

Ecosystems



Critical Ecological Concepts

- An ecosystem is a community of living things, together with its habitat. Ecosystems differ from place to place because of different sets of physical conditions.
- Organisms depend on other species for survival and this dependency includes relationships of predation, competition, collaboration, parasitism, mutualism, habitat formation and protection.
- The flow of energy between living organisms can be shown in simple food chains.
- Ecosystems are intricate systems of relationships and in many cases are particularly sensitive to human activity such as disposal of wastes that affect land, water and air.
- The sea is an environment, which contains both living and non-living things.
- Communities are made up of organisms living in the same place at the same time.
- Plants including those found in the sea need sufficient sunlight and carbon dioxide to carry out the process of photosynthesis - the process whereby they make their own food. Some marine plants include microscopic phytoplankton, the huge diversity of marine algae, and flowering plants such as seagrasses and mangroves.

Strategic Questions

- What are some of the ways that animals or plants influence each other in Barwon Bluff Marine Sanctuary?
- What are some links between the animals and the plants (algae or seagrasses) in the marine environment?
- Create a simple food chain to represent the flow of energy in a rock pool or on a reef.
- What is the effect if an animal is added to or removed from this food chain?
- How do changes in the environment, like the rise and fall of the tides affect marine organisms that live on the shoreline?
- Why is oxygen needed in the oceans?
- How does the amount of phytoplankton, algae, or seagrass affect the health of the marine ecosystem?
- What is the primary source of energy for marine life?
- How do the phytoplankton and algae contribute to the cycling of oxygen within the marine system?
- What is the role of decomposers in the ecosystem?
- How do producers, consumers, (herbivores, omnivores, carnivores) and decomposers mesh together to form marine webs?
- How do human populations impact on the food chain?