

Stop Bottom  
Trawling Campaign

Bottom Trawl Gear

Deep Sea Corals:  
The Cradle of Sea Life

What You Can Do  
to Save the Oceans

Oceana Solutions

Oceana's Pacific  
Deep Sea Coral Initiative

Federal Regulation of Roller  
and Rockhopper Gear and  
Bottom Trawling

Regulation of Roller and  
Rockhopper Gear and Bottom  
Trawling in State Waters

About Oceana

## Deep Sea Corals: The Cradle of Sea Life

Corals are literally the cradle of life for the oceans. On the ocean floor, these animals provide shelter, protection from strong currents, protection from predators, nurseries for young fish, feeding areas, spawning areas, resting areas, and breeding areas for a host of other marine life.

The ocean floor consists of a patchwork of habitats including smooth sand, mud, rocky ridges, deep-sea canyons, and undersea mountains. The incredible variety of life in the oceans—most of which is found near the bottom of the sea—is especially concentrated around seafloor structures like gravel, boulders, crevices, rock pinnacles, overhangs and living habitat created by animals such as sea anemones, sponges and deep sea coral.

### WHAT ARE DEEP SEA CORALS?

Deep sea corals are important and poorly understood marine animals. Corals, sponges, and other animals form the foundation of stunningly beautiful seafloor communities and are important habitats for fish to forage, find protection and lay their eggs. Some coral gardens contain more than one hundred species of corals and sponges, and provide habitat for countless other animals.

Two thirds of all known coral species live in dark, cold waters. At these depths there is little or no sunlight for corals to derive energy from, so they support themselves by capturing small food particles from the surrounding water. Some individual corals grow together to form small bushes or fans; others form larger colonies such as reefs or great trees. These colonies share food among themselves, which allows the colony to grow into higher currents to get more food.

Coral gardens take hundreds of years to form. Deep sea corals and sponges grow extremely slowly and are particularly sensitive to disturbance. Some of these animals can live for centuries and congregate in spectacular reefs towering hundreds of feet from the seabed, or great trees 25 feet wide; yet they advance at a rate of only half an inch each year.

Most of the deep sea corals off the U.S. coasts have not even been located, let alone studied for their role in the marine ecosystem. Unfortunately, they remain largely unprotected as a result. Scientists do know that deep sea corals grow off every coast, from Maine to Texas, Alaska to California and around Hawaii. Following are areas that Oceana works to study and protect.

### PACIFIC DEEP SEA CORALS

Widely distributed from the Bering Sea to California, Pacific deep sea corals are found as deep as 10,000 feet in areas of rich nutrient flow along the Pacific shelf and slope. They are among the oldest life on the planet and support some of the most diverse ecosystems on the Pacific coast.



MBARI/NOAA

*Juvenile crabs and basket stars adorn bubblegum coral*

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## THE OCULINA BANKS OFF THE COAST OF FLORIDA

The Oculina Banks, named for the ivory tree coral, *Oculina varicosa*, is an area of deep sea coral reef habitat found off the coast of Florida. The coral in these reefs may take more than a century to grow to just three to five feet and are thought to be nowhere else in the world. These reefs provide habitat for mollusks and crustaceans, which, in turn, are essential food for commercially and recreationally important species of fish such as red porgy, greater amberjack, and many species of snapper and grouper. The corals are also used by grouper as spawning and nursery areas.

### DEEP SEA CORALS ARE ESSENTIAL FOR THE LIVING OCEAN

Slow growing and incredibly sensitive to disturbance, damaged or destroyed corals may not recover for centuries. Loss of corals and sponges, in turn, takes away habitat for a host of species of sea creatures.

Commercial species supported by deep sea coral communities include fish such as rockfish, Pacific Ocean perch, flatfish, Atka mackerel, golden king crab, shrimp, Pacific cod, pollock, greenling, Greenland turbot, and sablefish. Non-commercial species include sea stars, nudibranchs, octopuses, snails, crinoids, basket stars, sponges, and anemones.

For these and other species, corals provide essential habitat by providing shelter, protection from currents and predators, breeding areas, spawning areas, nurseries, food, and resting areas. When coral and sponge habitat is destroyed, the many species it supports also disappear.

Besides providing the foundation for some of the most prolific ecosystems in the world, deep sea coral communities may be important for pharmaceuticals and biotechnology. Many corals are already being tested to produce antibiotics, pain killers, and medicines to treat cancer, AIDS, asthma, and heart disease.

Furthermore, living corals and their skeletons are important recorders of climate change. Living hundreds to thousands of years, coral colonies allow researchers to study, discover, and confirm changes in the world climate over the past centuries.

### THREATS FROM BOTTOM TRAWLING

Bottom trawls drag across large areas of the seafloor, crushing and flattening much of the seafloor structure in its path. A single trawl pass can crush centuries of growth. Although National Marine Fisheries Service research recognizes that bottom trawling is devastating sensitive seafloor habitat such as corals and sponges, little effective action is being taken to prevent the destruction from continuing.

The North Pacific Fishery Management Council has designated corals, sponges, and other living substrates as Habitat Areas of Particular Concern (HAPCs). HAPC designation is reserved for areas of highest conservation priority due to ecological importance, vulnerability to fishing impacts, and rarity.

The Oculina Banks habitat of living coral has been severely damaged by bottom trawling. More than 90 percent of these corals have already been crushed and killed. Nearly 300 square nautical miles surrounding the Oculina Banks have been designated as HAPC and closed to bottom fishing, but enforcement is difficult and illegal trawling still continues. The tiny 20-acre patch of undamaged Oculina reef that remains is so small that a single bottom trawler could easily destroy it in one night.

When ancient coral habitat is indiscriminately destroyed by bottom trawling, an irreplaceable and essential treasure is lost. It will not recover in our lifetimes or our children's—if ever.