



Seagrasses

Phyllospadix scouleri and *Zostera marina*

Zostera is Greek for “ribbon-like leaves.”

WHERE IT'S FOUND

Eelgrass (*Zostera*) grows in calm bays and estuaries across the northern hemisphere, while surfgrass (*Phyllospadix scouleri*) flourishes in exposed coastal reefs from Alaska to Baja California.

MEET THE SEAWEED

Unlike the other seaweed in this exhibit, seagrasses like surfgrass and eelgrass are not algae. As their name suggests, they truly are plants that have evolved to thrive in salt water. Roots hold them to the ocean floor, and they sport flowers that produce seeds, not spores. Often called “the lungs of the sea,” one square meter of seagrass can produce up to 10 liters of oxygen every day.

In 2016, scientists studied eelgrass’ genome sequence. Their findings suggest that eelgrass moved into the oceans at the time of mass extinctions 72 to 64 million years ago. The extinctions opened up new ecological opportunities and sea grasses adapted to fill these niches.

A DELICATE BALANCE

Seagrasses often grow in bays or estuaries adjacent to farmland, providing an essential habitat for a diverse community of animals, fish, and birds. The nitrogen and phosphates in agricultural runoff like fertilizer can cause algae to grow on and overwhelm the grasses. Algal grazers like amphipods, isopods and sea hares help remove this “muck” by eating it off of the grass’s blades, allowing them to perform their essential task of photosynthesis.

The story of the seagrass is also the story of the trophic cascade, an ecological phenomenon triggered by the addition or removal of top predators in a food chain that can cause dramatic changes in the ecosystem. In some Pacific Coast estuaries, grazers are eaten by crab predators, which are in turn eaten by otters. Otters can keep the crab population in check, protecting the grazers and, ultimately, the eelgrass. This natural balance of predator and prey is needed to protect the seagrasses and the marine ecosystem they help create.

