



# MONTEREY BAY



# VARIETY OF HABITATS

Encompassing more than 6,000 square miles, Monterey Bay National Marine Sanctuary is one of the richest, most diverse marine environments in the world. Wave-swept beaches, lush kelp forests, rugged tide pools, and one of the deepest underwater canyons in North America are just a few of the habitats found within the sanctuary. Each of these vastly different environments teem with life, from tiny plankton to the largest animal that has ever lived on Earth – the blue whale.



Sandy Beaches Stunning beaches harbor a world of life that is mostly out of sight. Worms, sand crabs, snails, and clams live beneath

the sand at the water's edge, where

shorebirds probe for a tasty meal.



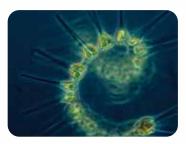
**Seafloors** Beyond the waves, much of the seafloor is covered with sand or mud. Here, sand dollars, tubeworms,

anemones, brittle stars, flatfishes,

and stingrays hide.



**Lush Kelp Forests** Supporting a rich array of life, including fish, snails, crabs, sponges, urchins, anemones, sea stars and lingcod, kelp can grow up to 18 inches a day, and tower 100 feet above the ocean floor.



**Open Water** Winds drive surface water away from the coast, which upwell cold nutrient-rich water from below. This process fuels the growth of phytoplankton, the base of the sanctuary's abundant food web.



**Deep Canyons** The largely unexplored submarine canyons, some descending more than two miles, harbor a variety of animals specially adapted to a life of darkness.

Some even produce their own light.



**Tranquil Wetlands** Elkhorn Slough, part of the sanctuary and one of California's last great coastal wetlands, is an important resting, feeding, and breeding area for a huge variety of species.



**Tide Pools** Rocky shores are an ideal environment for small creatures. When tides subside, tide pools form to become wet oases for a diverse range of creatures like snails, sea stars, small fish, anemones, and more.



**Davidson Seamount** Davidson Seamount, an undersea mountain, is one of the largest in the world. From base to crest, it is 7,480 feet tall, yet its summit is still 4,101 feet below the surface.

# THINGS TO DO:

Habitat photos (left to right): MBNMS, OCNMS, Chad King, NOAA MESA Project, @2014 MBARI, Steve Lonhart, Vince Stamey, MBARI

For those who love nature and outdoor activities, the sanctuary offers exciting adventures for everyone. Whether it's watching whales paddling among kelp forests or exploring tide pools, there is no more spectacular place to enjoy the ocean and outdoors.



## **Sanctuary Visitor Centers**

Stop by one of our free interpretive centers to enjoy exciting, interactive exhibits. Knowledgeable volunteers are on-hand to answer your questions and enhance your understanding of the sanctuary.

## **Coastal Discovery Center, San Simeon**

Located at William Randolph Hearst Memorial State Beach on beautiful San Simeon Bay, the center celebrates the connection between land and sea, offering interactive displays and programs that highlight the cultural and natural history of the region.



## **Sanctuary Exploration Center, Santa Cruz**

Just steps away from the famed beach boardwalk, the center features state-of-the art interactive and multimedia exhibits. Explore the sanctuary's remarkable marine environment, as well as your personal role in protecting one of our nation's special underwater treasures.

montereybay.noaa.gov/visitor/



**SCUBA Diving** 

Abundant sea life and kelp forests make Monterey Bay **National Marine Sanctuary** one of the world's greatest cold-water SCUBA diving destinations.



**Fishing** 

Whether from shore, a public Whether a motor, sail, deep Canoeing, kayaking, and pier or charter fishing boat, sea fishing, wildlife, and/or the sanctuary offers topwhale watching boat, you notch fishing! Please follow are almost guaranteed to regulations, and acquire license where necessary. on the sanctuary.

**Boating** 



**Paddle Sports** 

paddle-boarding provide a unique, interactive experience with nature. Many local have a wonderful experience businesses provide rentals, lessons and group tours.



Surfing

Monterey Bay is a popular year-round surfing destination, for beginners and veteran surfers alike. Always be careful of submerged rocks and powerful waves.



**Whale Watching** 

Monterey Bay is the marine equivalent of going on an African safari. The diversity in the sanctuary is amazing. Look close, and you may



**Tide Pooling** 

adventure? Go no further than the sanctuary's rocky shores. During low tide, you can discover all sorts of even see whales from shore. critters without getting wet!



Wildlife Viewing

Looking for an exciting ocean Responsibly view animals in one of the richest ecological regions along California's central coast. The sanctuary is home to an amazing amount of diverse creatures.



Sightseeing

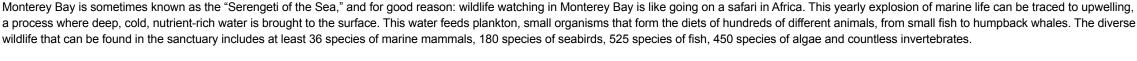
Enjoy breathtaking views of the sanctuary along the coast while eating and shopping in coastal communities. Take-in a visit to one of our free visitor centers.



**Stewardship** 

The sanctuary needs you! Be a volunteer for water quality monitoring, beach cleanups, wildlife protection, and more. Contact us to learn more.

# WILDLIFE VIEWING





## Whales & Dolphins

- Outstanding place to see whales
- 29 species seen in the sanctuary • Some come seasonally, some year-round
- Some can be seen from shore

· Use rocks to open and eat shellfish

**Sea Otters** 

- · Wrap in kelp to prevent drifting away
- Groom to keep their fur waterproof

REGULATIONS Activities prohibited to protect the resources within Monterey Bay National Marine Sanctuary (this list does not include all exemptions or activities):

Operating motorized personal watercraft, except within five designated areas

• Flying motorized aircraft below 1,000 feet along portions of the coast

· Moving, injuring, or possessing historical resources of the sanctuary

- Found in kelp forests or Elkhorn Slough
- Over 180 species of marine birds • Shorebirds forage on wetlands & beaches



Seals & Sea Lions

- Found in large numbers
- Offshore, near shore, and in harbors

Monterey Bay National Marine Sanctuary

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Monterey, CA 93940

Phone: (831) 647-4201

· Some only come to shore to breed

Sea Birds & Shorebirds

One of the best birdwatching sites in U.S.

 Hunt fish, octopus, and squid · Harbor seals breed in the santuary

· Introducing or releasing introduced species

· Chumming for great white sharks

· Altering or placing any structures on the seabed

# **Elephant Seals**

- · Most of their time is spent far offshore · Breed and rest onshore
- Engage in bloody fights for turf and females

## Avoid sensitive habitats

• Best seen at Año Nuevo & Piedras Blancas • Dispose of trash properly

· Don't feed wildlife

**Keep Wildlife Healthy** 

· Keep your distance and watch quietly

# WILDLIFE VIEWING CALENDAR

| SEABIRDS  | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | ОСТ | NOV | DEC |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Common Murre California Least Tern (3) Western Gull California Brown Pelican Brandt's Cormorant Sooty Shearwater  |     |     |     |     |     |     |     |     |     |     |     |     |
| Caspian Tern<br>Marbled Murrelet 10   |     |     |     |     |     | •   | • • |     |     |     |     |     |
| SHOREBIRDS/WADERS   | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | ОСТ | NOV | DEC |
| Snowy Plower ① Least Sandpiper Western Sandpiper Sanderling Willet Marbled Godwit Great Blue Heron Great Egret  |     |     |     |     |     |     |     |     |     |     |     |     |
| SEALS/SEA LIONS   | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | ОСТ | NOV | DEC |
| Harbor Seal Elephant Seal California Sea Lion Steller Sea Lion  Northern Fur Seal   |     |     | -   |     |     |     |     |     |     |     |     |     |
| WHALES/DOLPHINS   | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | ОСТ | NOV | DEC |
| Blue Whale  Humpback Whale  Gray Whale  Killer Whale (Orca)  Pac. White-sided Dolphin  Risso's Dolphin  Common Dolphin  Bottlenose Dolphin  Harbor Porpoise |     |     |     |     |     |     |     |     |     |     |     |     |
| SEA OTTERS  | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | ОСТ | NOV | DEC |
| Southern Sea Otter 🕦  |     |     |     |     |     |     |     |     |     |     |     |     |
| SEA TURTLES   | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | ОСТ | NOV | DEC |
| Leatherback Sea Turtle  | A . |     |     |     |     |     |     |     |     |     |     |     |

ue south; it peaks again in April or May, as they migrate back to northern breeding g

 can usually be found somewhere in the sanctuary doesn't always occur annually

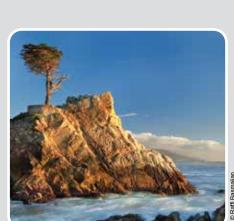
### How Deep?

Of the 1,276 sunken vessels in the sanctuary, of the most notable is the USS Macon, a helium-

led dirigible that crashed and sank off Point Sur in 1935. 5 direction in 1935. 5 direction

**■ USS Macon** 

The sanctuary covers 6,094 square miles, one and a half times the size of the largest national park in the continental U.S. At its center is an underwater canyon, the Monterey Submarine Canvon, which in terms of height/depth ratio is deeper than the Grand Canyon.



FUN FACTS

Adjacent to the sanctuary is one of the world's highest

single-span concrete arch bridges. It was built by

prisoners eager to earn "good time" off their prison

sentences. Dedicated in 1932, it is declared to be

"one of the most photographed bridges in the world."

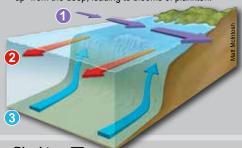
### **▲** Lone Cypress

**◀** Bixby Bridge

On a granite hillside off California's scenic 17-mile drive, the famous Lone Cypress overlooks Monterey Bay National Marine Sanctuary. This tree, nearly 300 years old, is perhaps the most photographed in North America. As a species, the Monterey Cypress naturally grows no place on Earth except for right off the sanctuary shore.

### **▼** Upwelling

Coastal upwelling is largely responsible for the great wealth and diversity of marine life in the sanctuary. Here is how it works: 1) persistent winds push water southward, 2) wind and the Earth's rotation drive surface water away from the shore, 3) surface water is replaced by colder, nutrient-rich water that "wells up" from the deep, leading to blooms of plankton.



## Plankton **V**

Diverse group of organisms that form the base of the ocean complex food web



Krill are shrimp-like crustaceans that measure about one inch in length and can be found in dense swarms in offshore waters. Krill are an important source of food for whales, seabirds, and fishes.

## **▼** Shoreline



of the most visible and visited places in the sanctuary. The sanctuary has a shoreline length of 276 miles, almost one

Beaches are one

quarter of California's coast. Sandy beaches make up about half of the sanctuary's coastline.

## Shipwrecks

The sea floor preserves remnants of the sites where people lived and of the vessels in which they conducted trade and fought wars. There are 1,276 reported shipwrecks within the sanctuary.



## **▼** Lighthouses



lighthouses along Monterey Bay National Marine Sanctuary — Point Bonita, Point Montara, Pigeon Point, Santa Cruz,

The six

Point Pinos, and Point Sur — acted as safety beacons for sailors over hundreds of years. Today, these important landmarks are popular tourist attractions.

## AMERICA'S UNDERWATER TREASURES



The Office of National Marine Sanctuaries serves as the trustee for a network of underwater parks encompassing more than 170,000 square miles of marine and Great Lakes waters from Washington state to the Florida Keys, and from Lake Huron to American Samoa. The network includes a system of 13 national marine sanctuaries and Papahānaumokuākea and Rose Atoll marine national monuments. For more information on the National Marine Sanctuary System, visit: http://sanctuaries.noaa.gov

Scale varies in this perspective. Adapted from National Geographic Maps.

- O National Marine Sanctuary A Marine National Monument



- Proposed National Marine Sanctuary

of the Monterey Submarine Canyon

Max recreation SCUBA depth 555 feet

Depth of inverted Washington Monument 1.250 feet Depth of inverted Empire

Estimated crush depth

of U.S nuclear

submarine

2.400 feet

2,717 feet Depth of inverted Burj Khalifa (worlds

tallest building) 3,281 feet

depth sunlight

Deepest recorded dive of a great white 4,500

3,937 feet

5,000

5,500 -

6,000 ◀ 6,000 feet

Maximum depth of the Grand Canyon 6,500

7,000 -

7,382 feet Maximum dive 7.500 depth of a sperm whale

> 8,074 feet Monterey Bay

researchers caputured first video of anglerfish

8,839 feet Depth of 9,000 inverted Half Dome in

9,500

estimated depth a colossal squid can reach

10,500-

-11,000

Depth of inverted Mount 11,500-Hood, Oregon

11,250 feet

12,000 feet

inverted altitude of sport skydiving Deepest point

12,743 feet

Brochure design, layout and icons: Matt McIntosh

· Exploring for, developing, or producing oil or minerals

• Injuring or disturbing marine mammals, seabirds, and sea turtles

• Discharging or depositing materials into the water