

What is the Intertidal Zone?

Wikipedia says that the **intertidal zone** (sometimes referred to as the littoral zone) is the area of the shore that is exposed to the air at low tide and underwater at high tide (for example, the area between tide marks).

The zone also makes itself apparent on steep rocky cliffs, sandy beaches, or wetlands (e.g., vast mudflats). The area can be a narrow strip, as in Pacific islands that have only a narrow tidal range, or can include many meters of shoreline where shallow beach slopes interact with high tidal movement. On the Wellington South Coast the tidal range varies from about 1.7 m at Spring tides and 0.7 m at Neap tides. While tidal movement defines the intertidal zone to some extent it is also necessary to take into account the effects of storm swells and surges, winds and currents to appreciate the full influence of the sea on the shore.

Storm waves create a splash zone above Mean High Water Springs, and are important in the creation, replenishment and longevity of rock pools and the reef surfaces. The storms cast up seaweed and other debris above the intertidal zone which then become the homes and food supplies for a range of species including snails and fossicking sea birds. The South Coast is characterised by a mix of rocky reefs, especially those eroded remnants of the 1855 earthquake uplift, and sandy, cobbly or pebbly beaches, with a great array of rock pools.

There is a range of conditions in the intertidal zone from low to high tide which gives rise to a range of habitats and species which occupy them. The full range is perhaps best exemplified on the Wellington Coast by the grey lichens which cling to the highest, least water-covered parts of the zone, down through to the red beadlet anemones which are generally very close to the bottom of the range, appearing as blackish blobs – under water these open into sparkling red anemones. In between the rock surfaces will usually show limpets and chitons, clinging hard to the rock surfaces and grazing on a ‘turf’ of red coralline algae. Usually there would be small mussels in this area too, but there is an unusual absence of mussels from the South Coast, probably due to an inadequate supply of food favoured by these molluscs. Winkles and top shells are also seen in this zone.

In the lower intertidal the larger seaweeds are encountered, including *Ulva* (Sea lettuce) and *Codium*. *Caulerpa*, recognizable as Sea Grapes, and *Hormosira* (Neptune’s Necklace) are also common in this zone. The dynamic nature of the South Coast means that there are not necessarily hard and fast limits, but rather a gradation into wetter conditions, confused by storm cast algae and material cast up onto the rocks and into the pools – but that is another story. This brief description of the intertidal zone at Taputeranga Marine Reserve does not do justice to the very large numbers of algae, molluscs and other invertebrates which depend upon this zone for sustenance, shelter and reproduction.

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