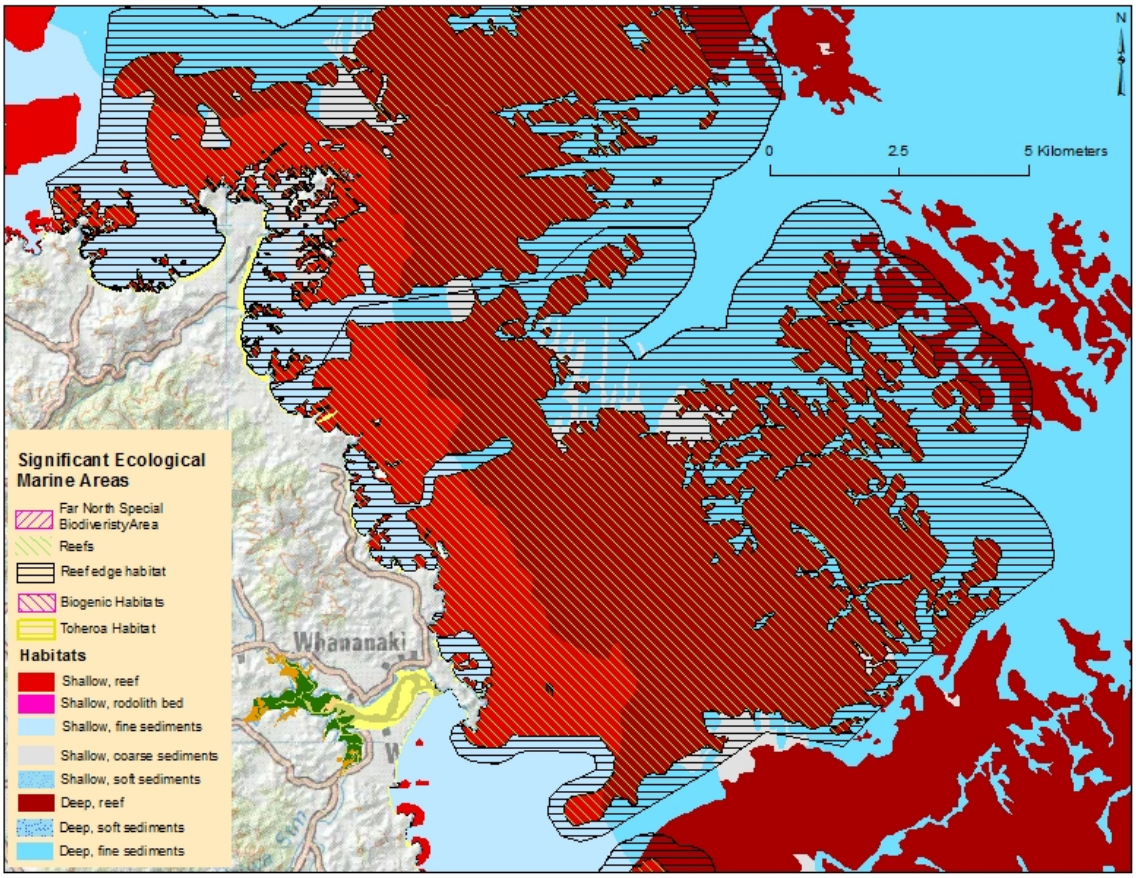
Significant Ecological Marine Area Assessment Sheet

Name: Whananaki Coast

Summary:

The reef systems of the Whananaki coast and adjoining reef edges of soft bottom habitat and deep reefs (deeper than 30m) score as a high ranking ecological area. This exposed coast is generally rugged with complex topology resulting from erosion and the characteristics of its geological 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 small lengths of clean sandy beaches add considerable value to the marine ecological values of this stretch of coast. The Whananaki Coast is 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 significant ecological areas of the Whananaki coast.



Description

The Whananaki area is located on Northland's Northeast coast east of Whangarei between the Tutukaka coast and Mimwhangata to the north. The mapped ecological area presented here encompasses the coastline offshore from the entrance to Whananaki estuary in the south to Pareparea Beach at the southern end of Mimiwhangata Farm Park. The reef system extends out to sea including the shallow reefs, areas of deep reefs and the soft-bottom habitats that make up the reef edge habitats of this area. The fringing reef is typical: gradually sloping and quite irregular,

being of broken and eroded rock in nature. As you go further out from the Whananaki coast the reefs become increasingly flat, with the exception of Elizabeth Reef which rises from about 20m depth to the surface, with a small highly exposed intertidal area. The reefs of this coast are interspersed with small embayment's and clean sandy beach habitats. Most of the coastal reef system also has continuous deep reefs which run further out to sea, as far as 13kms off shore. The hundred meter depth contour is at about 11km offshore. [1]

Typical scene on the exposed Whananaki coast showing the extensive shallow rocky reefs and complex diverse coastline. The Whananaki fringing reefs are connected to a large area of deep reef (>30 m depth), habitats offshore. Photo credit: Vince Kerr.

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

A view of the numerous offshore stacks and islands that make up the Whananaki Coast. The diversity of shallow reef habitats are greatly increased by the presence of these features. Photo credit: Vince Kerr.

A view looking offshore to Elizabeth reef lying offshore from the Whananaki Coast. Elizabeth reef is connected to a large area of offshore deep reef (> 30 m depth), habitats and has a fringing high exposure shallow rocky reef. Photo credit: Vince Kerr.

Oceanography

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

Ecological Values

Whananaki 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. 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 habitats, generally quite 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.

At approximately 1.5 kms 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 Whananaki coast has traditionally been know as very productive habitat for rock lobster *Jasus edwardsii*.

The marine ecology values of the Whananaki Coast and Northland's East Coast more generally are summarised in the Nearshore Classification produced by the Department of Conservation[2]. 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.

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

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[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.

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 truncates*, 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 are often reported on the Whananaki 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 Whananaki Coast area as transient visitors.

Assessment of Ecological Significance

Table 1 Ranking score of ecological significance of Whananaki coast[6]

Whananaki Coast: Assessment of Ecological Significance			**Rank**
Overall Ranking		**Notes**	**High**
Representation	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 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	M

[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

		estuaries and streams of this coast	
	supports life stages of indigenous fauna	High diversity reef species	H

Assessed by: Vince Kerr	Date: September 2015
Information Source(s) *see below*	**2-7**
Reliability of Information *see below*	**++**
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	