



Giant Kelp

Macrocystis pyrifera

Macrocystis is Greek for “large bladder.”

WHERE IT’S FOUND

Giant kelp thrive in massive kelp forests along Southern California’s coastline, as well as along the Chilean Pacific Coast, Cape Horn, and New Zealand.

MEET THE SEAWEED

Growing up to two feet per day, and 100 feet or more in a single season, giant kelp live up to their common name. These fleshy marine algae sport long, olive brown blades which grow off the ends of gas-filled bladders. These bladders keep the giant kelp’s body afloat while the kelp’s root-like strands, *haptera*, grow downward and away from light. Spreading rapidly, these sticky, glue-like tendrils build and expand an inner core. Eventually, this cone-shaped edifice becomes a habitat for hundreds of species, including kelp fish, anemones, snails, and crabs.

HARVESTING A GIANT

Off of the Southern California coast, giant kelp’s *algin* (a kind of goo) has been harvested for use as a gelling, emulsifying, and smoothing agent. Americans’ postwar, processed-food diets relied heavily on these phycocolloids, which were used in ice cream, salad dressing, cream cheese, and beer, as well as in paint, toothpaste, and cosmetics.

In the 1950s, pollution and overharvesting threatened these underwater kelp forests. California’s kelp factory, Kelco, partnered with marine biologists and environmental agencies to sustain them. But by 1989, Kelco’s processing plant exceeded air pollution limits, emitting $\frac{1}{3}$ of the region’s volatile organic compounds; the company had dumped thousands of tons of seaweed biowaste after extracting the kelp’s tiny colloidal component.

Kelco moved to Scotland in 2004, and the kelp forests are now tended by divers and scientists concerned with the kelp forests’ ongoing decline due to warming oceans. The last seaweed phycocolloid processing plant in the United States is located in Rockland, Maine.

