



Coastal Dunes can be divided into 4 unique zones. Each zone has different aspects that make it more or less habitable for different organisms. The beach, foredune, trough, and backdune are all part of the coastal dune system.

Beaches are zones where water meets land. Constant wave action, wind, and ice make this an extremely difficult habitat for organisms to survive in.

The **foredune** is the area directly behind the beach. Marram grass and sand reed grass help stabilize the sand here to create an almost habitable area for plants and animals. Due to wind and water shifting the sand, however, this area is still difficult to live in.

Wind blows through coastal dunes, forming a depression between the foredune and the backdune. This area is called the **trough**. The trough often fills with groundwater causing interdunal ponds where many organisms survive in this more stable habitat.

Just behind the trough is the **backdune**. The backdune is usually forested and provides shade to its inhabitants. The backdune provides cool temperatures and moist soil adequate for many plants and animals.

Adapted from: Terrestrial Ecosystems – Coastal Dunes, Michigan Environmental Education Curriculum, Michigan Technological University (<http://tecalive.mtu.edu/meec/module09/index.htm>)