

Restoring Orange County's Lost Kelp Forests

Giant kelp forests are one of the most productive ecosystems in the world. Often referred to as the “rainforests of the sea,” more than 800 species rely on them for food and shelter, including seals, sea otters, many species of fishes, lobsters, abalone, and sea urchins. Second only to coral reefs for biodiversity in our world’s ocean, kelp forests only occur in select parts of the globe. Giant kelp grows on rocky reefs in waters generally less than eighty feet deep and can be found along the coasts of Alaska, Peru, Chile, Argentina, Australia, New Zealand and Central and Southern California.

Giant kelp uses the sun and nutrients in the ocean to grow up to 200 feet in length, forming dense forests like those found on land and are vital to the wellbeing of air-breathing species like us. One of the many things they do is create oxygen. Scientists believe that at least 75 percent of the world’s oxygen comes from algae in our ocean.



Giant kelp is among the top producers of food and habitat for marine life in the near shore waters of Central and Southern California - providing sustenance and shelter to thousands of organisms from tiny zooplankton to giant gray whales.

Over the past century, there have been many natural and human-induced pressures on the marine environment. The regional extinction of the southern sea otter, the increased density of sea urchins, untreated sewage outfalls, direct and indirect effects of commercial and recreational fishing, urban and coastal development, the El Niño phenomena, and shifts in position of the Northern Pacific Gyre that have all led to an overall decline in kelp densities. Studies by the Department of Fish and Game indicate a loss of nearly 80 percent of kelp forests along the Southern California Coast over the last century.

The Aquarium of the Pacific in Long Beach has adopted the Orange County Kelp Restoration Project to restore the kelp forests in Orange County, one of Southern California’s hardest hit areas (having lost nearly 90 percent of its kelp beds over the last 30 years). The project aims to enlist the help of everyday citizens in the community. Nancy Caruso, marine biologist and project manager, will be taking the Aquarium’s program to local Orange County high schools to teach students about kelp forest ecology and how to actually grow kelp on ceramic, unleaded, unglazed tiles in their classrooms. Volunteer divers then plant the kelp and monitor its growth.

So what can we as individuals do? Be aware of water issues and learn about your watershed. Think about the ways in which you care for your lawn and vehicles and be sure you are not sending chemicals into the runoff from your house. Talk to friends and neighbors about this issue, and explain to them why it matters that we wash our cars in inexpensive do-it-yourself carwashes that have proper drainage to water treatment facilities. By educating ourselves on environmental issues such as this, we can all take the steps necessary to reduce our impact on the ocean’s water quality. **HB**

Nancy Caruso is a marine biologist and Alexi Holford serves as the communications manager for the Aquarium of the Pacific. For more information about this topic or if you would like to donate to the Orange County Kelp Restoration Project, please call the Aquarium’s Development Department at (562) 951-1617 or visit www.aquariumofpacific.org.