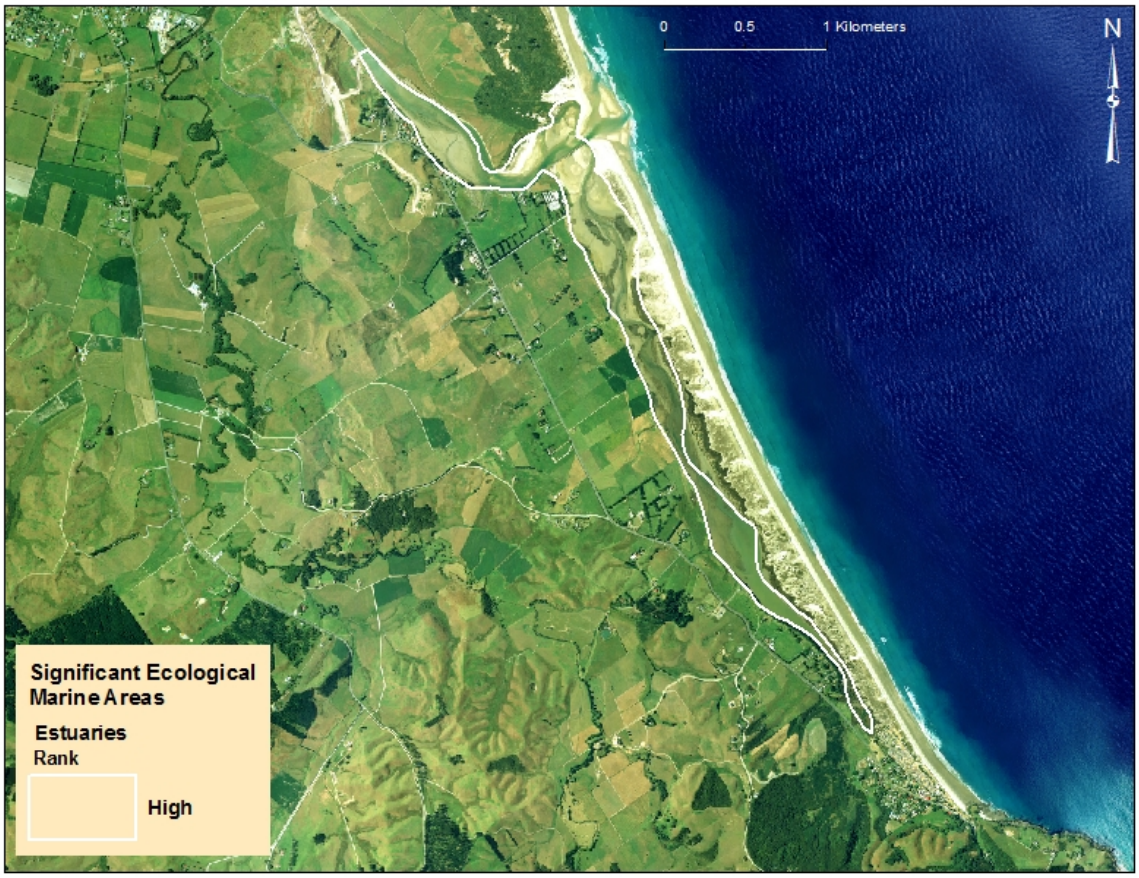
Significant Ecological Marine Area Assessment Sheet

Name: Waipu Estuary Marine Values

Summary:

Waipu Estuary as a whole has been given a high ranking of ecological significance for its marine values. Despite poor riparian protection on the edges of the estuary and catchment and general lack of buffer habitats due to local development, the Waipu Estuary is made up of a sequence of shallow channels and tidal sand flats, both of which are significant and highly-productive habitats. The sandy tidal habitats are home to valuable benthic invertebrate communities and also have extensive seagrass beds *Zostera muelleri,* which are mainly intertidal.

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

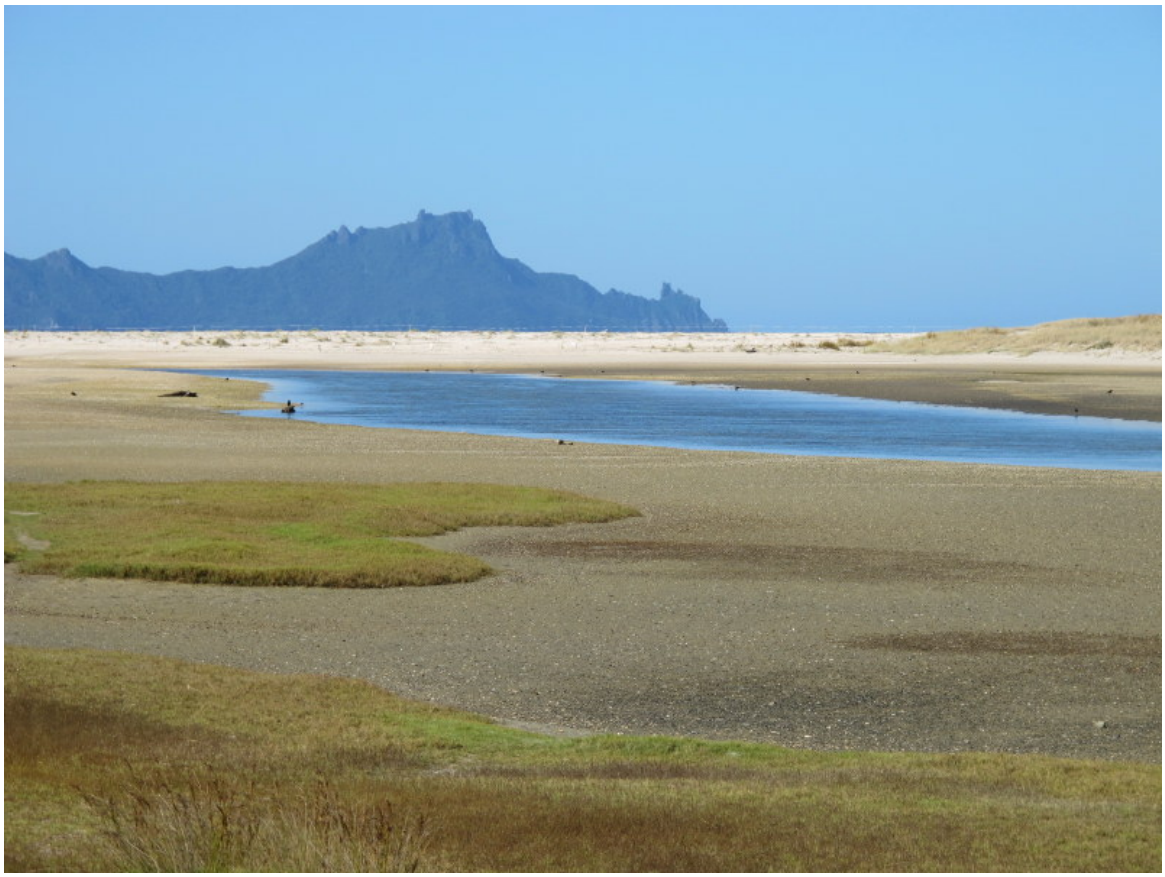


Description:

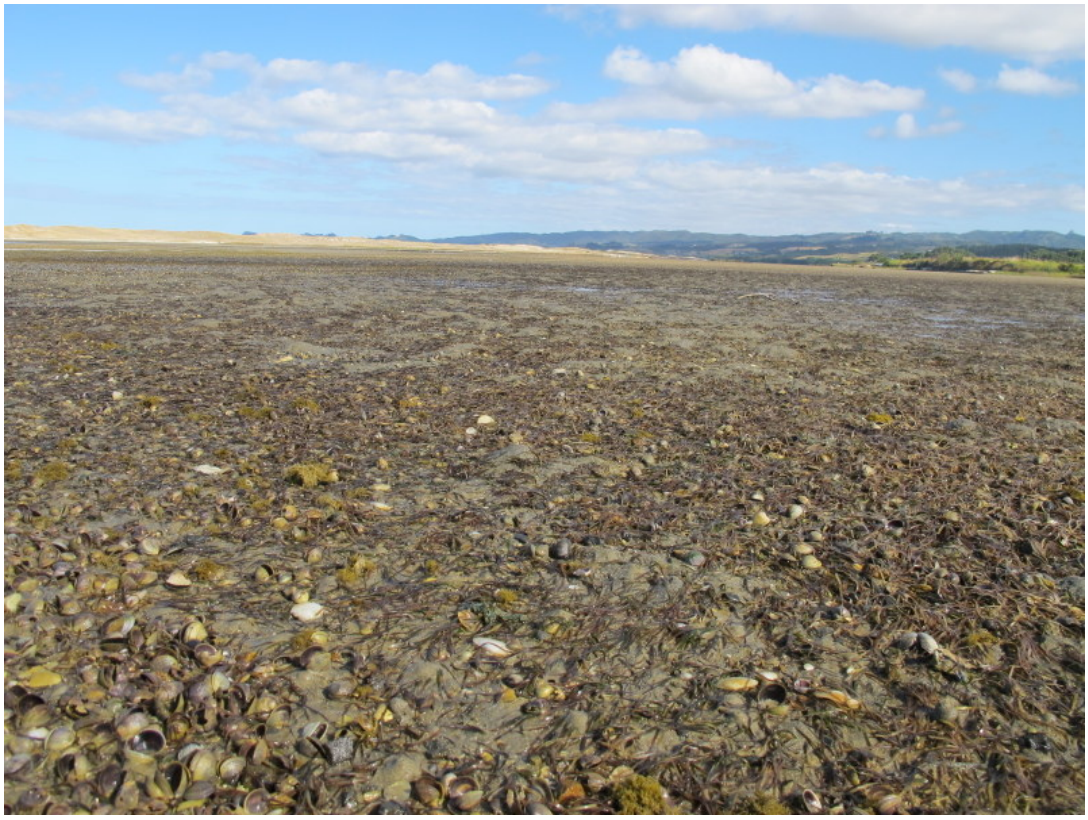
The Waipu Estuary is a small shallow estuary situated on Bream Bay coast. Waipu Estuary lacks good fringing buffer habitats of scrub or wetland habitat, however it does have an extensive sandy tidal flat and an ecologically important sand spit area protecting it from the exposed coast.[1] Much of the tidal flat is covered in seagrass beds *Zostera muelleri,* which is a significant biogenic habitat. The estuary supports a group of threatened shorebirds and is a Wildlife Refuge area based on the estuarine habitats present and extensive use of the area by threatened shorebirds.

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

Looking toward the entrance of the Estuary from the Johnson Point road access. Note productive cockel beds in the foreground and small patches of seagrass establishing, (light brown colour). Photo Credit: Vince Kerr



A closeup view of the tidal flat cockle bed with expansive areas of seagrass. Looking southeast up the Estuary. Photo Credit: Vince Kerr



A view looking southeast from the middle of the estuary, note the expansive seagrass beds and shorebirds actively feeding. Photo Credit: Vince Kerr

Ecological Description

The Waipu Estuary is made up of a series of tidal flats and a winding systems of shallow channels. The estuary is small, at just over 105 hectares, and virtually all shallow or intertidal. The intertidal areas have extensive cockle beds *Austrovenus stutchburyi* and proportionately large areas of productive seagrass (35 ha). [2] Cockle 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 seagrass communities and associated benthic invertebrates are a major food source for shorebirds and a significant nursery and feeding area for many coastal fish species. [3]

Assessment of Ecological Significance

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

Waipu 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] 2015 survey based on aerial photography, NRC.

[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	Some sequences but some habitats in estuary disturbed or degraded	L
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	M
	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