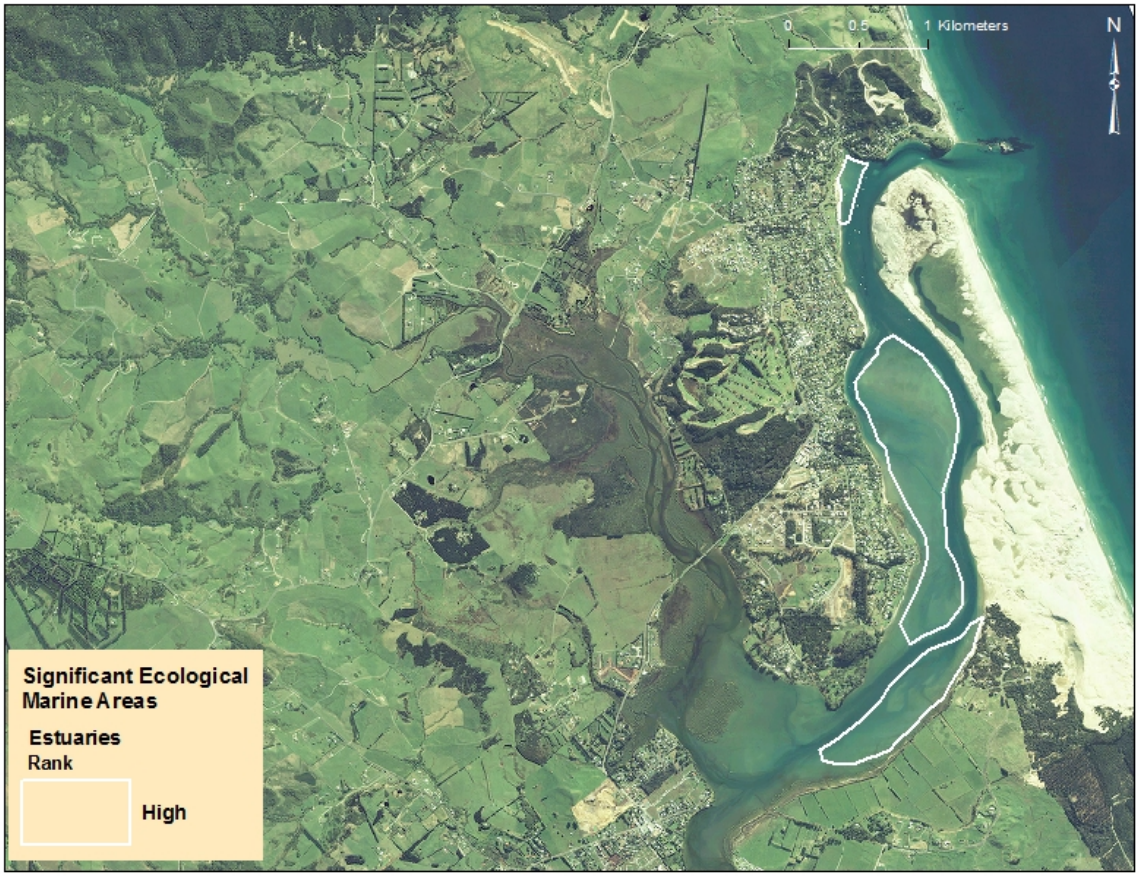
Significant Ecological Marine Area Assessment Sheet

Name: Mangawhai Estuary

Summary:

Three shallow and tidal flat areas within the Mangawhai Estuary have been given a high ranking of ecological significance for marine values. Modifications are taking place in some sandy shore channel and mangrove areas of the estuary. In spite of this, there are still some important soft bottom habitats with healthy and productive shellfish beds.

Aerial photo of Mangawhai Estuary *Photo Credit: Apple Maps*



Description:

The Mangawhai Estuary is situated south of Whangarei and Bream Tail on the east coast. Mangawhai has a range of marine habitat types typical of a small estuary[1]. These habitats include saltmarshes, mangroves, intertidal flats and extensive channels and entrance sand spit. Each of these habitats contains plant and animal communities; all contribute to the ecological values supporting marine and bird life there and in the coastal environment. Upper harbour habitats of mangroves and saltmarshes are affected by sediment runoff as a result of poor riparian protection on the harbour's edges and catchment. Channel areas have also been disturbed with dredging activity.

[1] Kerr, V.C., 2010. Marine Habitat Map of Northland: Mangawhai to Ahipara Vers. 1. Technical Report, Department of Conservation, Northland Conservancy, Whangarei, New Zealand.

Lifestyle blocks are growing in number in the catchment but considerable pastural farming continues on the edges of the estuary. The Estuary's saltmarsh and mangrove sequence in the upper reaches of the harbour would greatly benefit from better riparian management, wetland restoration and reforestation. [2]

Ecological Description

The tidal flats mapped as ecologically significant are on either side of the channel and make up a large part of the middle area of the estuary. These areas are sandy soft bottom intertidal habitats with subtidal fringes important to pipi, *Paphies australis.* The intertidal areas have extensive cockle beds *Austrovenus stutchburyi* which have been monitored in a NIWA fisheries assessment program [3] in which the cockle community is described as productive and in good health when compared to other estuaries in the region. Cockles and pipis communities are an indicator of a healthy estuarine soft bottom community. They are generally associated with high benthic invertebrate diversity and substrates that are not heavily impacted by sedimentation. These shellfish communities play a key role in filtering nutrients and plankton from the water column. This in turn has beneficial effects on water clarity and productivity of various algal communities that make up the biodiversity of the estuary. These shellfish and the other benthic invertebrates are also a major food source for shorebirds and a significant nursery and feeding area for many coastal fish species. [4]

Assessment of Ecological Significance

Table 1 Ranking score of ecological significance of Mangawhai Estuary[5]

Mangawhai Estuary Marine Values: Assessment of Ecological Significance			**Rank**
Overall Ranking		**Notes**	**High**
Representation	supports most taxa expected for habitat type	Shellfish beds are typical of this habitat and good examples	M
	large example of its type	Not a large example of its type	L
Rarity and Distinctiveness	supports indigenous species threatened, at risk, or uncommon, nationally or within the relevant ecological scale	Not Assessed	NA
	supports species endemic to the Northland-Auckland region or at distributional limits within the Northland region	Not Assessed	NA
	distinctive of a naturally restricted occurrence	Typical small east coast estuary	M

[2] Morrison, M.A.; Lowe, M.L.; Parsons, D.M.; Usmar, N.R.; McLeod, I.M., 2009. A review of land-based effects on coastal fisheries and supporting biodiversity in New Zealand. *New Zealand Aquatic Environment and Biodiversity Report No. 37.* 100 p.

[3] Berkenbusch, K.; Abraham, E.; Neubauer, P., 2015. Intertidal shellfish monitoring in the northern North Island region, 2013–14. New Zealand Fisheries Assessment Report 2015/15. 79 p.

[4] Morrison, M.A.; Jones, E.G.; Parsons, D.P.; Grant, C.M., 2014. Habitats and areas of particular significance for coastal finfish fisheries management in New Zealand: A review of concepts and life history knowledge, and suggestions for future research. New Zealand Aquatic Environment and Biodiversity Report No. 125. 202 p.

[5] 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

	developed as a result of unusual environmental factor(s) or is part of an ecological unit that occurs within an originally rare ecosystem	Typical small east coast estuary	M
	identified as nationally or regionally rare habitat(s) in MPA Plan	Not Assessed	NA
Diversity and Pattern	high diversity of indigenous ecosystem or habitat types	Typical community of type	M
	high diversity of indigenous taxa	Typical community of type	M
	its composition reflects the existence of diverse natural features or ecological gradients	Typical community of type	M
	contains intact ecological sequences	Some sequences but some habitats in estuary disturbed or degraded	L
Ecological Context	provides or contributes to ecological linkages, networks, buffering functions	Shellfish beds play very important buffering and ecological role in estuary	H
	supports the natural functioning of freshwater or coastal ecosystems	Shellfish beds play very important buffering and ecological role in estuary	H
	supports life stages of indigenous fauna	Provides important support for various life stages of benthic invertebrates shorebirds and nursery for coastal fish species	H

Assessed by: Vince Kerr	Date: September 2015
Information Source(s) *see below*	**1-7**
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