

Plants of Pauatahanui Wildlife Management Reserve

Rushes and sedges

Rushes are the most common and also the most important group of plants in the Reserve because they will grow in boggy, salty soils where few other plants can survive.



To grow, plants need to get carbon from the carbon dioxide in the air. Usually plant roots find the air they need in the tiny spaces between soil particles but the water-logged ground in marshland or swamp has no airspaces. Instead, the rushes and sedges that grow here use air stored in the hollow parts of their stems.

The three most important rushes and sedges in the Reserve are sea rush (*Juncus kraussii* var. *australiensis*), jointed rush (*Apodasmia similis*) in the salt marsh, and knobby club rush (*Ficinia nodosa*) in the fresh water swamp.



Sea rush grows along the shoreline around the high tide mark so it may be standing in sea water for up to four hours per day. This means that gradually the rush stems absorb so much salt that they die off and crumble into small fragments that fall on to the mud. The tide then washes these bits of plant material out on to the mudflats to provide food for mud crabs, sea snails, cockles and other filter feeders that live in the inlet. As much as 60% of the food supply for these creatures comes from the debris of the sea rush, making the sea rush a very important part of the food chain in the Inlet.



Jointed rush is not as salt tolerant as sea rush and grows further inland where its roots are only occasionally covered by the tide. The salt that it absorbs from the salty soil turns the stems a rusty red colour especially in late summer and autumn.



Knobby club rush grows around the edges of the freshwater swampy areas. It forms large spiky clumps with a rough knobby seed head towards the end of its stems.

Coastal shrubs

The most common shrubs in the Reserve are saltmarsh ribbonwood (*Plagianthus divaricatus*), mingimingi (*Coprosma propinqua*), coastal tree daisy (*Olearia solandri*), and manuka (*Leptospermum scoparium*). They grow on the higher ground fringing the rushland or the fresh water swamps. To help them cope with the strong salt-laden winds that frequently occur, they have very small leaves which often have a covering of fine hairs on the underside.



Saltmarsh ribbonwood grows as a tangle of thin dark-coloured stems and loses its leaves in winter.



The very small leaves of **coastal tree daisy** roll under along the edges to protect the underside of the leaves from drying out in the strong winds.



Mingimingi grows with the saltmarsh ribbonwood and also in the fresh water swamp. (The name 'mingimingi' means 'small leaves' and is often used for other similar plants.)

Mānuka shrubs adapt to all kinds of harsh conditions—windy areas, poor soil, very wet or very dry conditions.



Sometimes mānuka is confused with kānuka, another small tree with very similar leaves. To be sure you've got it right look for the small segmented seed capsules (above right) that mānuka always has. If you can't see any at the ends of the branches, there will always be old capsules further inside the bush.

Coastal trees



Ngaio (*Myoporum laetum*) is one of the few trees that can cope with strong salt-laden winds. The leaves are covered in tiny dots—oil cells that protect them from drying out. The new shoots are also protected by a sticky black secretion.



Taupata (*Coprosma repens*) is sometimes called "mirror leaf" because of the hard shiny surface on the top of its leaves that helps to protect them from damage. In very exposed sites, instead of growing as a tree, taupata will sprawl along the ground to prevent being damaged by the wind.

Saltmarsh herbfield plants

Look for ground-cover plants, glasswort (*Sarcocornia quinqueflora*), remuremu (*Selliera radicans*), and sea primrose (*Samolus repens*), along track edges under the saltmarsh ribbonwood or among the rushes.



Glasswort



Remuremu



Sea primrose