

FIGURE 2–18*Crustose coralline red algae.*⁵⁶

environments. In fact, there are more marine species of red algae than of marine green and brown algae combined. Red algae have red pigments called phycobilins, which mask chlorophyll, causing the algae to appear red. Some species of red algae are harvested for food and various other economic goods. Coralline red algae are red algae that deposit calcium carbonate within their cell walls. Coralline algae are of particular ecological importance in the formation and development of coral reefs, helping to cement these living structures.

Seaweeds are of great economic importance—they are harvested for food as well as for their vitamins, minerals, fiber, and antioxidants. Seaweeds are also harvested for their gelatinous chemicals called phycocolloids. Algin is one phycocolloid of particular importance that is used as a stabilizer and emulsifier in many consumer products, such as ice cream, cream cheese, icing, shampoo, shaving cream, plastic, paint, paper, cosmetics, and so on. Seaweeds can also be used as fertilizers, added to feed for animals, and can even be used for dressing wounds.

Flowering Plants

Angiosperms, or flowering plants, are dominant on land but are less abundant in the ocean. Angiosperms are vascular plants that use conductive vessels to transport oxygen, water, and nutrients. Flowering plants have true leaves, stems, and roots. Only a few angiosperms have re-colonized the ocean and live in shallow coastal waters.

Seagrasses are the only true marine flowering

FIGURE 2–19*Fully submerged seagrasses.*⁵⁷

plants. Seagrasses live fully submerged in seawater most of the time. Seagrasses superficially look like grasses, but they are not actually grasses. Seagrasses have horizontal stems, called rhizomes, that grow beneath the sediment to help anchor them in marine habitats. Seagrasses have flowers, though they are small and inconspicuous. The pollen of seagrasses is carried by water currents, fertilizing tiny seeds in the flowers. Once fertilized, seeds are transported by water currents or by grazers that feed on seagrasses. One of the most common seagrasses is Turtle Grass (*Thalassia testudinum*), which is commonly eaten by sea turtles. Seagrasses are limited in depth distribution due to their need for light to carry out photosynthesis. Seagrasses form thick beds, which serve as a habitat and food for many marine organisms. Animals such as snails, worms, shrimp, sea stars, juvenile fishes, and conch are common in seagrass beds.

Salt Marsh Plants

Cordgrasses, which are true grasses, are not considered marine species but rather are land plants that tolerate salt. Because of this salt-tolerance, cordgrasses are considered halophytes (Greek for “salt plant”). Cordgrasses do not tolerate total submergence under seawater. If they were fully submerged for long periods, they would not survive. However, when the tide comes in, cordgrasses are partially submerged in salt marshes. Salt marshes are a coastal ecosystem in the intertidal zone that is regularly flooded by the tides. Cordgrasses are common in soft-bottom coastal areas, and they provide a habitat and breeding grounds