Threatened species

Tāwharanui Peninsula is one of the few places in mainland New Zealand where protected sea meets protected land. It is a special environment where many birds can be seen, including the New Zealand dotterel, the red-billed gull and the white-fronted tern (all classified as Nationally Vulnerable).

Flesh-footed, fluttering and sooty shearwaters visit the marine reserve, as do Bryde's and killer whales (Nationally Critical) and bottlenose dolphins (Nationally Endangered).

Little penguin/kororā nest at several sites along the peninsula. The birds are being studied to find out how much of their food comes from inside the marine reserve. *Photo: Janice Mckenna*

Cancer-fighting sponge

Beautiful gardens of sponges are a feature of this marine reserve. One of the least colourful sponges, *Mycale hentscheli*, contains chemical compounds that are being studied elsewhere in New Zealand for use as anti-cancer drugs. The compound peloruside is one of these which, although very effective, is only present in the sponge in tiny amounts. To get more peloruside for testing and development, Dr Mike Page from NIWA has grown the sponges on mussel farms in the Marlborough Sounds.

Mycale

"*Mycale* can grow to 15 times its original size in a year, so it could be aquacultured successfully. But intriguingly only the sponges we've grown in Pelorus Sound actually produce peloruside," he said. Chemists at Victoria University are also working on how to make the fiendishly complex compound in a laboratory.

Mycale harvesting from ropes.

Year established: 2011
but taking fish and shellfish from the area has been banned since 1981

Area: 394 hectares
approx. 4 km²

Visitors: 160,000 per year

Nearest town: Matakana

Coastal biogeographic region: Northeastern

Location: Hauraki Gulf, Auckland region

Climate: subtropical, with warm, humid summers and mild, damp winters

More information is online

If you'd like more detail about the health of this marine reserve and how we have created this report card, please go to www.doc.govt.nz/report-card.

You will find:

- report card rationale
- Māori history, iwi guardians and archaeological sites
- water quality data and links to monitoring information
- key published research from this marine reserve
- more information about marine pests
- a map of land use in the catchment area
- monitoring reports and summaries.

Protected area

The marine reserve extends along the northern shore of the Tāwharanui Peninsula for 3.7 km. You may not take any fish or shellfish or disturb the marine life in this area.

Find out more about what you can and can't do in a marine reserve on our website: www.doc.govt.nz.

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How healthy is the marine reserve?

Tāwharanui
Marine Reserve

Marine reserve report card

New Zealand Government

Department of Conservation
Te Papa Atawhai

Marine reserve health

A marine reserve is an area of sea and shore that is protected from fishing, shellfish gathering, mining and other kinds of disturbance. Once a marine reserve is created, the ecosystems within it change and become closer to how they were before human influences. Marine reserves may become important nursery grounds for fished species and are valuable places where scientists can study the environment in a more natural state.

The ecosystems within Tāwharanui Marine Reserve are healthier and in a more natural state than those outside its boundaries. The reserve is, however, influenced by the health of the marine environment outside its boundaries – it has no walls. Larger-scale factors in the Hauraki Gulf such as changing climate patterns, urban development and intensive fishing affect the health of this marine reserve.

A range of measures is used to decide how healthy a New Zealand marine reserve is. These measures have been carefully chosen so that together they provide an indication of the health of any marine reserve. The status and trend (in the previous five years) is reported for each measure.

Measure	Status	Trend
Habitat	Good ○○●○	Stable →
Rock lobster (crayfish/kōura)	Undetermined* ○○○○	Declining ↘
Marine pests	Good ○○●○	Stable →
Water quality	Superior ○○○●	Stable →
Surrounding land	Good ○○●○	Stable →

Monitoring the marine reserve

Tāwharanui Marine Reserve has been studied by Dr Roger Grace since 1977, long before it was protected from fishing. DOC began regular surveys of the snapper, rock lobster and other fish inside and at nearby sites outside the marine reserve in 2009.

* Natural levels of rock lobster in the marine reserve are uncertain, so their status cannot be assessed at this time.

Habitat

Tāwharanui Marine Reserve contains exposed beaches with tuatua and scallop beds, boulder beaches with caves and archways, and extensive rocky reefs with rock pools exposed at low tide.

Reefs in the reserve are mostly covered by kelp (*Ecklonia radiata*), but some areas have a mix of seaweeds. Urchin barrens (areas of reef grazed bare of kelp by sea urchins, or kina) have become less common in the marine reserve in recent years.

2011

Key

- Coralline turf
- Ecklonia
- Exposed at high tide
- Intertidal rocky platform
- Intertidal sand beach
- Sea urchin barrens
- Shallow mixed weed
- Shallow subtidal gravel field
- Subtidal sand flat
- Unknown
- Marine reserve boundary

Marine pests

Marine pests are unwanted species that have been introduced to New Zealand. Two particular pests – a seaweed (*Undaria pinnatifida*) and a sea squirt (*Styela clava*, pictured) – are a concern because of their impact on native species. *Undaria* is growing 50 km away and *Styela* has been found less than 5 km away. There is a high chance these species will arrive in the marine reserve one day by spreading naturally or hitchhiking on a boat hull.

Styela clava on boat hull.

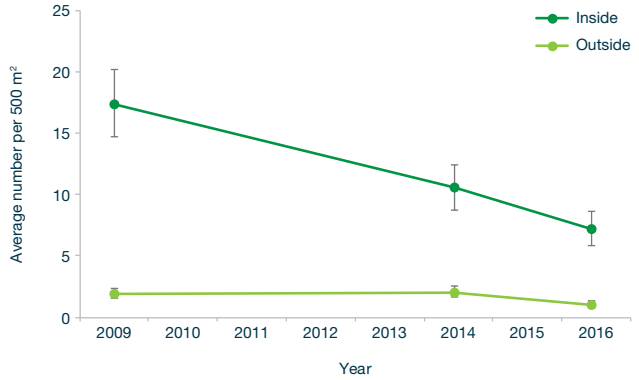
Rock lobster

In 2009 the number of rock lobster inside the marine reserve was nine times higher than outside the marine reserve. In 2016 the number of lobster inside the marine reserve was seven times higher than outside the marine reserve.

There has been a decline in the average number of rock lobster in the marine reserve in the last seven years. The monitoring survey in 2009 recorded 2.5 times as many rock lobster per 500 m² than the 2016 survey.

A similar declining trend has been observed at nearby Cape Rodney-Okakari Point Marine Reserve for 10 years.

Number of rock lobster inside and outside the marine reserve



Water quality

Auckland Council monitors the water quality in the marine reserve and rates it 'good to excellent'. The water quality in Tāwharanui stream is also rated 'good to excellent'.

Surrounding land

Tāwharanui Marine Reserve lies along the northern coast at the eastern end of the Tāwharanui Peninsula. The peninsula is partially covered with native coastal forest and regenerating wetlands, as well as a working sheep and cattle farm. A pest-proof fence across the peninsula (which visitors pass through) keeps introduced animals such as stoats, rats and feral cats out of the Tāwharanui Regional Park and open sanctuary.

The pest-proof fence ends in a spiral. Traps in the centre of the spiral are set to catch animals running along the fence and prevent them entering the protected area. *Photo: Lindsay Young*