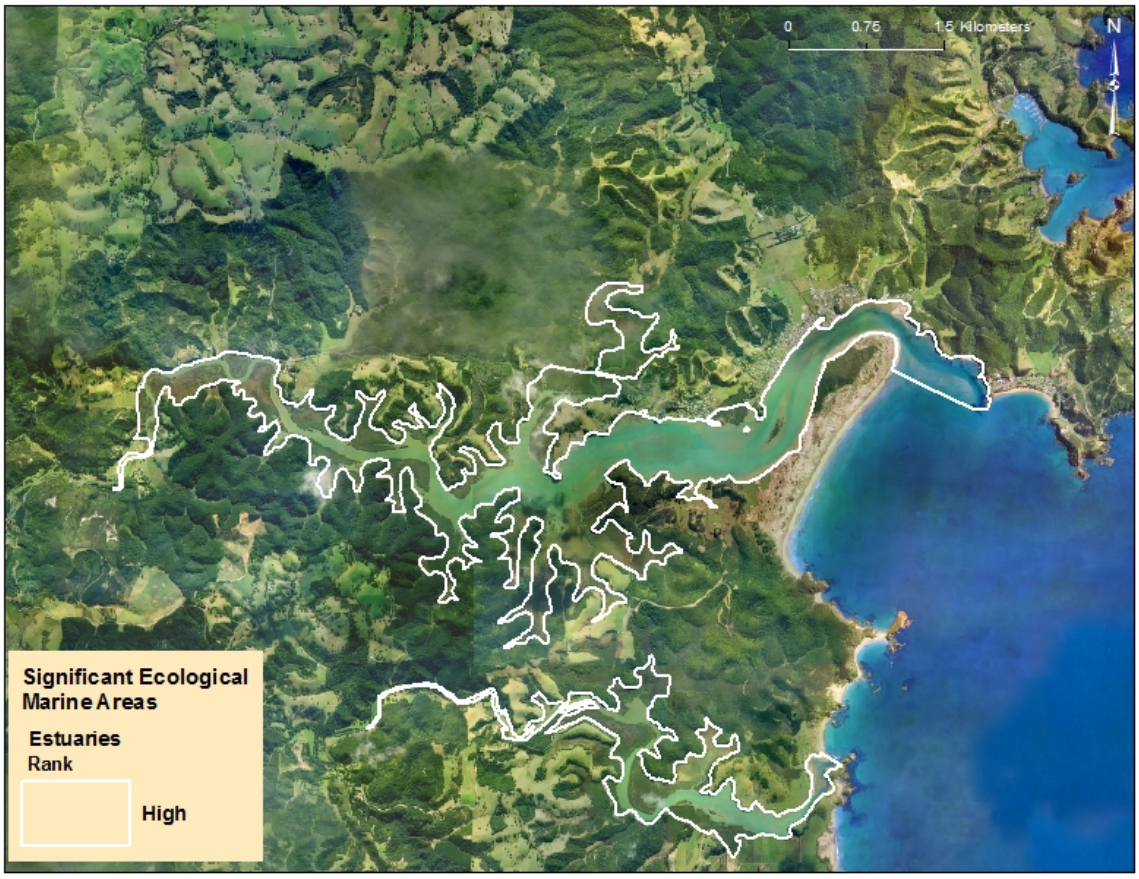
Significant Ecological Marine Area Assessment Sheet

Name: Ngunguru Estuary Shorebird Values

Summary:

Ngunguru Estuary as a whole has been given a high ranking of ecological significance for marine values. It is an excellent example of an east coast small estuary. Ngunguru Estuary is enclosed by a protected sand spit and has a very complex array of habitats near its entrance. . The upper reaches of the estuary have extensive areas of channel and intact mangrove saltmarsh sequences. Tidal flats in the lower part of the estuary have established shellfish beds. Taken as a whole, the estuary plays an important role in buffering the impacts of sediments and nutrients coming down the catchment and provides ecological linkages between the coastal waters, the estuarine habitats and freshwater streams.

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



Description:

The Ngunguru Estuary is situated just to the north and west of Horahora and Pataua on the Whangarei coast. Ngunguru estuary has a full range of interconnecting marine habitat types[1]. These habitats include saltmarshes, mangroves, intertidal flats and extensive channels and entrance sand spit. Each of these habitats contains distinctive plant and animal communities supporting a variety of plant and animal species that contribute to the ecological values.

[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.

Farming intensity in the catchment has been decreasing in favour of lifestyle blocks, which are slowly growing in number. The estuary's saltmarsh and mangrove sequence is contiguous with the Whakareora Coastal Forest and a number of bush reminants.

Improving riparian protection in the catchment would greatly enhance the connectivity between estuarine habitats, freshwater wetlands, stream corrridors and the bush covered fringes of the estuary. Estuarine habitats and species generally will benefit from the combined effects of buffering sediments and nutrients entering the marine envorinment.

An aerial view of the entrance area of the Estuary. The tide flats shown here inside the estuary are important cockle beds. Photo credit: Department of Conservation.

An example of the extensive upper estuarine channels with mangrove and salt marsh fringing habitats. Photo Credit: Vince Kerr

An example of the salt march habitats common in the upper reaches of the Estuary. Photo Credit: Vince Kerr

Ecological Values

Ngunguru is a relatively well-functioning small estuary that is in a long term period of recovery from the impacts of intensive deforestation followed by the pastoral farming of the last 200 years. Today the tidal flats have healthy shellfish beds. There are some small beds of intertidal seagrass *Zostera muelleri*, currently coming back in the middle area of the estuary. There has been monitoring of the shellfish beds in Ngunguru. In a 2015 report the beds are described as healthy and productive. [2] The shellfish beds make a major contribution to the process of enhancing water quality of the estuary. Shellfish are very active filtering plankton and nutrients from the water column with each tide cycle. Ngunguru Estuary is a shallow estuarine system with the majority of the volume of the estuary emptying out of the system with each tide. It has many complex side arms that are characterised by high-quality intact sequences of mangrove forests and saltmarshes and small shallow channels. Much of the upper system has quite good riparian edge envirinments in native forest adding greatly to the ecological value of the estuary. Due to its extensive tidal area and habitat sequences, Ngunguru Estuary can be expected to play an important role as a nursery and feeding area for coastal fishes. [3]

Assessment of Ecological Significance

Table 1 Ranking score of ecological significance of Ngunguru Estuary[4]

Ngunguru 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
	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

[2] Berkenbusch, K.; Neubauer, P., 2015. Intertidal shellfish monitoring in the northern North Island region, 2014–15. New Zealand Fisheries Assessment Report 2015/59. 110 p.

[3] 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.

[4] 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	Typical community of type	M
	contains intact ecological sequences	Sequences outstanding from esturine entrance rocky reefs to salt marsh	H
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