



# Whangaroa Harbour

## Intertidal vegetation mapping

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# 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.

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

## Area description and map outputs

Whangaroa Harbour is a deep drown valley estuary on the east coast of the Northland peninsula. Five hundred and six hectares of mangrove and 67 hectares of saltmarsh have been mapped. Fifteen saltmarsh habitats, with a total area of 36 hectares (Table 1 & 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.

**Table 1:** Significant saltmarsh identified in Whangaroa Harbour

Reference	Area (m <sup>2</sup> )
AV28 623-189	25,880
AV28 628-188	137,733
AV28 621-199	33,556
AV28 620-199	7,547
AV28 655-169	34,672
AV28 697-186	15,318
AV28 647-202	18,033
AV28 624-202	5,882
AV28 661-173	7,633
AV28 662-174	32,606
AV28 675-177	14,155
AV28 712-223	8,032
AV28 676-181	6,208
AV28 661-176	5,339
AV28 695-207	5,750
<b>Total</b>	<b>358,345</b>

Whangaroa Harbour is a moderate sized harbour with a small area of tidal flats in the upper reaches. Mangrove areas and inflow channels are adjacent to farmland. Threatened species using the harbour include pied shag, reef heron, Australasian bittern, banded rail and fernbird on the wetlands (Table 2).

**Table 2:** ‘Threatened’ and ‘At Risk’ birds using saltmarsh and adjoining mangrove habitat in the Whangaroa Harbour.

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 breeding and feeding (saltmarsh/mangrove)
<i>Gallirallus philippensis assimilis</i>	Banded rail	At Risk	Declining	Locally important breeding and feeding (saltmarsh/mangrove)
<i>Haematopus finschi</i>	NZ pied oystercatcher	At Risk	Declining	Local feeding (mangrove edges)
<i>Phalacrocorax varius varius</i>	Pied shag	At Risk	Recovering	Locally important breeding and feeding (mangrove and channels)

Figure 1: Mangrove and saltmarsh habitat in Whangaroa Harbour



**Figure 2:** AV28 624-202



**Figure 3:** AV28 621-199, AV28 620-199



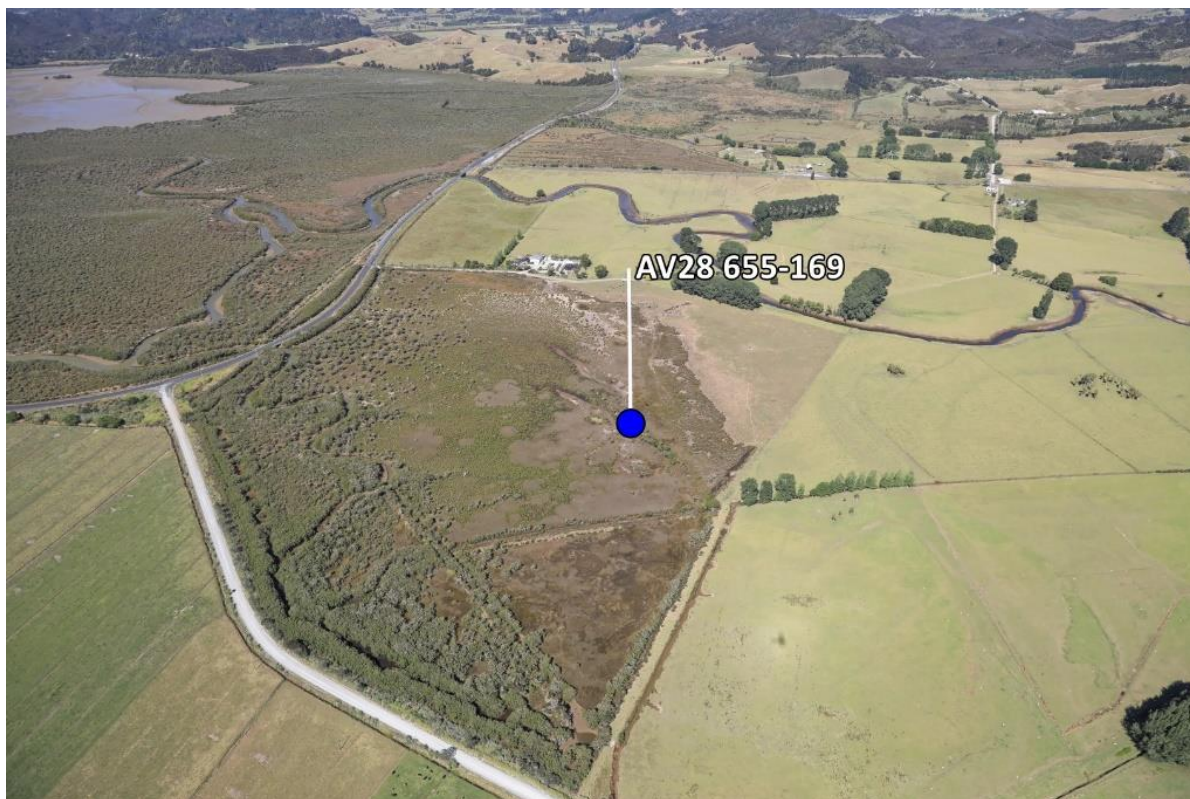
**Figure 4:** AV28 628-188



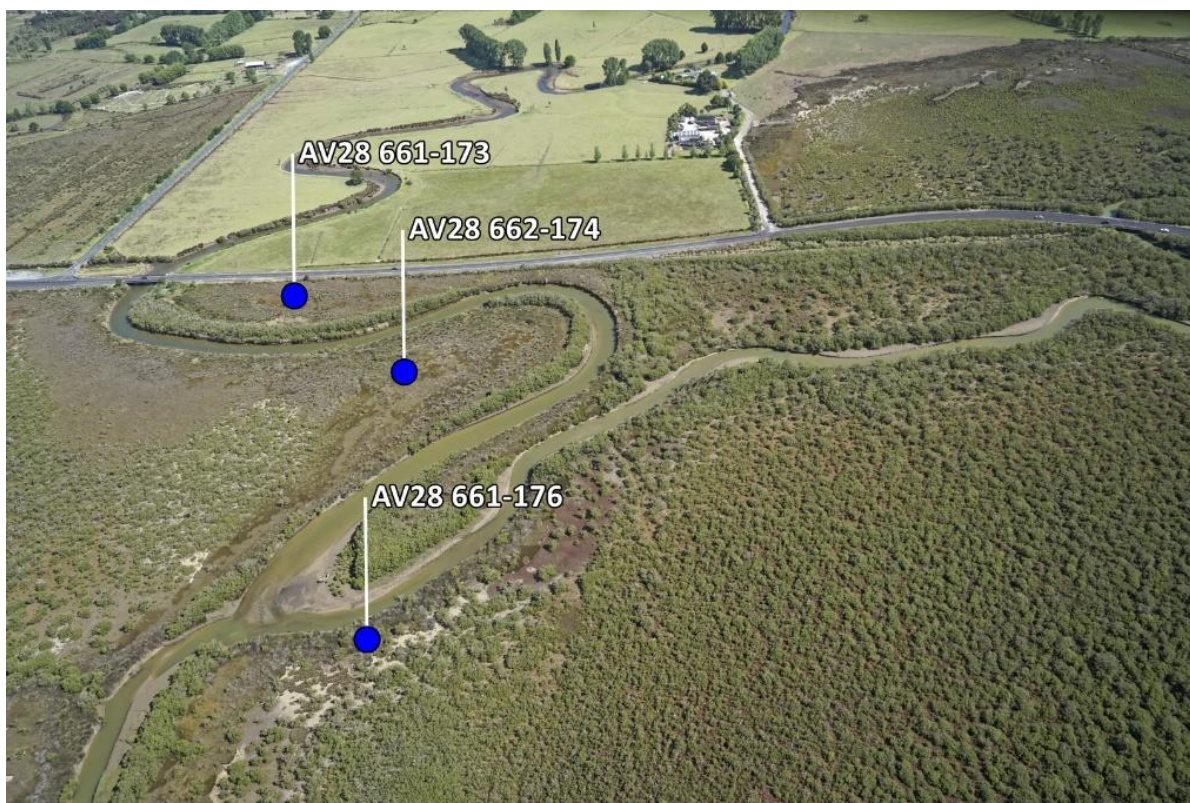
**Figure 5:** AV28 647-202



**Figure 6:** AV28 655-169

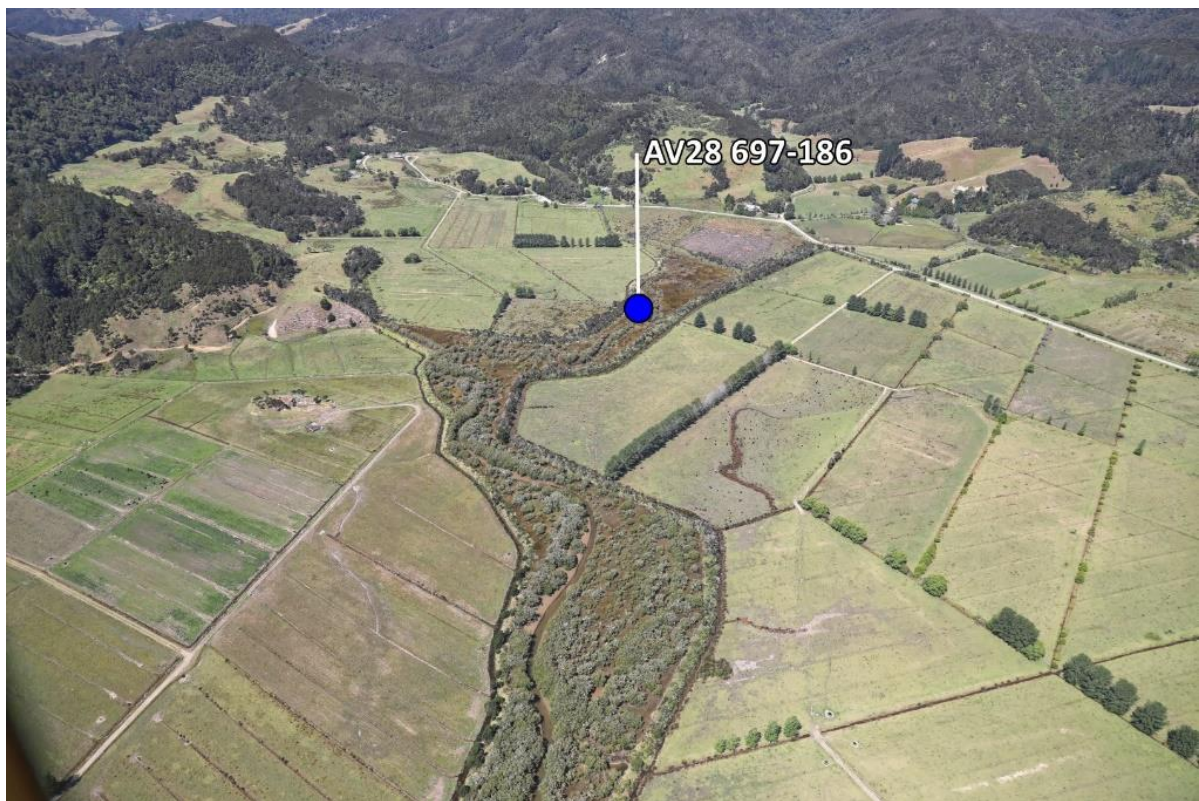


**Figure 7:** AV28 661-176, AV28 662-174, AV28 661-173





**Figure 8:** AV28 697-186



**Figure 9:** AV28 675-177



**Figure 10:** AV28 676-181



**Figure 11:** AV28 695-207



**Figure 12:** AV28 712-223



**Figure 13:** AV28 623-189



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