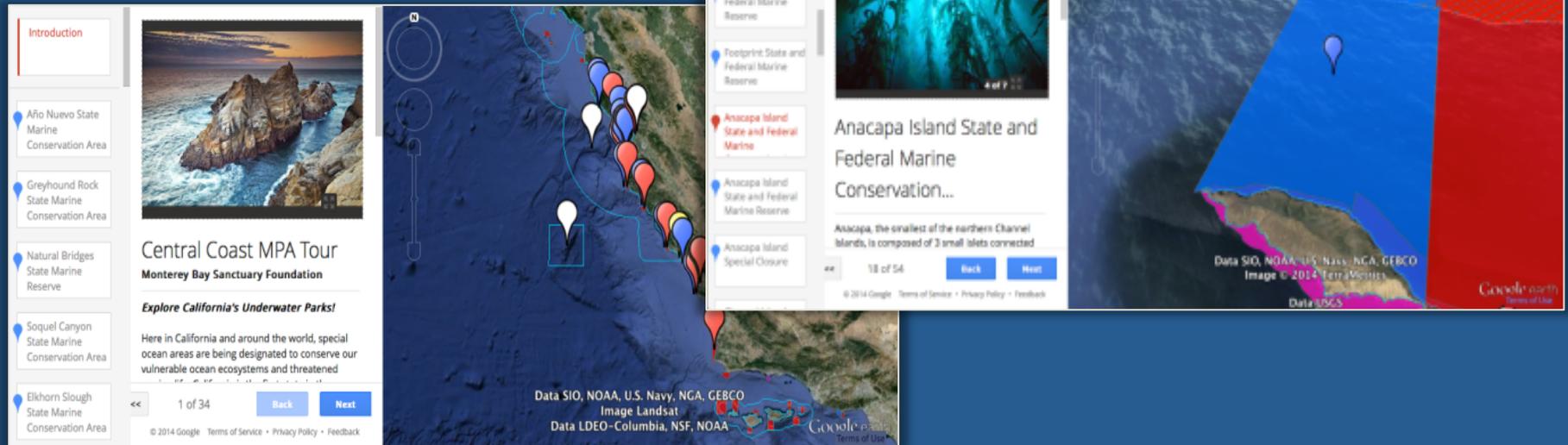
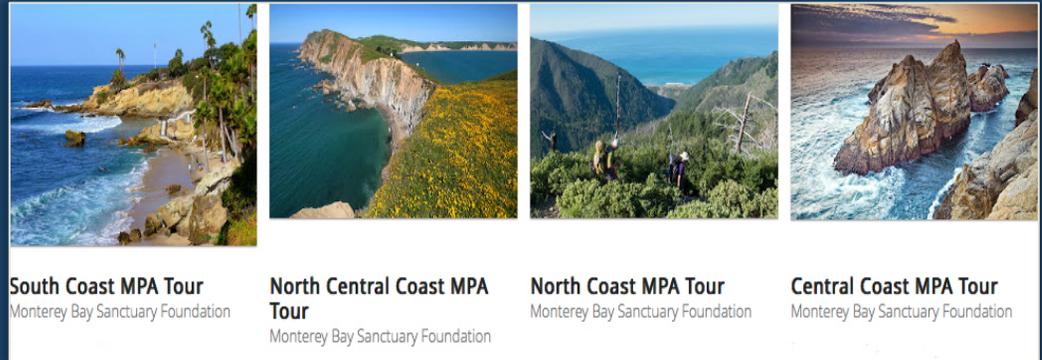
Answer: \_\_\_\_\_

Hint: Look at the blue section of the interpretive sign.

Contact [CMSF@CaliforniaMSF.org](mailto:CMSF@CaliforniaMSF.org)

# MPA Google Tour

- Explore MPAs without getting your feet wet!
- Statewide
- Features detailed descriptions of the MPAs and National Marine Sanctuaries with stunning photos and videos, and links of local things to do.

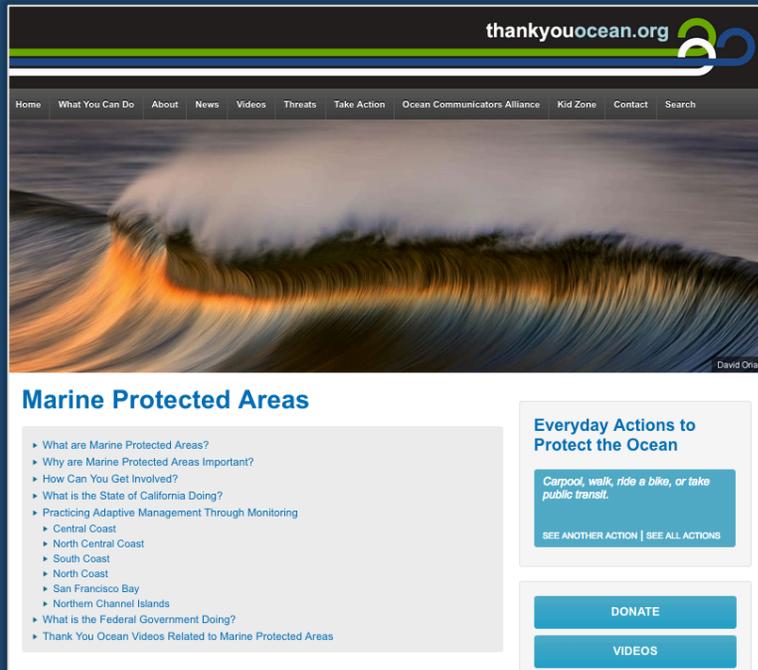


<http://californiampas.org/pages/resources/onlineresources.html>

# Websites and Online Content

## Thank You Ocean

Online MPA information, useful links, and videos

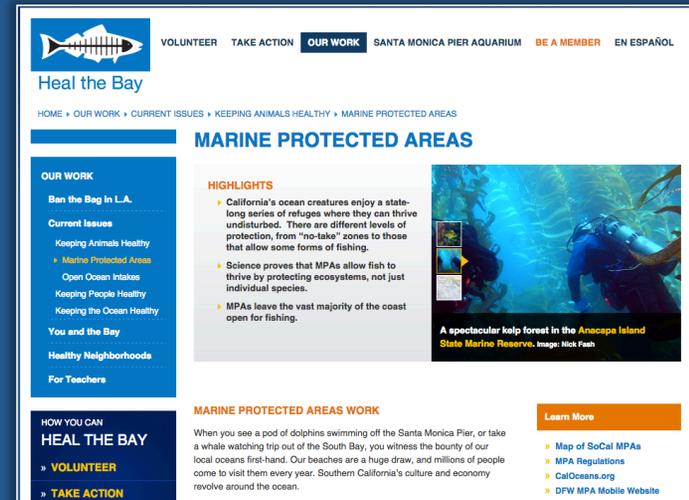


<http://www.thankyouocean.org/threats/marine-life-decline/marine-protected-areas/>

## Orange County Marine Protected Areas Council K-12 School and Group Programs

## Heal The Bay

Online information, links and videos on MPAs



<http://www.healthebay.org/about-bay/current-issues/marine-protected-areas>



<http://www.ocmarineprotection.org/programs.html>

# Websites and Online Content

## Santa Barbara Channelkeeper

Online MPA information, useful links, educational MPA tours and more!



### EXPLORE YOUR MPA



### SEAFARI EDUCATIONAL TOURS



MPA Profiles

### CAMPUS POINT MPA

## Campus Point No-Take State Marine Conserv

Campus Point State Marine Conservation Area, the second largest of the coastal MPAs in our region, stretches along the Goleta coastline adjacent to UC Santa Barbara, Coil Oil Point Reserve, and Devereux Slough. This MPA represents and protects a wide diversity of habitat types including eelgrass, surfgrass, kelp, rocky reefs, shallow subtidal, rocky intertidal, oil seeps, sand, and the estuarine inputs of Devereux Slough. It hosts several endangered species and contains federally designated Critical Habitat for the endangered Western Snowy Plover. This MPA is also listed as one of the top ten places to tidepool in California's MPAs. At Coil Oil Point, a large reef system exposed by low tide creates extensive tidepools teeming with sea hares, anemones, mussels, small fish and sea stars. There is easy public access to this MPA and rental operations to meet your recreational needs.



<http://www.sbck.org/MPA>

## Orange County Marine Protected Areas Council K-12 School and Group Programs

The screenshot shows the OCMPAC website with a navigation bar including Home, Education, Research, MPA Overview, Water Quality - ASBS, What Can You Do?, and Multimedia. The Education section is highlighted, listing K-12 School Group Programs, Public Education, College Classes, Research/Educator User Form, Specialty Tours, Docent Programs, and Educational Tools. Below this, there is a section titled 'ABSOLUTELY NO COLLECTING' with a list of rules: 'Never remove animals, shells or rocks from the tidepools.', 'Never pick up animals... observe them where they are.', 'Walk gently, taking care not to step on plants or animals.', and 'Never turn over rocks.' There is also a section for 'K-12 School Group Programs' with details for Newport Beach - Little Corona and Crystal Cove State Park - Crystal Cove State Marine Conservation Area.

<http://www.ocmarineprotection.org/programs.html>

# Websites and Online Content

## Ocean Spaces

- Online platform for communicating and creating and sharing information on California's oceans.
- A growing community of fishermen, divers, environmentalists, resource managers, scientists and general citizens.
- Includes community groups, organization pages, information on CA state priorities, MPA monitoring, and a MPA monitoring data archive.



### Community

Building a Shared Vision for California's Ocean Health

◀ Launching the conversation around ocean health ▶

OceanSpaces is a collaborative effort, and the community is its heart. Our members and groups span across research institutions, citizen science organizations, fishermen, conservation NGOs, resource managers, decision-makers and more.

[Invite a friend to OceanSpaces](#) [Find an OceanSpaces member](#)

#### Community groups

[CREATE A GROUP](#) [SEE ALL GROUPS](#)

Citizen Science on OceanSpaces

South Coast Baseline Program Collaborators

Marine Debris Free California

### Organizations

Are you part of an organization, research lab or monitoring program? Showcase your contribution to the science underpinning California's ocean resource management by creating an organization page on OceanSpaces. Do you have a topic, issue, or particular area of interest? Create a community group to collaborate and share information. Or browse the organizations and community groups already on OceanSpaces to find out more about what the community is doing.

[Community groups](#) [Organizations](#)

Ocean Sanctuaries

West Coast Ocean Acidification and Hypoxia...

Crystal Cove Alliance

California Marine Sanctuary Foundation

Monterey Bay National Marine Sanctuary

oceanSPACES

Enviro-Strategy

The BLUE

ROMBERG TIBURON CENTER

California Ocean Protection Council OPC-SAT

### MPA Monitoring

Taking the pulse of our marine ecosystems and assessing the effectiveness of MPA design to inform management decisions

#### Monitoring Regions and Ecosystems

California is home to the largest scientifically based network of marine protected areas (MPAs) in the nation. Planning is just the first chapter; scientific monitoring is essential to evaluate the effects of MPAs and inform ocean management. A new framework – adopted as state policy – guides a partnership-based approach to monitoring. A central question lies at the heart of the framework: What is the health of California's oceans, inside and outside the MPAs?

[MPA Monitoring Framework Guide](#) [MPA Timeline and Milestones](#)

California's investment of \$16 million in MPA monitoring is securing an assessment of the ecological and socioeconomic conditions of ocean ecosystems along the length of its coast. This benchmark – completed in the Central Coast and underway in the 3 remaining regions – provides a starting point for long-term MPA monitoring.

[Central Coast Monitoring Results](#) [Central Coast Symposium Videos](#)

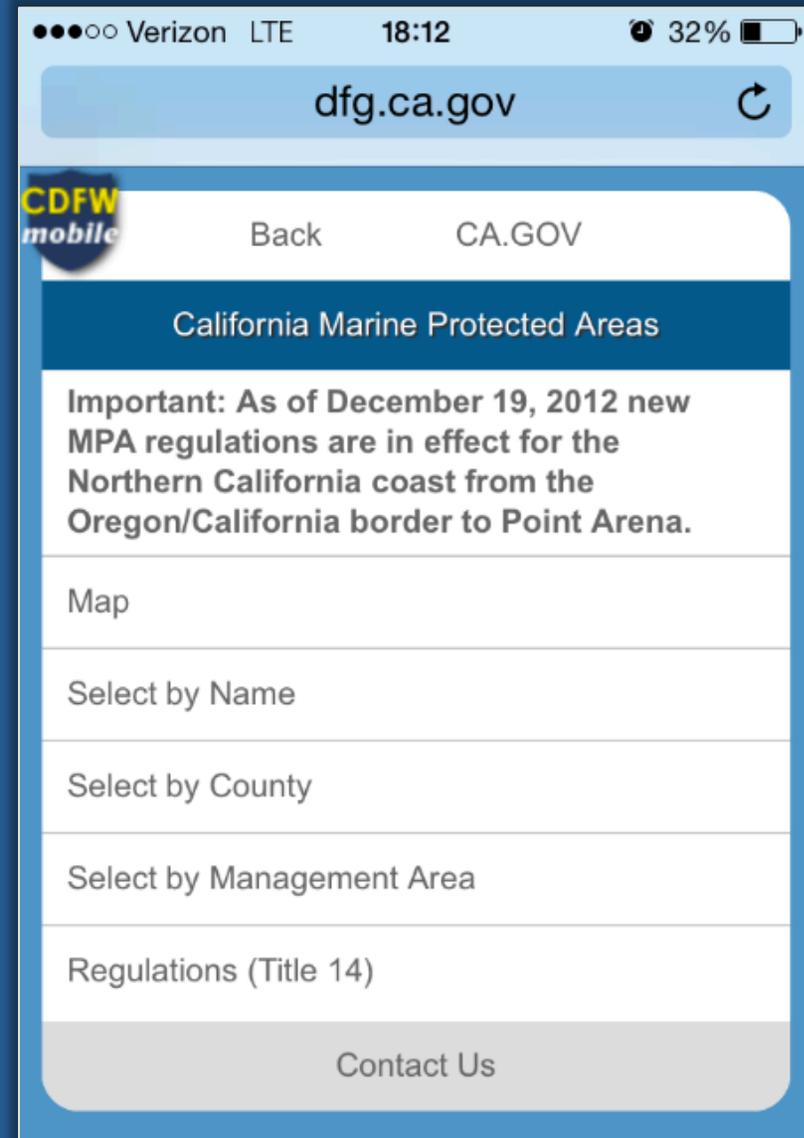
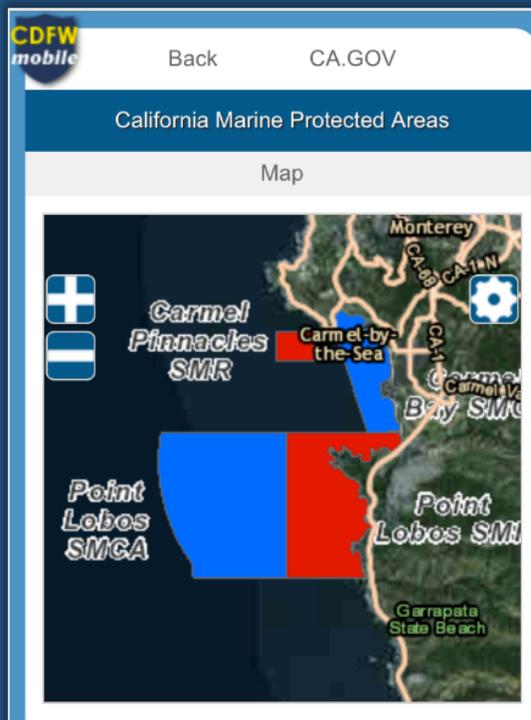
A healthy ocean is a priority for the state, and is a driver of California's vibrant economy. Long-term scientific monitoring is essential for evaluating MPA network performance, and it will also serve California decision-makers broadly, across a variety of agencies and mandates.

<http://oceanspaces.org/>

# Mobile Resources

## CDFW Mobile MPA Website

- Search for any MPA by name, county, or general area
- Includes boundaries and regulation information



<http://www.dfg.ca.gov/m/MPA/>

# Getting Involved

# Local Programs

## California Coastkeeper Alliance

Unites local Waterkeeper programs for swimmable, fishable and drinkable waters for California

The screenshot shows the website's navigation menu with tabs for ABOUT US, PROGRAMS, WATERKEEPERS, TAKE ACTION, NEWSROOM, DONATE, and a search bar. The main content area features a section titled "CALIFORNIA WATERKEEPERS" with a map of California. The map is color-coded to show the regions of various local waterkeeper programs, with labels pointing to specific areas: Klamath Riverkeeper, Humboldt Baykeeper, Russian Riverkeeper, San Francisco Baykeeper, Monterey Coastkeeper, San Luis Obispo Coastkeeper, Ventura Coastkeeper, Santa Barbara Channelkeeper, Santa Monica Baykeeper, Orange County Coastkeeper, Inland Empire Waterkeeper, and San Diego Coastkeeper. A sidebar on the left lists "CALIFORNIA WATERKEEPERS" and "HEADLINE NEWS" with recent articles.



<http://www.cacoastkeeper.org/>

# Monitoring Programs

## MPA Watch

- Data collected by citizen scientists
- Informs MPA management, enforcement, and science
- Programs exist statewide

The screenshot shows the MPA Watch website with a navigation bar (Home, Volunteer, About, Log In) and a header stating 'Citizen Science for Stewardship of Coastal and Ocean Resources' and 'Volunteers have submitted 1,455 surveys to date.' The main content area is titled 'Coming Soon' and features three columns of text and images. The first column has a photo of waves and text explaining the program's goal. The second column has a photo of a rocky coastline and text about the data's purpose. The third column has a photo of waves and text about community involvement.

MPA Watch is a citizen science initiative to monitor human use of coastal natural resources by training and supporting volunteers in the collection of relevant, scientifically rigorous, and broadly accessible data.

Data are meant to inform the management, enforcement, and science of California's marine protected areas (MPAs) and allow us to see how human uses are changing as a result of MPA implementation.

By involving local communities in this important work, MPA Watch programs inspire and empower stewardship, and educate citizens about California's ocean ecosystems.

The screenshot shows the Heal the Bay website with a navigation bar (VOLUNTEER, TAKE ACTION, OUR WORK, SANTA MONICA PIER AQUARIUM, BE A MEMBER) and a header 'Heal the Bay'. The main content area is titled 'MPA WATCH' and features a sidebar with a list of volunteer opportunities, a 'HIGHLIGHTS' section, and a photo of Point Dume in Malibu.

**HIGHLIGHTS**

- ▶ MPA Watch is a citizen science program
- ▶ Volunteers collect scientific data on coastal and marine resource use
- ▶ Collected data helps inform MPA management and supports the California Department of Fish and Wildlife

Point Dume in Malibu is an MPA Watch location.  
Photo: Heal the Bay

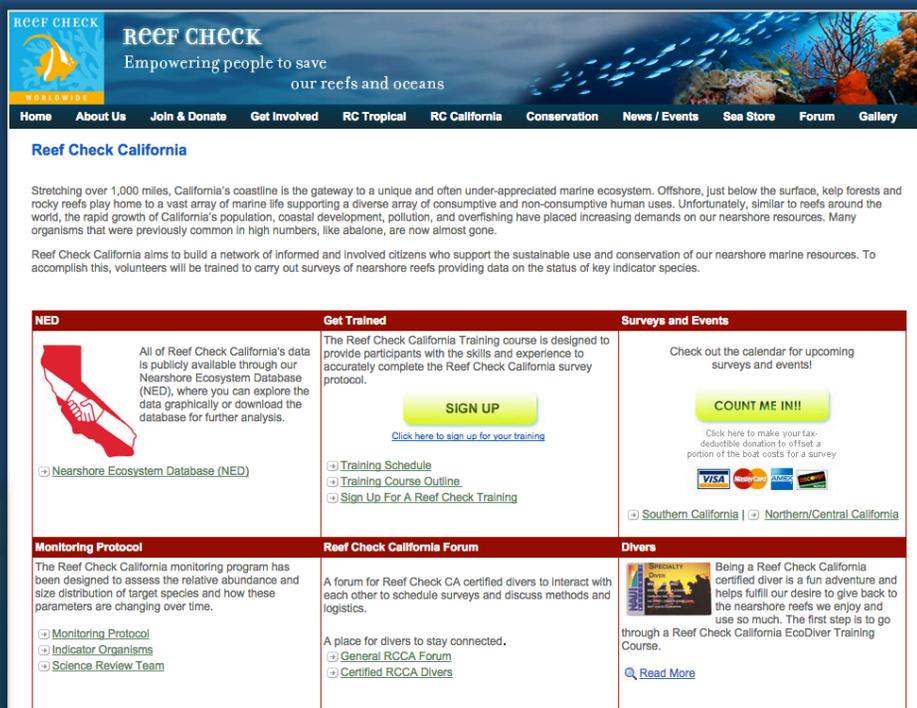
CITIZEN SCIENTISTS VOLUNTEERING AS LOCAL OCEAN STEWARDS

<http://mpawatch.org/>

# Monitoring Programs

## Reef Check

- Training in subtidal monitoring
- Data collected by citizen scientists
- Statewide
- Any certified scuba diver can join!



The screenshot shows the Reef Check website homepage. At the top, there is a navigation bar with links for Home, About Us, Join & Donate, Get Involved, RC Tropical, RC California, Conservation, News / Events, Sea Store, Forum, and Gallery. The main content area is titled "Reef Check California" and includes a paragraph about the state's coastline and a call to action for training. Below this, there are three columns of content: "NED" (Nearshore Ecosystem Database), "Get Trained" (with a "SIGN UP" button), and "Surveys and Events" (with a "COUNT ME IN!!" button). At the bottom, there are three more columns: "Monitoring Protocol", "Reef Check California Forum", and "Divers".

**REEF CHECK**  
Empowering people to save  
our reefs and oceans

Home About Us Join & Donate Get Involved RC Tropical RC California Conservation News / Events Sea Store Forum Gallery

### Reef Check California

Stretching over 1,000 miles, California's coastline is the gateway to a unique and often under-appreciated marine ecosystem. Offshore, just below the surface, kelp forests and rocky reefs play home to a vast array of marine life supporting a diverse array of consumptive and non-consumptive human uses. Unfortunately, similar to reefs around the world, the rapid growth of California's population, coastal development, pollution, and overfishing have placed increasing demands on our nearshore resources. Many organisms that were previously common in high numbers, like abalone, are now almost gone.

Reef Check California aims to build a network of informed and involved citizens who support the sustainable use and conservation of our nearshore marine resources. To accomplish this, volunteers will be trained to carry out surveys of nearshore reefs providing data on the status of key indicator species.

<b>NED</b>  <p>All of Reef Check California's data is publicly available through our Nearshore Ecosystem Database (NED), where you can explore the data graphically or download the database for further analysis.</p> <p><a href="#">Nearshore Ecosystem Database (NED)</a></p>	<b>Get Trained</b> <p>The Reef Check California Training course is designed to provide participants with the skills and experience to accurately complete the Reef Check California survey protocol.</p> <p><b>SIGN UP</b></p> <p><a href="#">Click here to sign up for your training</a></p> <p><a href="#">Training Schedule</a> <a href="#">Training Course Outline</a> <a href="#">Sign Up For A Reef Check Training</a></p>	<b>Surveys and Events</b> <p>Check out the calendar for upcoming surveys and events!</p> <p><b>COUNT ME IN!!</b></p> <p>Click here to make your tax-deductible donation to offset a portion of the boat costs for a survey</p> <p></p> <p><a href="#">Southern California</a>   <a href="#">Northern/Central California</a></p>
<b>Monitoring Protocol</b> <p>The Reef Check California monitoring program has been designed to assess the relative abundance and size distribution of target species and how these parameters are changing over time.</p> <p><a href="#">Monitoring Protocol</a> <a href="#">Indicator Organisms</a> <a href="#">Science Review Team</a></p>	<b>Reef Check California Forum</b> <p>A forum for Reef Check CA certified divers to interact with each other to schedule surveys and discuss methods and logistics.</p> <p>A place for divers to stay connected.</p> <p><a href="#">General RCCA Forum</a> <a href="#">Certified RCCA Divers</a></p>	<b>Divers</b> <p> Being a Reef Check California certified diver is a fun adventure and helps fulfill our desire to give back to the nearshore reefs we enjoy and use so much. The first step is to go through a Reef Check California EcoDiver Training Course.</p> <p><a href="#">Read More</a></p>



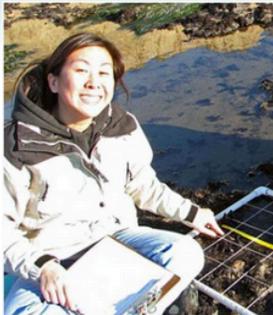
[http://reefcheck.org/rcca/rcca\\_home.php](http://reefcheck.org/rcca/rcca_home.php)

# Monitoring Programs

## LiMPETS: Long-term Monitoring Program and Experiential Training for Students

- An environmental monitoring and education program
- For students, educators and volunteer groups statewide

### Student Resources



#### Fact Sheets:

Quick and painless overview of your favorite LiMPETS topics.

- [The Rocky Intertidal: Fact Sheet](#) (pdf 1.85 MB)
- [The Sandy Beach Habitat: Fact Sheet](#) (pdf 822KB)
- [The Pacific Mole Crab: Fact Sheet](#) (pdf 62KB)
- [Acanthocephalan Parasites: Fact Sheet](#) (pdf 352KB)

#### So you want to be a marine biologist?:

The good, bad, and really, really bad about choosing marine biology as a career. Straight talk from marine biologist, Dr. Milton Love.

### STUDENT HANDOUT

### The Rocky Intertidal: Fact Sheet



The rocky shores that lie at the edge of the ocean, between the high and low tides, are called the rocky intertidal. Rocky intertidal areas along the west coast of North America are some of the richest and most diverse places in the world. Over 100 species of invertebrates and algae can be found in the rocky intertidal of central California, and this wide variety of life makes exploring the rocky shores fun and exciting. Does this diversity matter to the rocky intertidal? Many scientists agree that diversity in a system may act like an insurance policy, providing a kind of buffer against storms, pollution, global warming, and other environmental problems. Loss of diversity could threaten rocky intertidal areas, making them more vulnerable to change.

The screenshot shows the LiMPETS website interface. At the top, there is a navigation bar with links for 'DISCOVER YOUR MARINE SANCTUARIES', 'NEWS', and 'CONTACT US'. Below this is a main navigation menu with links for 'What is LiMPETS?', 'Rocky Intertidal Monitoring', 'Sandy Beach Monitoring', 'Data Entry & Results', 'Teacher Resources', 'Student Resources', and 'Field Blog'. The 'Teacher Resources' section is highlighted, showing a list of resources: 'Workshops and Events', 'Rocky Intertidal Monitoring', 'Sandy Beach Monitoring', and 'In-Network Resources'. A photo of people working at a field station is visible. Below the photo, the 'Teacher Resources' section is titled, followed by a description of the program's offerings and a list of resources: 'Teacher Workshops and Events', 'Sandy Beach Monitoring Curriculum', 'Rocky Intertidal Monitoring Curriculum', and 'In-Network Teacher Resources'.

### LiMPETS Rocky Intertidal Monitoring Program: Pilot Curriculum Guide



### Unit 2 Engage and Prepare: In-class Introductory Activities for Rocky Intertidal Monitoring

<http://limpetsmonitoring.org/>



# Video and Photo Contests

## Enter a Contest

### Annual California Ocean and Coastal Amateur Photography Contest

The contest features photographs that reflect the importance that the coast and ocean has for California residents and the role that the California Coastal Commission, Natural Resources Agency, and the Ocean Protection Council have played in preserving coastal and marine resources. [Find out more »](#)



California Dreaming by John Gannon

### "My Marine Park" Video Contest

The California Marine Sanctuary Foundation is excited to announce the winners of the "My Marine Park!" video contest. Youth and adult entrants were challenged with creating a short video about why they love "My Marine Park!" Recreational enthusiasts from Marine Protected Areas (MPAs) all over California documented their favorite marine parks to educate and increase awareness of California's statewide network of MPAs. Enjoy exploring our majestic marine parks through the eyes of our contestants.

#### Patrick Webster, Winner – Adult Category



#### Arjuna Duryea, Second Place – Adult Category



Featur  
Conse  
Gardel  
Point L  
Pinnac  
Creek

Featur  
Reserv

### 3rd Annual Bluebelt Photo Contest

[Blog > 3rd Annual Bluebelt Photo Contest](#)



Mark Chamberlain BC Gallery

Enter the 3rd Annual Laguna Bluebelt Photo Contest and  
Celebrate Our Underwater Parks With Us



- **Thank You Ocean: California Ocean and Coastal Amateur Photography Contest (Annual)**
  - <http://www.thankyouocean.org/take-action/enter-a-contest/>
- **Laguna Blue Belt Photography Contest (Annual)**
  - <http://lagunabluebelt.org/>
- **San Francisco International Ocean Film Festival**
  - <http://oceanfilmfest.org/>
- **California Marine Sanctuary Foundation: "My Marine Park" Video Contest**
  - <http://californiampas.org/pages/resources/digital-videos-mymarinepark.html>
- **Blue Ocean Film Festival's YouTube Video Contest**
  - <http://www.blueoceanfilmfestival.org/films.htm>

# Great Outreach Programs

- Channel Islands National Marine Sanctuary
- Monterey Bay National Marine Sanctuary
- Heal The Bay
- CA Coastkeepers Alliance
- Save Our Shores
- WildCoast
- Team Ocean
- Bay Net
- Seymour Marine Discovery Center
- Cabrillo Marine Aquarium
- National Resources Defense Council
- Resource Media
- Upwell
- Monterey Bay Aquarium
- And **MANY** more!

