

Temperate seagrasses introduce a diverse set of complex habitats to coastal waters. They are an important foundation species, strongly influencing the structure of coastal marine communities. Seagrasses, and the epiphytic algae which grow on their leaves and stems, provide habitat and/or food for a wide range of animals. The magnitude of their influence is driven by the size and meadow-structure of the seagrass. Larger, meadow-forming species provide critical habitat for a wide variety of fauna, including some fish which are important for fisheries, and invertebrates such as prawns, crabs and starfish. But even the smallest seagrasses, which form only sparse meadows, play a similar role.

The diverse array of organisms inhabiting seagrass ecosystems perform critical ecological functions. These seagrass communities filter the water, removing and recycling nutrients, and also stabilise sediment on the seabed. The epiphytes growing on seagrasses are important food for many grazers, though southern temperate seagrasses themselves are not usually a direct food source for grazers. This contrasts with tropical seagrasses, which are regularly eaten by fish, urchins, dugongs and turtles. However, in some southern temperate areas, swans depend on seagrasses for food.

Seagrasses play a crucial role in connecting different marine habitats. The meadows are a fertile hunting ground for predators who live in nearby reefs. Algae that are detached from reefs during storms drift into seagrass meadows where they release nutrients that support seagrass and algal growth. In turn, seagrasses and their epiphytes break off and drift to other habitats, such as beaches, where they are an important source of food and habitat for a variety of animals. The accumulations of detached leaves can also help to stabilise beaches, preventing erosion during storm events.