



# Pātaua Estuary

## Intertidal vegetation mapping

**Date:** 28 May 2020

**Authors:** Andrew McDonald - Biospatial Ltd  
Richard Griffiths, Katrina Hansen, Neihana Umuroa - Northland  
Regional Council

# Mapping process and purpose

A remote sensing method has been used to map wetland/saltmarsh and mangrove habitat in Northland. This mapping aims to improve spatial intertidal habitat data for Northland. Please refer to the separate methodology report<sup>1</sup> for details of the mapping process.

This is one of 19 worksheets that display the extent and location of mapped wetland/saltmarsh and mangrove habitats in the Northland region. The worksheets also identify intertidal saltmarsh habitat that exceeds the Regional Policy Statement for Northland (RPS) wetland area threshold of 0.5 hectare for significant saltmarsh (referred to below as significant saltmarsh). Oblique aerial images of all significant saltmarsh features and a summary of significant avifaunal values that are associated with this coastal wetland are also included in the worksheets. The saltmarsh and mangrove layers are available via an online viewer:

<https://localmaps.nrc.govt.nz/LocalMapsGallery/>

Where coastal wetlands extend inland, the degree of salt influence reduces until wetland transitions from saltmarsh to a freshwater wetland. In order to limit the identification of significant features to saltmarsh habitat and avoid mapping freshwater wetland, the landward extent of significant saltmarsh was delimited using selected LINZ hydro parcels. In a small number of instances (eg. Whangārei Harbour, Pātaua Estuary, Horahora Estuary and Kāretu River), where the hydro parcel clearly omitted areas of intertidal habitat, the LINZ NZ property parcel was used. By limiting the mapping of significant saltmarsh to areas within the LINZ hydro parcels, there is a high level of confidence that the significant saltmarsh mapped by this project is saltmarsh and not freshwater wetland.

During the validation process it was apparent from the oblique imagery that typically inland of the hydro parcels the saltmarsh transitions to freshwater habitat. By utilising the LINZ hydro layer, degraded habitat that may not have dominant indigenous vegetation has been avoided, as has wetland or saltmarsh on private title. However, by using the LINZ NZ property parcel and LINZ hydro parcels as the inland boundary, some saltmarsh habitat inland of these boundaries will have been omitted. Further work is required to develop a robust method to delineate the landward extent of saltmarsh habitat.

---

<sup>1</sup> MacDonald, Griffiths, Griffin, Pene & Umuroa (2020). Northland Intertidal vegetation mapping methodology.

## Area description and map outputs

Pātaua is a tidal lagoon on the east coast of the Northland peninsula. Thirty-six hectares of saltmarsh and 99 hectares of mangrove were mapped. A total of four saltmarsh habitats (Figure 1) have been identified in the CMA that exceed the Regional Policy Statement for Northland wetland area threshold of 0.5 hectare for significant saltmarsh, with a total area of 15.2 ha (Table 1). One particularly large saltmarsh habitat of almost 11 hectares (AX31 342-443) was found at the head of the estuary.

**Table 1:** Significant saltmarsh identified in Pātaua Estuary

Reference	Area (m <sup>2</sup> )
AX31 340-444	9,451
AX31 353-446	9,605
AX31 354-452	23,491
AX31 342-443	109,924
<b>Total</b>	<b>152,471</b>

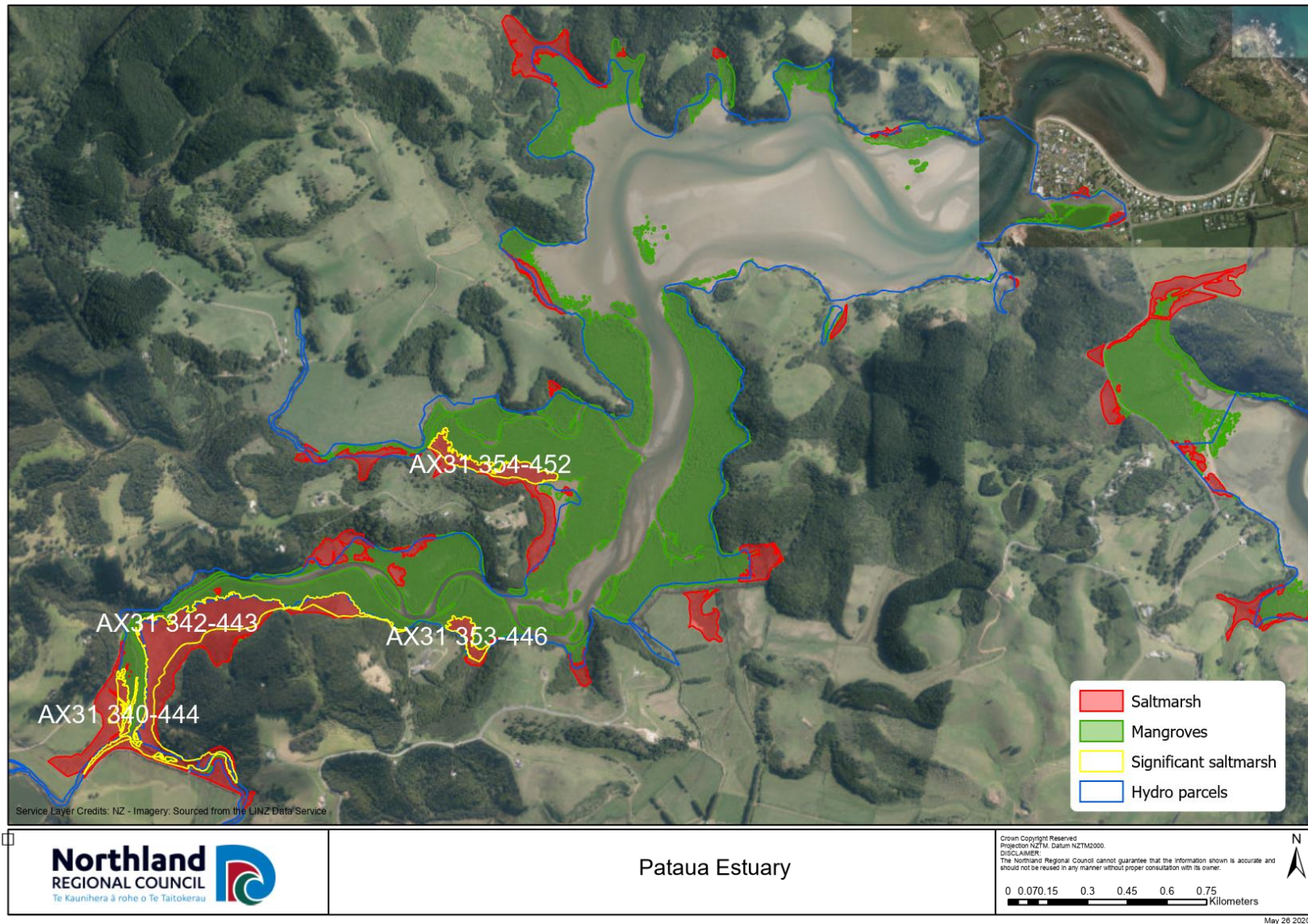
Pātaua is a small estuary with small areas of tidal flats and small stands of mangrove, saltmarsh and adjacent indigenous forest on headlands. Several species of threatened birds use the estuary for feeding, including reef heron, shags and waders. Fernbirds, banded rails and Australasian bittern use the saltmarsh and wetland habitat (Table 2).

**Table 2:** 'Threatened' and 'At Risk' birds using saltmarsh/mangrove habitat in the Pātaua Estuary

Species Scientific Name	Species Common Name	NZ threat classification (2016)		Significance for species
<i>Botaurus poiciloptilus</i>	Australasian bittern	Threatened	Nationally critical	Locally important breeding and feeding (saltmarsh/mangrove)
<i>Hydroprogne caspia</i>	Caspian tern	Threatened	Nationally vulnerable	Local feeding (mangrove channels)
<i>Bowdleria punctata vealeae</i>	North Island fernbird	At Risk	Declining	Locally important (saltmarsh/mangrove)
<i>Gallirallus philippensis assimilis</i>	Banded rail	At Risk	Declining	Locally important (saltmarsh/mangrove)
<i>Haematopus finschi</i>	NZ pied oystercatcher	At Risk	Declining	Local feeding (mangrove edges)
<i>Limosa lapponica baueri</i>	Eastern bar-tailed godwit	At Risk	Declining	Local feeding (mangrove edges)
<i>Porzana tabuensis tabuensis</i>	Spotless crane	At Risk	Declining	Locally important breeding and feeding
<i>Phalacrocorax varius varius</i>	Pied shag	At Risk	Recovering	Locally important feeding (mangrove and channels)



Figure 1. Mangrove and saltmarsh habitat in Pātaua Estuary

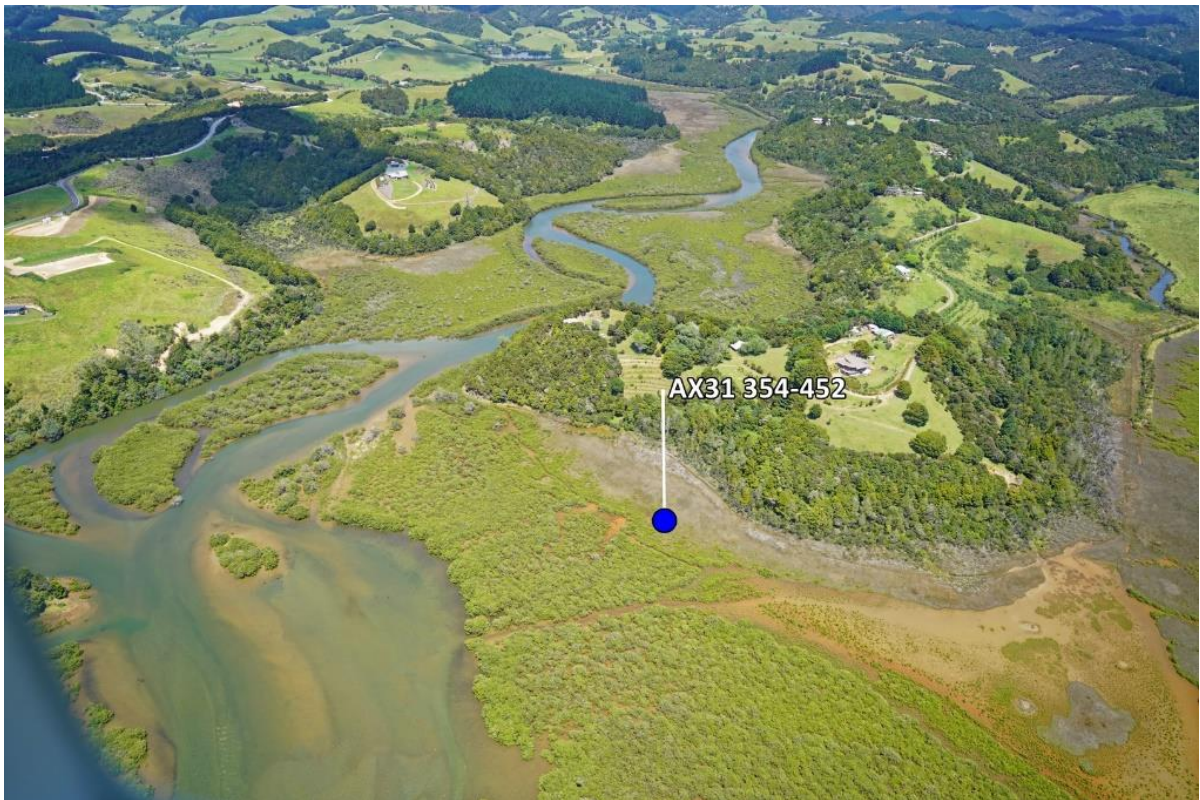




**Figure 2:** AX31 354-452



**Figure 3:** AX31 354-452





**Figure 4:** AX31 353-446



**Figure 5:** AX31 342-443

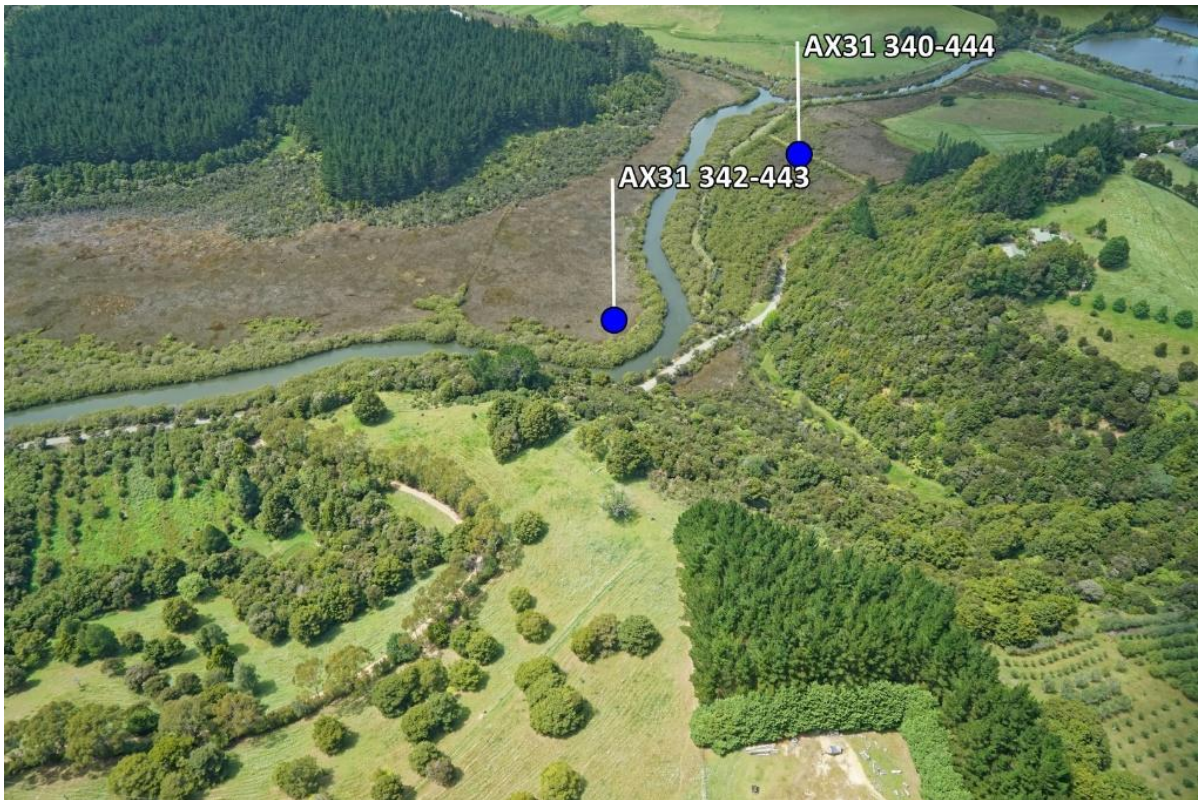




**Figure 6:** AX31 342-443



**Figure 7:** AX31 340-444, AX31 342-443



**Northland Regional Council**

**P** 0800 002 004

**E** [info@nrc.govt.nz](mailto:info@nrc.govt.nz)

**W** [www.nrc.govt.nz](http://www.nrc.govt.nz)

