

Significant Ecological Marine Area Assessment Sheet

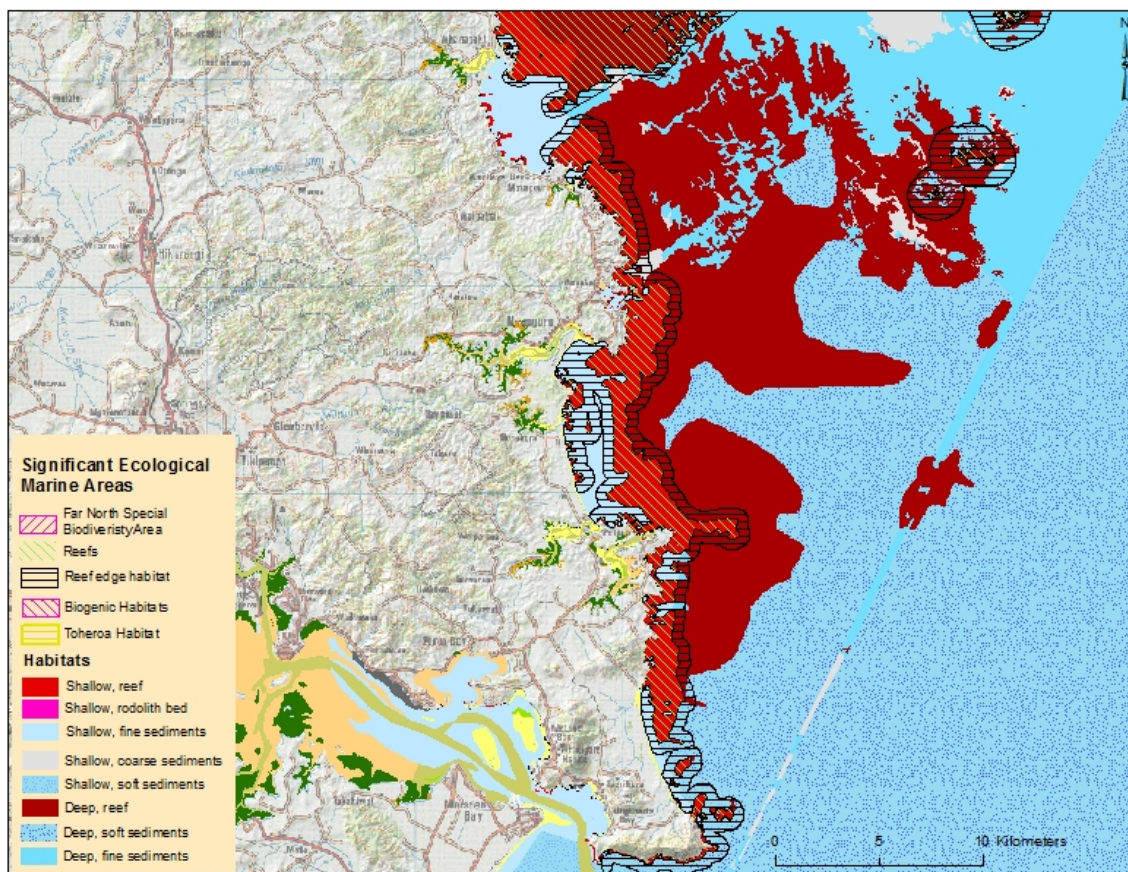
Name: Tutukaka to Taiharuru coast

Summary:

The reef systems of Tutukaka to Taiharuru coast – including the adjoining reef edges of soft bottom habitat and deep reefs extending out to sea beyond 30m - have been scored as a high ranking ecological area.

This exposed coast is generally rugged with complex topology resulting from erosion and the characteristics of its volcanic origins. The reefs are hotspots of biodiversity, with high productivity of fish species at various life stages, and strong algal communities - both macro algae and encrusting species. The little bays and a string of small high-value estuaries add considerable value to the marine ecological values of this stretch of coast. The Tutukaka and Taiharuru headlands extend out in the seaward direction and are influenced by the East Auckland Current, which brings warm water masses and subtropical larval species to this coast, thus adding to the diversity of these reefs.

Habitat map and significant ecological areas.



Description:

The Tutukaka to Taiharuru coast is located on Northland's northeast coast, east of Whangarei between Bream Head to the southeast at the entrance of Whangarei. The mapped ecological area presented here encompasses the coastline offshore from Kauri Mountain beach in the south to Woolleys Bay in the north. The shallow coastal reefs, including the soft bottom habitats at the reef edge, extend out to sea. The fringing reef is

generally fairly steep and quite irregular, being of broken and eroded rock. As you get further out the reefs become increasingly flat, with the exception of pinnacles coming up to or near the surface in a few locations like at Ngunguru reef. The reefs of this coast are interspersed with small embayment's and clean sandy beach habitats at Pataua, Ngunguru and Matapouri. Much of the coastal reef system also has deep reefs which run further out to sea as far as 13kms off shore. ¹

An aerial view from sea of the Taiharuru Pt, Kauri Mountain (far left of image) coastline. All this rocky shores have high quality fringing rocky reefs. The reefs off Taiharuru Point extend several kilometres offshore out in to deep reef (>30 m) habitat.

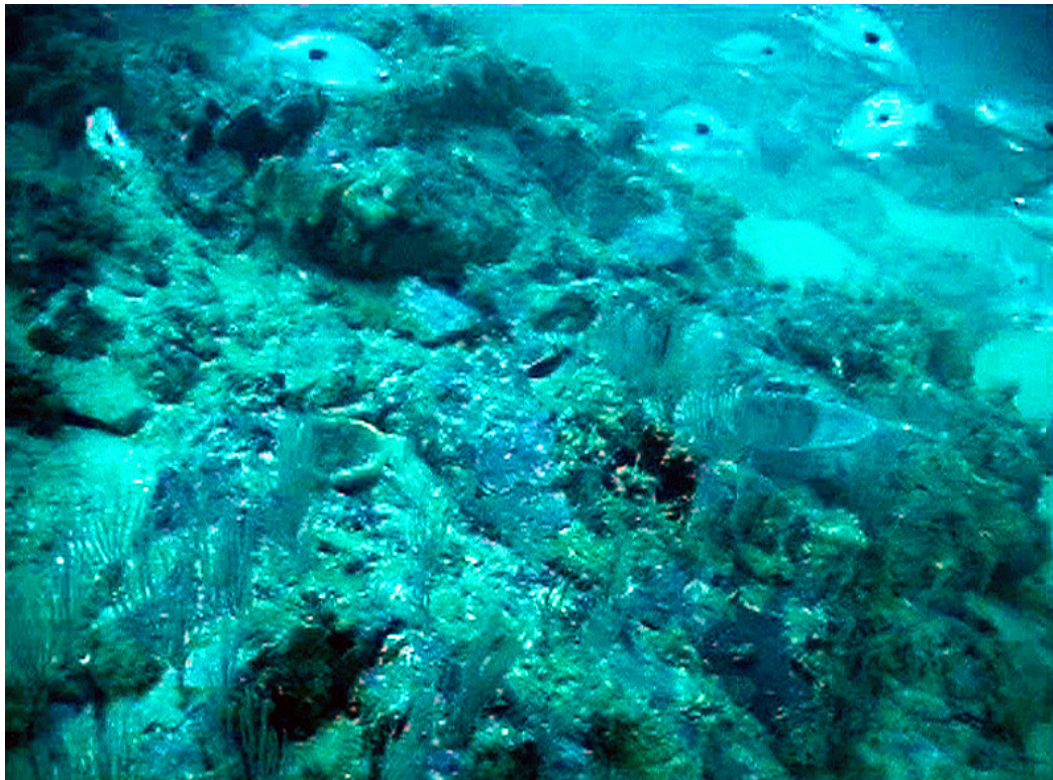


¹ Kerr, V. 2009: Marine habitat map of Northland: Mangawhai to Ahipara vers. 1. Northland Conservancy, Department of Conservation, Whangarei. 33 p.

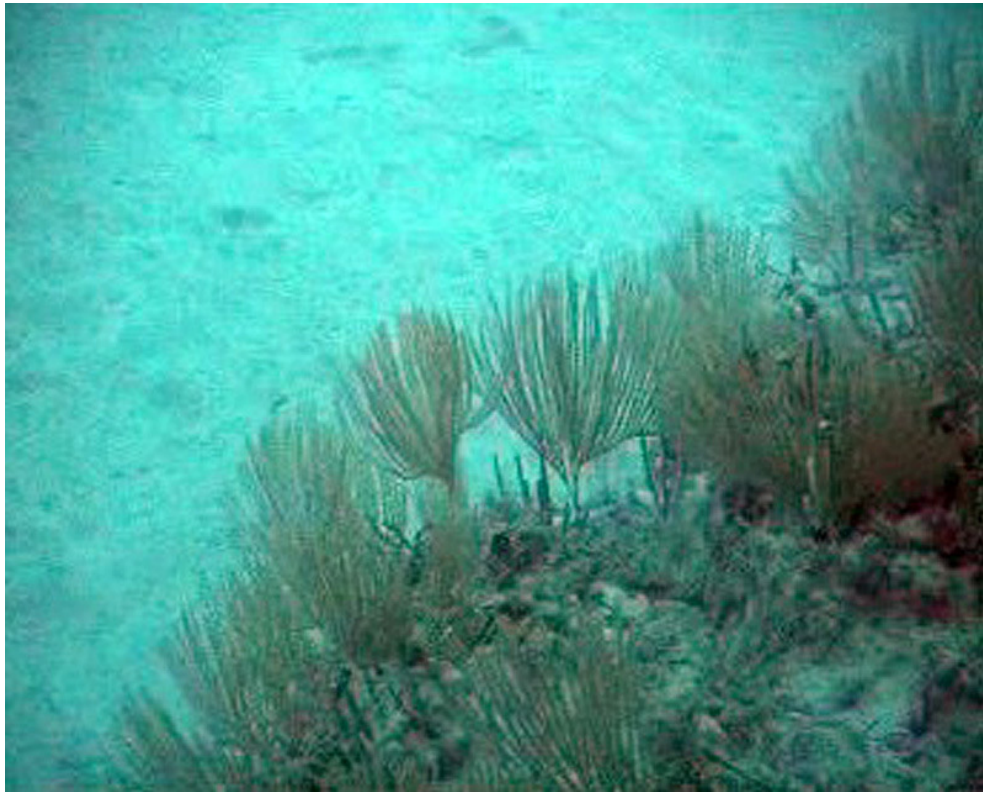
Good quality crayfish habitat is common all along the fringing reefs of this area's rocky shores.



A view of deep reef habitat offshore from Taiharuru Point showing Gorgonian fan corals and cup sponges. Depth approximately 35 metres. Photo credit: Vince Kerr.



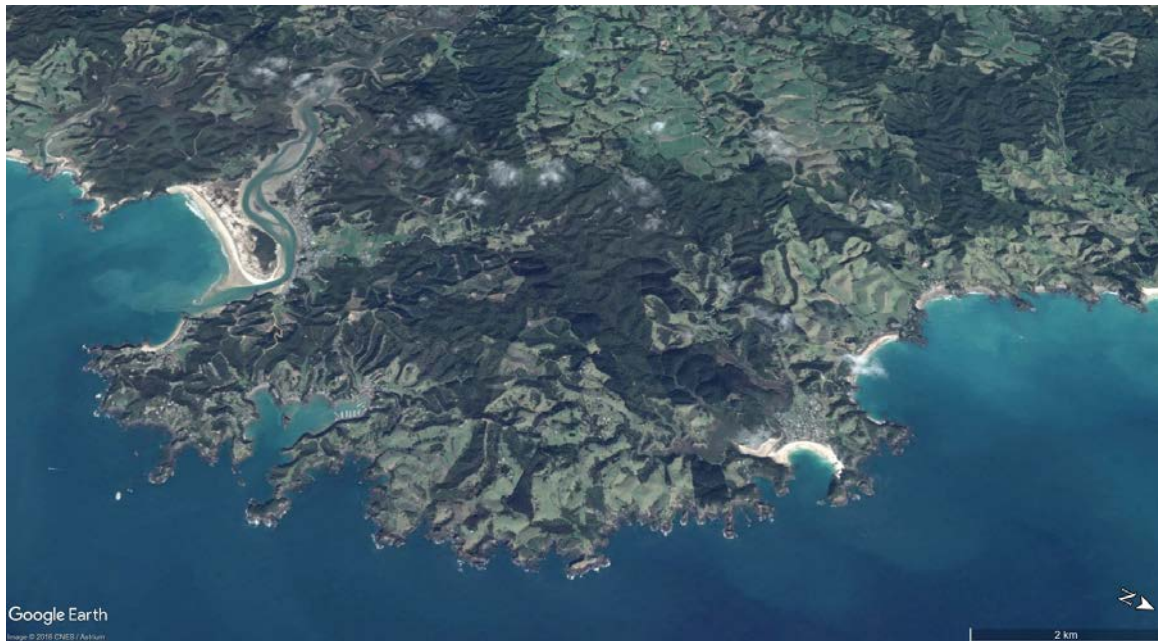
Gorgonian fan corals growing on the edge between sand habitat and the deep reef (approximately 40m depth), offshore from Taiharuru Point. Photo credit: Vince Kerr.



An example of the complex rocky shoreline taken at 'Goat Island' between Ngunguru and Horahora.



An aerial view looking from the sea of the Tutukaka shoreline habitats. Ngunguru Estuary is on the left side of the image and sand beach of Matapouri and Woolleys Bay can be seen on the right side of the image. The deeply indented rocky shore has high quality fringing rocky reefs with most areas connecting to offshore deep reef habitats.



Woolleys Bay looking towards Whale Bay to the southeast and the rocky shores of the Tutukaka Coast. Photo credit: DOC.



Oceanography

The Tutukaka to Taiharuru coast area has strong oceanic influences in addition to localised estuarine influences. Its outer exposed shores are exposed to gales and, at times, high wave energy from easterly storms and ocean swell. The area is regularly influenced by the West Auckland current which eddies into the coast, bringing warm water from the north and with it larvae of subtropical species. Towards the entrances the coastal reefs are also influenced by tidal currents, estuarine water masses, sediments, nutrients and fresh water.

Ecological Values

Tutukaka to Taiharuru coast's shallow fringing reefs are very good examples of their type and generally in good health. In the upper exposed zone the shallow mixed weed algal communities are characterised by several *Carpophyllum* species which change to the more exposed algal communities represented by *Carpophyllum maschalocarpum* and *Lessonia variegata* at the most exposed headlands. Below the shallow mixed weed zone at 3-7m depth the large brown kelp *Ecklonia radiata* forest takes over, which is very productive and home to a large diverse reef community. Along this coast there are breaks in the reef with sand and sand gravel gutters, as well as soft bottom areas offshore of the beaches. These reef edge soft bottom habitats are high quality habitats, low in sedimentation impacts and rich in invertebrate and shellfish communities and thus play a key role in supporting the high diversity of the reef systems.

Taiharuru reef has an underwater ridge system extending a considerable distance from Taiharuru Head. The shallow reef system along this ridge (to 30m depth) extends approximately 3km off shore with a deep reef extending out to 5kms.² A prominent ridge system would create considerable up dwelling of the coastal currents, which supports planktonic and filter feeding marine species and, as a result, attract predatory species. The Taiharuru reef is well-known locally as a fishing hotspot.

At between 1.5 and 3 km off shore the reefs drop to depths beyond 30 m. At these depths and beyond there is insufficient light to support the algal forests, so the reef communities become dominated by a diverse filter-feeding encrusting invertebrate community. Sponges play a key role in these communities. This invertebrate community provides protection and food sources for a complex community of marine species and trophic food webs, culminating in the top order predators who frequent these biodiversity hotspots and can become residential.

The Tutukaka to Taiharuru coast has traditionally been known as very productive habitat for rock lobster *Jasus edwardsii*.

The marine ecology values of the Tutukaka to Taiharuru Coast and Northland's East Coast more generally are summarised in the Nearshore Classification produced by the Department of Conservation³. A further and more detailed review of natural features and ecology was completed by NIWA in 2005.⁴ Both publications have comprehensive references compiled covering previous descriptive work done in Northland. The later report summarises some of the local scale habitat mapping work done in the region.

² Kerr, V.C., Grace, R.V., 2005b. A preliminary investigation of the marine habitats of Taiharuru Reef. Report to Department of Conservation, Northland Conservancy, Whangarei.

³ Department of Conservation, 2005. Near Shore Marine Classification System. Compiled by Vince Kerr for Northland Conservancy, Department of Conservation. Revised September 6, 2005. http://www.marinenz.org.nz/nml/files/documents/3_northland-mpa.html

⁴ Morrison, M., 2005. An Information Review of the Natural Marine Features and Ecology of Northland. Prepared for the Department of Conservation. NIWA Client Report: AKL 2005-50.

Northland Marine Mammals

Information on the presence and conservation status of marine mammals in relation to Northland's coasts and estuaries has been reviewed by Baker.^{5 6} Thirty-five species of marine mammals are known from Northland waters (within the 12 n ml limit). Some marine mammal species are resident or semi-resident and breed along the Northland coast, and others are transients. Three threatened species are amongst the species most often encountered in inshore waters: Bryde's whales *Balaenoptera edni*, bottlenose dolphins *Tursiops truncatus*, and Orca *Orcinus orca*. The common dolphin *Delphinus delphis*, which is not threatened, is also commonly seen in estuaries and along the coast. All of these species have been often reported on the Tutukaka to Taiharuru coast. Less common, but occasionally encountered on Northland's east coast, are pilot whales *Globicephala spp.*, false killer whales *Pseudorca crassidens*, and some of the large baleen whales. New Zealand fur seals are present in small numbers at Tutukaka to Taiharuru coast area as transient visitors.

⁵ Baker, A. N., 2005. Sensitivity of marine mammals found in northland waters to aquaculture activities. Report to the Department of Conservation, Northland Conservancy. A. N. Baker Cetacean Biology Consultant, Kerikeri.

⁶ Baker, C.S, Chilvers, B.L., Constantine, R., DuFresne, S., Mattlin, R.H., van Helden, A. & Hitchmough, R., 2010. Conservation status of New Zealand marine mammals. New Zealand Journal of Marine and Freshwater Research, 44:2, 101-115.

Assessment of Ecological Significance

Table 1 Ranking score of ecological significance of Tutukaka to Taiharuru coast⁷

Tutukaka to Taiharuru coast: Assessment of Ecological Significance			Rank
Overall Ranking		Notes	High
Representati on	supports most taxa expected for habitat type	High diversity of reef species	H
	large example of its type	Good size example of rocky coast habitat sequences.	M
Rarity and Distinctivene ss	supports indigenous species threatened, at risk, or uncommon, nationally or within the relevant ecological scale	Has significant number subtropical fish species	M
	supports species endemic to the Northland-Auckland region or at distributional limits within the Northland region	Has significant number subtropical fish species	M
	distinctive of a naturally restricted occurrence	Diversity of habitats is good	M
	developed as a result of unusual environmental factor(s) or is part of an ecological unit that occurs within an originally rare ecosystem	Typical of Northland east coast rocky shores with small bays and estuaries	M
	identified as nationally or regionally rare habitat(s) in MPA Plan	Not evaluated yet	R
Diversity and Pattern	high diversity of indigenous ecosystem or habitat types	Diversity of habitats is good	M
	high diversity of indigenous taxa	generally high diversity of fish species	H
	its composition reflects the existence of diverse natural features or ecological gradients	Good complex ecological gradients	M
	contains intact ecological sequences	good examples	M
Ecological Context	provides or contributes to ecological linkages, networks, buffering functions	Shallow reef sequences connects to high value small estuaries and their catchments	H
	supports the natural functioning of freshwater or coastal ecosystems	Important ecological connection with small estuaries and streams of this coast	M
	supports life stages of indigenous fauna	High diversity reef species	H
Assessed by: Vince Kerr			Date: September 2015
Information Source(s) <i>see below</i>			2-7
Reliability of Information <i>see below</i>			++
Rank (overall score) H = high, M = moderate, L = low, DD = data deficient, R = recommended for further investigation			
Information Source(s) 1 = quantitative report, 2 = qualitative report, 3 = habitat map or classification, 4 = expert opinion, 5 = personal communication, 6 = anecdotal information, 7 = visit and observation			
Reliability of Information expressed as a scale of confidence ranging from high (+++) to low confidence (---)			

⁷ Table 1 details the ranking criteria and scoring that was used to determine the overall high ranking given to the ecological significance of this area. The criteria used have been adopted from Appendix 5 of the Northland Regional Council Proposed Policy Statement. See reference to Methodology report or other council documents to call up

Criteria Rank - score for each individual criteria) H = high ranking, M = moderate ranking, L = low ranking, DD = data deficient, R = recommended for further investigation, NA = not assessed for this criteria