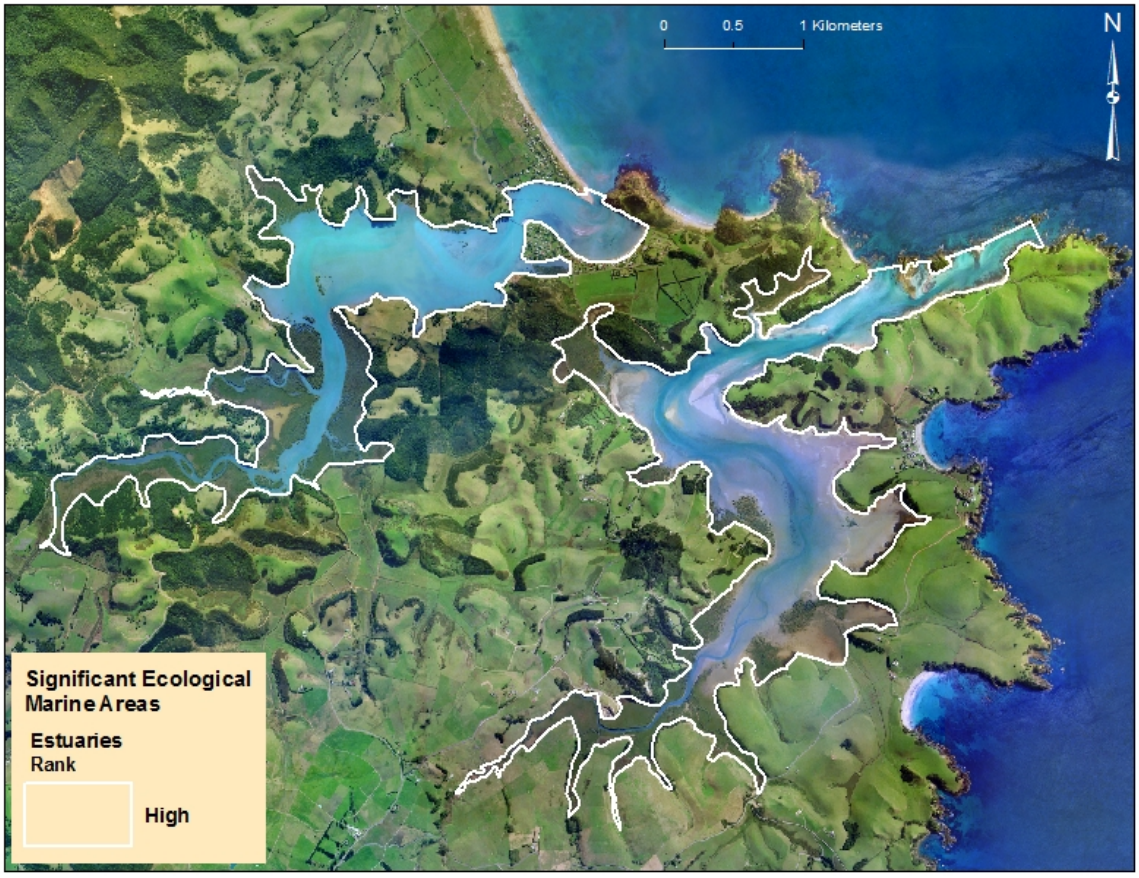
Significant Ecological Marine Area Assessment Sheet

Name: Taiharuru Estuary Marine Values

Summary:

Taiharuru Estuary as a whole has been given a high ranking of ecological significance for marine values. Its healthy tide flats with seagrass *Zostera muelleri* habitats and relatively intact mangrove and saltmarsh sequences make it an excellent example of a small east coast estuary. The string of small rocky islands and adjacent shallow rocky reefs are quite special habitat examples.

Aerial photo of Pataua Estuary (left), Taiharuru (right)



Description:

The Taiharuru Estuary (368 ha), situated at the northern end of Whangarei Heads, occupies a relatively small but diverse catchment area (2,272 ha) of Whangarei District. The Taiharuru catchment supports very high biodiversity values that reflect a wide range of interconnecting marine habitat types[1]. These habitats include saltmarshes, mangroves, intertidal and subtidal flats, seagrass beds and extensive channels and coastal islands. Each of these habitats contains distinctive plant and animal communities, all contribute to the ecological values of this estuary.

[1] Pierce, R.J., Kerr, V.C., 2007. Ecological Restoration of the Taiharuru Catchment. Report prepared for the Taiharuru Catchment Group. Eco Oceania Ltd.

In the last decade farming intensity in the catchment has been decreasing in favour of lifestyle blocks, which are growing in number. There has also been a shift from dairy to dry-stock farming. Interest and support for improving riparian management has been increasing. Currently there is an active community-based catchment care group working on riparian planting and protection at Taiharuru. [2]

Improving riparian protection in the catchment will greatly enhance the connectivity between estuarine habitats, freshwater wetlands, stream corrridors and the bush-covered fringes of the estuary. The marine wetland/marsh group of shorebirds will benefit directly from these changes. Estuarine habitats and species generally will benefit from the combined effects of buffering sediments and nutrients entering the marine environment. [3]

A 3D aerial image of Taiharuru Estuary looking from the sea. Pataua though small in size has excellent habitat sequences of fringing rocky reef near the entrance, clean sand tidal flats with productive cockle and seagrass beds, extending up the estuary to mangrove and salt marsh habitats.

Ecological Values

Taiharuru is a relatively well functioning small estuary that is in a long term period of recovery from the impacts of intensive deforestation followed by pastoral farming of the last 150 years. Today the tidal flats have healthy shellfish beds and there appears to be an increasing area of valuable biogenic intertidal seagrass habitat. The buffering effect of the extensive areas of seagrass and saltmarsh plays a valuable part in the maintenance of high water quality that the estuary enjoys. The shellfish beds make a major contribution to these processes as well, filtering plankton and nutrients from the water column with each tide cycle. Even though Taiharuru is quite a small estuary, dolphin species are regularly seen feeding in the estuary, and there are occasional visits from Orca feeding on the plentiful populations of eagle rays that can be seen darting about the shallow waters. Taiharuru Estuary is connected to significant shallow and deep

[2] http://taiharuru.org.nz/

[3] 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.

rocky reef areas offshore and can be expected to play an important role as a nursery and feeding area for coastal fishes. [4]

A view of one of the saltmarsh mangrove areas of Taiharuru. Photo Credit: Ray Pierce.

[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.

A low tide view of the extensive tidal flats at Taiharuru Estuary with healthy seagrass habitat on the left. Photo Credit: Vince Kerr

Assessment of Ecological Significance

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

Taiharuru 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	Typical small east coast estuary	M

[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

	ecological unit that occurs within an originally rare ecosystem		
	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	Sequences outstanding from esturine entrance rocky reefs to salt marsh	H
Ecological Context	provides or contributes to ecological linkages, networks, buffering functions	Shellfish and seagrass beds play very important buffering and ecological role in estuary	H
	supports the natural functioning of freshwater or coastal ecosystems	Shellfish and seagrss beds play very important buffering and ecological role in estuary ,but small example	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*	**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