Significant Ecological Marine Area Assessment Sheet

Name: Pataua Estuary Marine Values

Summary:

Pataua Estuary as a whole has been given a high ranking of ecological significance for marine values. It is an excellent example of a small east coast estuary, similar to nearby Taiharuru Estuary. For its size, Pataua Estuary has extensive productive clean sandy tidal flats with shellfish beds and relatively intact mangrove saltmarsh sequences. Combined these habitats perform important ecological roles as nursery and feeding areas for a wide variety of marine life. These habitats also play a vital role in maintaining water quality and provide connectivity between freshwater ecosystems and the coastal waters.

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

Description:

The Pataua Estuary is situated on the coast north of Bream Head sitting between Taiharuru Estuary and Horohora. The Pataua Estuary is made up of a wide range of interconnecting marine habitat types[1]. These habitats include saltmarshes, mangroves, intertidal and subtidal flats, and extensive channels. The entrance of the estuary has very valuable rocky reefs extending to the south and east around Pataua Island and a long sandy beach to the north and west. These entrance habitats are hotspots for marine

[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.

organisms. Each of the estuarine habitats contains distinctive plant and animal communities, which support important shorebird species and represent significant marine biodiversity.

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 is increasing.

Pataua Estuary has some important bush reminant and regenerating bush areas fringing the estuary. As these areas increase from efforts made in riparian protection and restoration, connectivity between estuarine habitats, freshwater wetlands, stream corrridors and the bush will be enhanced. Estuarine habitats and species generally will benefit from the combined effects of buffering sediments and nutrients entering the marine envorinment.

A 3D aerial image of Pataua 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 beds, and pipis in the channels, extending up the estuary to mangrove and salt marsh habitats.

A view of the extensive clean tidal flats and productive cockle beds looking from the footbridge up the Estuary. Photo Credit: Vince Kerr

Clean sand tidal flats with productive cockle beds, looking from the footbridge toward the Estuary entrance. Photo Credit: Vince Kerr

Ecological Values

Pataua Estuary 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 near the entrance to the estuary. There has been monitoring of the shellfish beds in Pataua which are described as healthy and productive in a 2015 report. [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. Pataua 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 Pataua Estuary[4]

Pataua 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

[2] 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.

[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

	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 beds play very important buffering and ecological role in estuary	H
	supports the natural functioning of freshwater or coastal ecosystems	Shellfish 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