

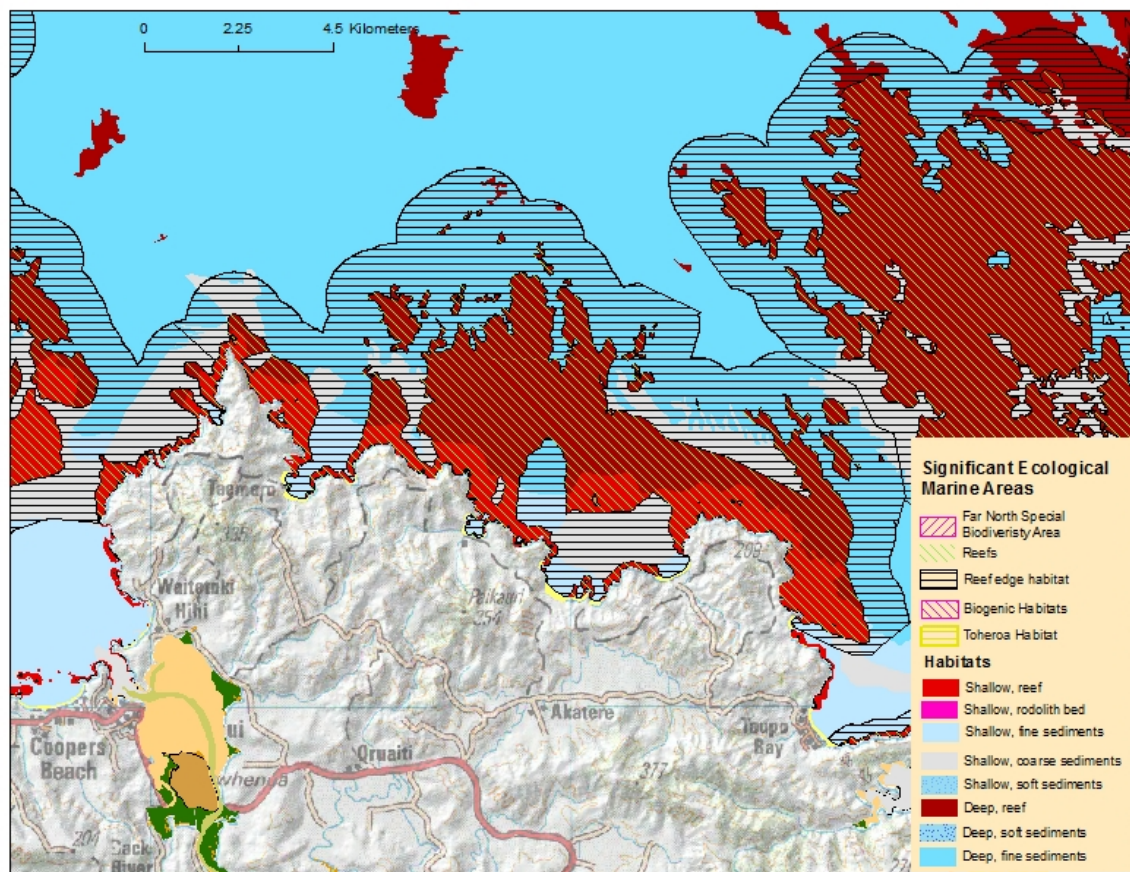
Significant Ecological Marine Area Assessment Sheet

Name: Berghan Point to Taupo Bay Coast

Summary:

The reef systems of the Berghan Point to Taupo Bay coast and 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; this is characteristic of its volcanic origin and tectonic uplifting of ancient greywacke rock layers, as well as resulting from erosion. 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 more exposed sections of the Berghan Point to Taupo Bay coast extend out in the seaward direction and, as result, are influenced by the East Auckland Current which brings warm water masses and subtropical larval species to this coast, adding to the diversity of these reefs.

Habitat map of Berghan Point to Taupo Bay and mapped significant ecological area.



Description:

The Berghan Point to Taupo Bay coast is located on Northland's northeast coast between Doubtless Bay and Whangaroa. The mapped ecological area encompasses the coastline and offshore area from 2km northwest of Taupo Bay to Berghan Point, which forms the eastern entrance to Doubtless Bay. The shallow coastal reefs extend out to sea including the soft bottom habitats making up the reef edge habitats of this area. The fringing reef is fairly steep in some locations and quite irregular being of broken and eroded volcanic and greywacke origins. There are a number of very small islands and

stacks adding to the complexity of this coast. As you move offshore to the deep reefs the terrain flattens out with the exception of a few localised areas of high-relief deep reef areas. The reefs of this coast are nearly continuous, but are interrupted in several locations by soft sediment areas with clean sandy beaches. The fringing shallow reef system is nearly continuous with deep reefs (depths greater than 30m), which run further out to as far as 5km offshore.¹ There are several small islands and embayments adding to habitat complexity on this coast.

An aerial view of part of the coast between Bergham Point and Taupo Bay as seen from the sea. Wekarua Island is a small triangular shaped island offshore in the centre of the image. The rocky shore fringing reefs here are high quality and connect with areas of clean sand and deep rocky reef habitats offshore in waters deeper than 30 m.

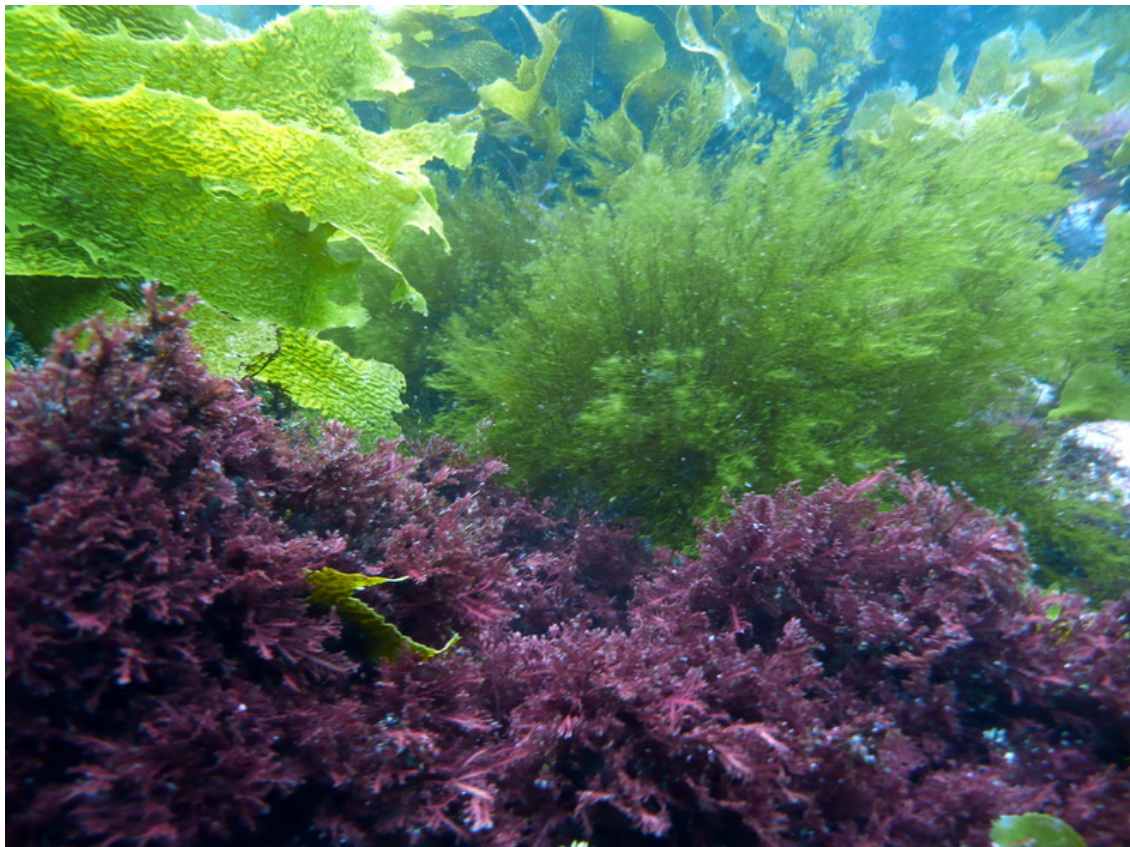


¹ Kerr, V. 2009: Marine habitat map of Northland: Mangawhai to Ahipara vers. 1. Northland Conservancy, Department of Conservation, Whangarei. 33 p.

A school of blue mao mao swim over lush shallow kelp forest on the shore of Wekarua Island near close to the mainland shore. This is an exposed shore with clean oceanic water masses and minimal human disturbance. Photo credit: Vince Kerr



An example of the diversity and lush growth of the shallow mixed weed habitat at Wekarua Island off the Whangaroa Coast. Photo credit: Vince Kerr.



Oceanography

The Berghan Point to Taupo Bay coast area has strong oceanic influences. Its shores are exposed to gales and, at times, high wave energy from easterly storms and ocean swell. The area is regularly influenced by the East Auckland current, which eddies into the coast bringing warm water from the north and with it larvae of subtropical species.

Ecological Values

Berghan Point to Taupo Bay 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 small breaks in the reef with sand and sandy gravel gutters. These reef edge soft bottom habitats are high quality habitats, generally quite low in sedimentation impacts and rich in invertebrate and shellfish communities; they play a key role in supporting the high diversity of the reef systems.

At between 1.3 and 5 km off shore the reefs drop to depths beyond 30 m. At these depths and beyond the light is insufficient to support the algal forests and 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, at times, become residential.

The Berghan Point to Taupo Bay coast has traditionally been known as very productive habitat for rock lobster *Jasus edwardsii*.

The marine ecology values of the Berghan Point to Taupo Bay coast and Northland's east coast more generally are summarised in the Nearshore Classification produced by the Department of Conservation². A further and more detailed review of natural features and ecology was completed by NIWA in 2005.³ Both publications have comprehensive references covering previous descriptive work done in Northland. The later report summarises some of the local scale habitat mapping work done in the region.

A large area of the coastal land running east from Berghan Point is in native bush and coastal forest connecting with marine coastal habitats. There is interest and involvement in forest and marine conservation in the local community.

Northland Marine Mammals

Information on the presence and conservation status of marine mammals in relation to

² 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

³ 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's coasts and estuaries has been reviewed by Baker.^{4 5} 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 Berghan Point to Taupo Bay 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 Berghan Point to Taupo Bay coast area as transient visitors.

Assessment of Ecological Significance

Table 1 Ranking score of ecological significance of Berghan Point to Taupo Bay coast⁶

Berghan Point to Taupo Bay 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.	H
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 islands and beaches	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	H
	high diversity of indigenous taxa	generally high diversity of fish species	H

⁴ 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.

⁵ 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.

⁶ 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

	its composition reflects the existence of diverse natural features or ecological gradients	Good complex ecological gradients	H
	contains intact ecological sequences	good examples	H
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 (---)			
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			