

Mangroves



Mangroves are a native flowering plant found in estuaries around New Zealand.

The facts

- They play an important role in the ecology of the Tauranga Harbour
- Mangroves help reduce coastal erosion and provide an important habitat for some marine species
- The spread of mangroves is currently being managed by estuary care groups who are working with Bay of Plenty Regional Council.

Where do mangroves grow?

There is only one species of mangrove found in New Zealand, *Avicennia marina* or Manawa. The Manawa species is the most southerly growing mangrove species in the world, found in estuaries as far south as Kawhia Harbour on the west coast, and Ōhiwa Harbour on the east coast of the North Island. Mangroves generally live in shallow and low energy (calm) intertidal (dry at low tide) areas of estuaries or harbours.



Mangrove and roots

Why are mangroves important?

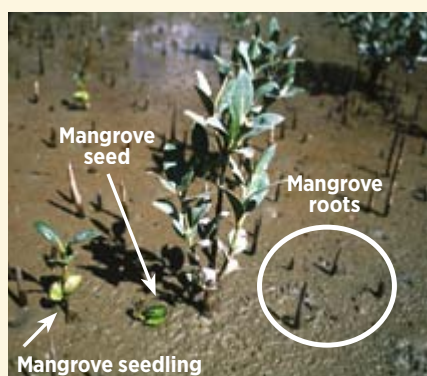
Mangroves play an important role in the functioning of the coastal ecosystem, providing a nursery ground for some juvenile fish species such as short finned eel and yellow-eyed mullet. They're also home to many native insects, birds, shellfish, snails, crabs and algae.

Mangroves can protect the shoreline against large waves and storm surge and trap and stabilise the sediment, resulting in more shoreline protection from erosion. However, too many mangroves can create problems in harbours, particularly for the access, use and enjoyment of people.

Are mangroves spreading?

Changing the way we use land in the Tauranga Harbour catchment, such as increased subdivision and land clearing, results in more sediment being deposited and higher levels of nutrients such as nitrogen in our harbours and estuaries. This has caused the mangrove population in Tauranga Harbour to increase (Figure 1 – overleaf) to the point where they've taken over large areas of the open tidal flats, especially in the sub-estuaries (for example Te Puna, Waikareao and Waimapu estuaries).

Mangroves produce large seeds which drop into the water where they are spread by wind and water currents. When a seed washes onto a suitable site, it anchors into the sediment. Once they've established, the plant's root network grows under the mud. Because there's low oxygen levels in mud, small vertical roots called pneumatophores shoot up through the surface of the mud, around the plant to provide oxygen.



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When mangroves spread, they increase the build up of sediment (known as sedimentation) in an area by reducing and altering currents and wave energy. The vertical root structure and low branches of the mangrove also help the plant to trap fine silty sediment.

Sediment build up and mangrove spread are major concerns to communities living around harbours and estuaries. They like to see open water and estuary habitats maintained in a healthy condition. Mangroves are spreading in many of the harbours and estuaries that they are found in. Aerial photographs of Tauranga Harbour (Figure 2) show the spread of mangroves over 44 years.

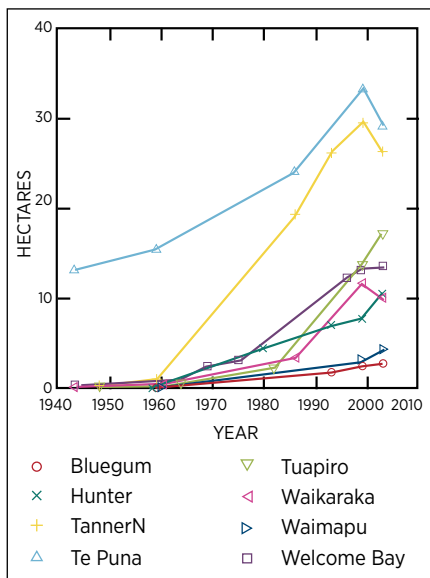


Figure 1. Mangrove canopy cover (ha) over time in a number of estuaries in Tauranga Harbour.

What is being done?

We have set up an Estuary Care programme to support and empower our communities to care for their harbour margins. Estuary Care involves our staff working with community groups to restore parts of the estuary. Restoration involves Estuary Care Groups carrying out riparian planting and pest animal and pest plant control. Often the groups also extract mangroves, in a controlled manner, with permission and guidance from Bay of Plenty Regional Council.

Any mangrove removal areas are carefully selected, taking into account the plants and animals living there, the overall health of the estuaries, and the ability of the ecosystem to return to its former function.



Mangrove bush with seedlings

What you can do to stop further mangrove spread

There are some things you can do to help reduce the spread of mangroves in Tauranga Harbour.

- Minimise sediment runoff when carrying out earthworks.
- Plant out any riparian areas to trap sediment and reduce nutrient runoff.
- Join an Estuary Care group to help restore estuaries and their catchments. Bay of Plenty Regional Council works with these groups to gain the necessary approvals. Otherwise, ensure you have the appropriate permission from Bay of Plenty Regional Council – coastal areas are publicly owned and very sensitive. It's important any actions are carried out correctly.

If you want to get involved or would like information on areas covered by Estuary Care programmes in Tauranga Harbour, please contact Bay of Plenty Regional Council.



Figure 2. An aerial photograph of Tauranga Harbour from 1959 showing Welcome Bay and the change in mangrove abundance over time. Red areas show the mangrove distribution in 2003 and yellow areas show mangrove distribution in 1959.

For more information

Visit www.boprc.govt.nz/taurangaharbour

Or contact: Bay of Plenty Regional Council
phone 0800 884 880
email info@boprc.govt.nz