

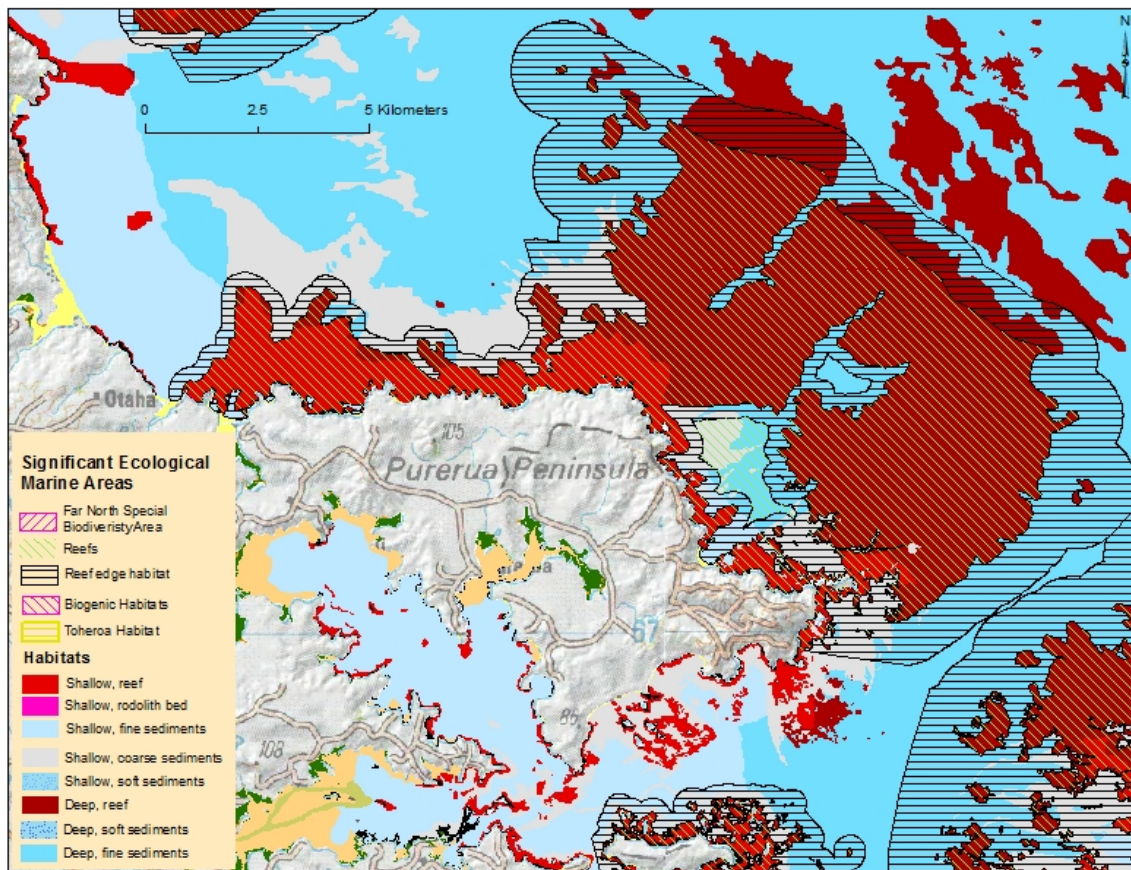
Significant Ecological Marine Area Assessment Sheet

Name: Takou Beach to Ninepin Coast

Summary:

The reef systems of the Takou Beach to Ninepin coast and adjoining reef edges of soft bottom habitat and deep reefs (depths greater than 30m) score as a high ranking ecological area. This exposed coast is generally rugged with complex topology resulting from erosion and geological origins. The reefs are biodiversity hotspots, with high productivity of fish species at various life stages, and algal communities based on macro algae in association with encrusting algal and invertebrate species. The little bays and small lengths of clean sandy beaches add considerable value to the marine ecological values of this stretch of coast. The Takou Beach to Ninepin Coast is influenced by the East Auckland Current, which brings warm water masses and subtropical larval species to this coast and adds to the diversity of these reefs.

Habitat map and mapped significant ecological area of the Takou to Ninepin coast.



Description:

The Takou Beach to Ninepin area is located on Northland's northeast coast at the northwest entrance to the Bay of Islands. The mapped ecological area presented here encompasses the coastline offshore from just north of Whale Bay on the Pururu Peninsula around the Ninepin and then westwards along the coast to Takou Beach. The area extends out to sea including the shallow reefs, small areas of deep reefs and the soft-bottom habitats that make up the reef edge habitats of this area. The fringing reef is typically gradually sloping and quite irregular being of broken and eroded rock in

nature. The reefs either side of the Ninepin have steep slopes and, generally, are more rugged in topography. As you go further offshore from the Takou Beach to Ninepin coast the reefs become increasingly flat. The reefs of this coast are interspersed with small embayments and clean sandy beach habitats. Most of the coastal reef system also has continuous deep reefs that run further out to sea, as far as 10 km offshore. The 100m depth contour is at about 6.7 km offshore. ¹

An aerial view of the Ninepin as seen from the sea looking up the coast towards Tapuaetahi which is out of view to the right of the image. The shallow fringing reefs are significant on this shore and connect with a large area of deep reef habitats offshore at depths greater 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.

An aerial view looking from the sea of the complex array of habitats surrounding Tapuaetahi. There are extensive and complex areas of shallow reefs interspersed with sandy beaches. Not seen is the connection offshore to extensive deep reef habitats at depths greater than 30m.



Oceanography

The Takou Beach to Ninepin coast area has strong oceanic influences. Its outer exposed shores are subject to gales that bring high wave energy from easterly storms and ocean swells. The area is regularly influenced by the East Auckland current that eddies into the coast, bringing warm water from the north and larvae of subtropical species.

Ecological Values

The Takou Beach to Ninepin 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. At the most exposed headlands these communities change to algal communities represented by *Carpophyllum maschalocarpum* and *Lessonia variegata*. Below the shallow mixed weed zone at 3-7m depth the large brown kelp, *Ecklonia radiata* forest takes over. The shallow reef algal forests are 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, 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 approximately 1.5 km offshore the reefs drop to depths beyond 30 m. At these depths and beyond the light is insufficient 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 range of marine species and trophic food webs, culminating in the top order predators who frequent these biodiversity hotspots and, at times, become residential.

The Takou Beach to Ninepin coast has traditionally been known as a very productive habitat for rock lobster *Jasus edwardsii*.

The marine ecology values of the Takou Beach to Ninepin Coast and Northland's East Coast 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 compiled covering previous descriptive work done in Northland. The later report summarises some of the local scale habitat mapping work done in the region.

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.^{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 Takou Beach to Ninepin 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 Takou Beach to Ninepin coast area as transient visitors.

Assessment of Ecological Significance

Table 1 Ranking score of ecological significance of Takou Beach to Ninepin Coast⁶

Takou Beach to Ninepin 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

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.

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

Rarity and Distinctiveness	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 small estuaries and their catchments	M
	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			