



Whangārei 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 report¹ 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.

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

Area description and map outputs

A total of 1,686 hectares of mangrove and 87 hectares of wetland/saltmarsh were mapped in Whangārei Harbour. Nineteen saltmarsh sites have been identified in Whangārei, that exceed the RPS wetland area threshold of 0.5 hectare for significant saltmarsh, totalling 36 hectares (Figure 1& Table 1).

Table 1: Significant saltmarsh identified in Whangārei Harbour

Reference	Area (m ²)
AX30 193-434	5,032
AX30 230-383	5,134
AX30 288-336	5,573
AX30 230-440	6,380
AX30 278-342	6,432
AX30 195-363	7,751
AX30 205-371	8,098
AX30 189-404	9,100
AX30 284-328	10,362
AX30 257-358	12,806
AX30 289-338	13,439
AX30 232-370	18,901
AX30 299-335	19,065
AX30 189-405	21,976
AX30 243-361	23,709
AX30 233-374	27,247
AX30 233-367	32,364
AX30 231-377	49,320
AX30 265-347	76,493
Total	359,182

Whangārei is a moderately large harbour with extensive intertidal flats, multiple creeks and channels, as well as saltmarsh and mangroves, rocky and sandy islands. The tidal flats provide important habitat for migrant waders, both international and national threatened species. New Zealand and northern hemisphere migrants with significant numbers visiting the harbour are wrybill, banded dotterel, NZ pied oystercatcher, bar-tailed godwit and lesser knot, while local breeding species include northern NZ dotterel and variable oystercatcher.

The harbour is an important breeding and feeding site for Caspian tern, as well as white-fronted tern and critically endangered NZ fairy tern using the harbour. Saltmarshes and mangroves support localised numbers of fernbird, banded rail and Australasian bittern (Table 2).

Table 2: ‘Threatened’ and ‘At Risk’ birds using saltmarsh and adjoining mangrove habitat in the Whangārei 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>Sternua nereis davisae</i>	NZ fairy tern	Threatened	Nationally critical	Locally important feeding (mangrove channels)
<i>Hydroprogne caspia</i>	Caspian tern	Threatened	Nationally vulnerable	Nationally important breeding and feeding (sand islands, 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	Locally important feeding (mangrove edges)
<i>Limosa lapponica baueri</i>	Eastern bar-tailed godwit	At Risk	Declining	Nationally important feeding and roosting (mangrove edges)
<i>Porzana tabuensis tabuensis</i>	Spotless crane	At Risk	Declining	Local breeding and feeding (saltmarsh/mangrove)
<i>Phalacrocorax varius varius</i>	Pied shag	At Risk	Recovering	Locally important breeding and feeding (mangrove and channels)
<i>Platalea regia</i>	Royal spoonbill	At Risk	Naturally uncommon	Locally important feeding (mangrove edges)

Figure 1: Mangrove and saltmarsh habitat in Whangārei Harbour

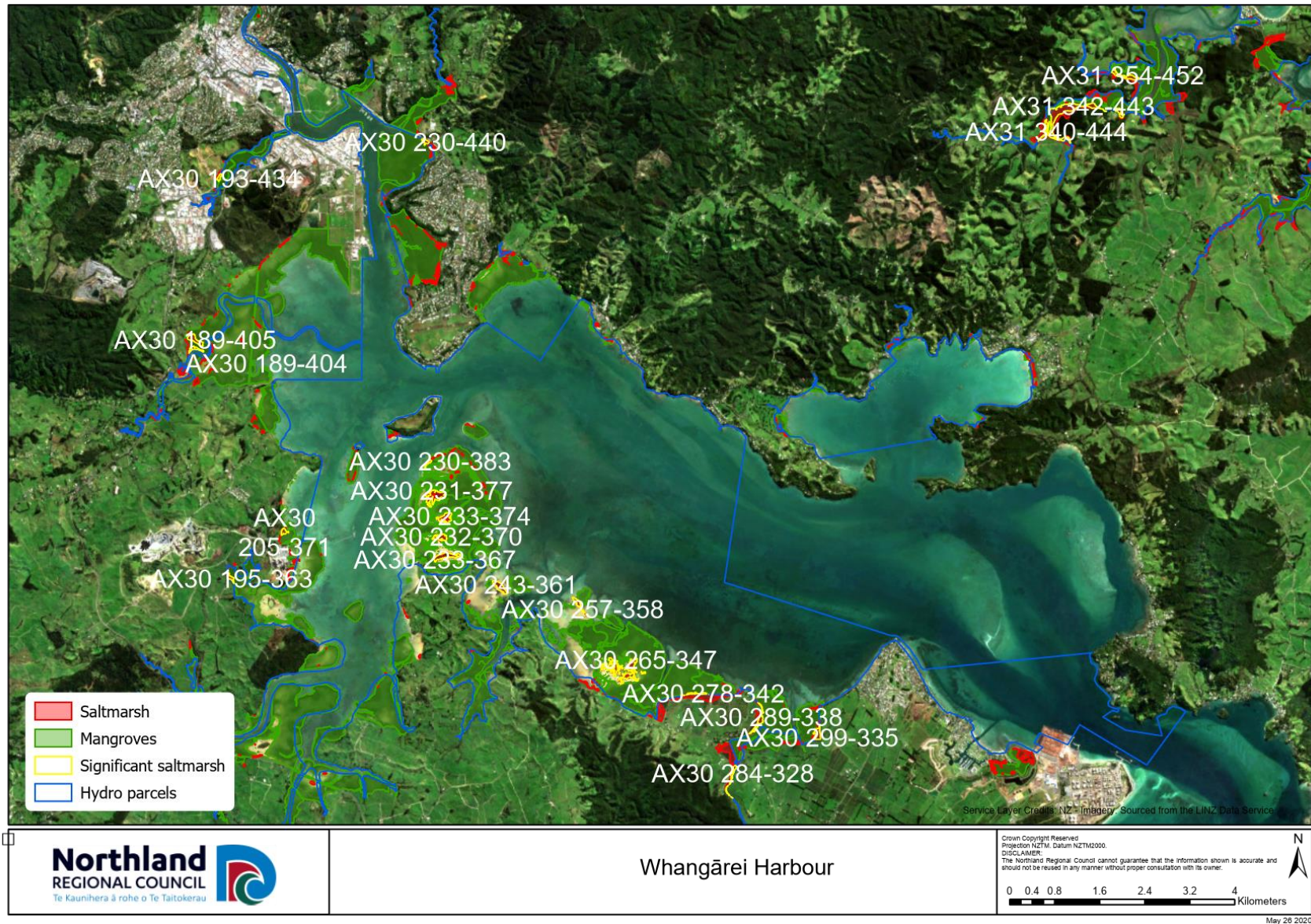


Figure 2: AX30 299-335



Figure 3: AX30 284-328

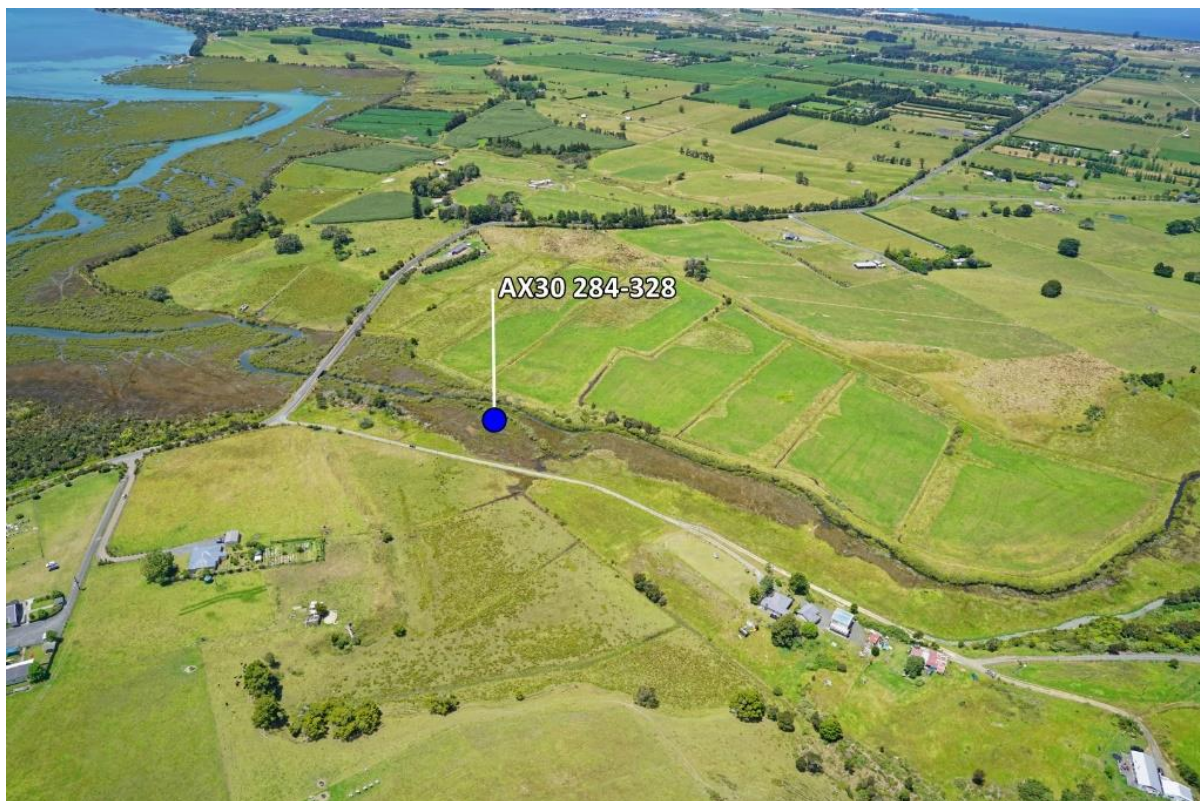


Figure 4: AX30 289-338, AX30 288-336



Figure 5: AX30 278-342

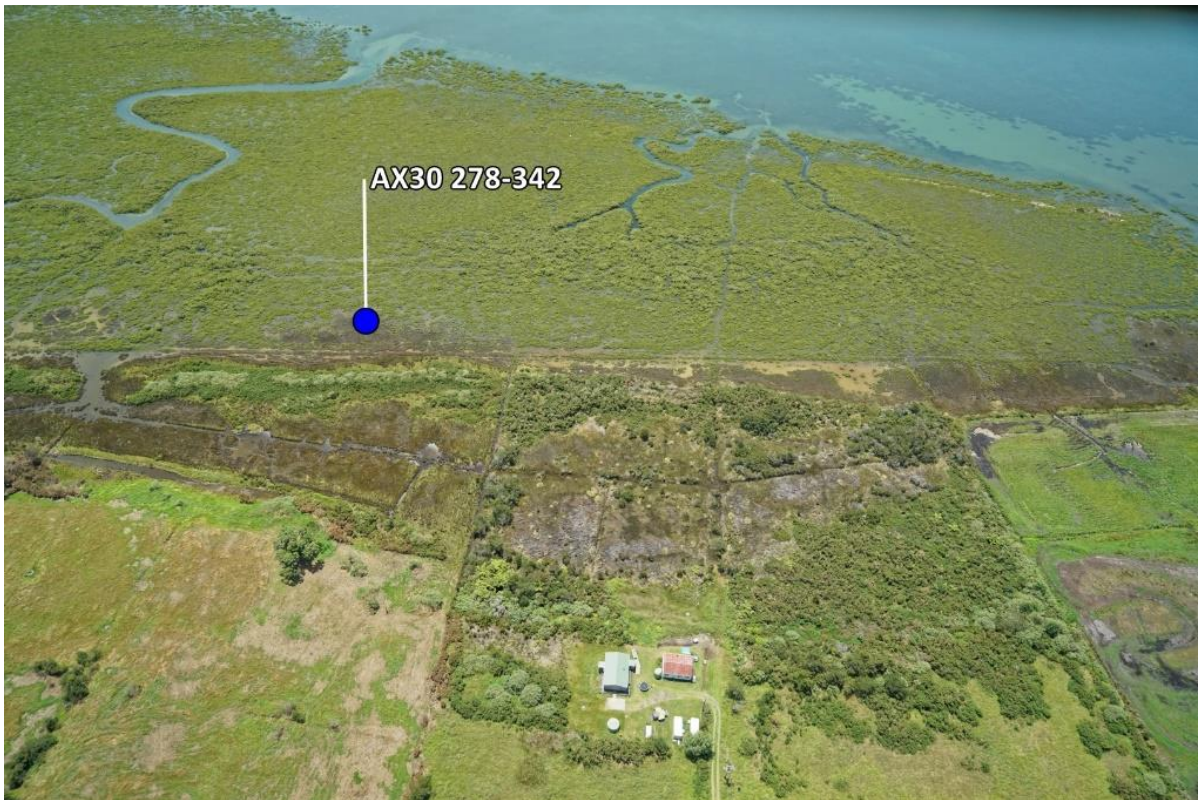


Figure 6: AX30 265-347



Figure 7: AX30 257-358

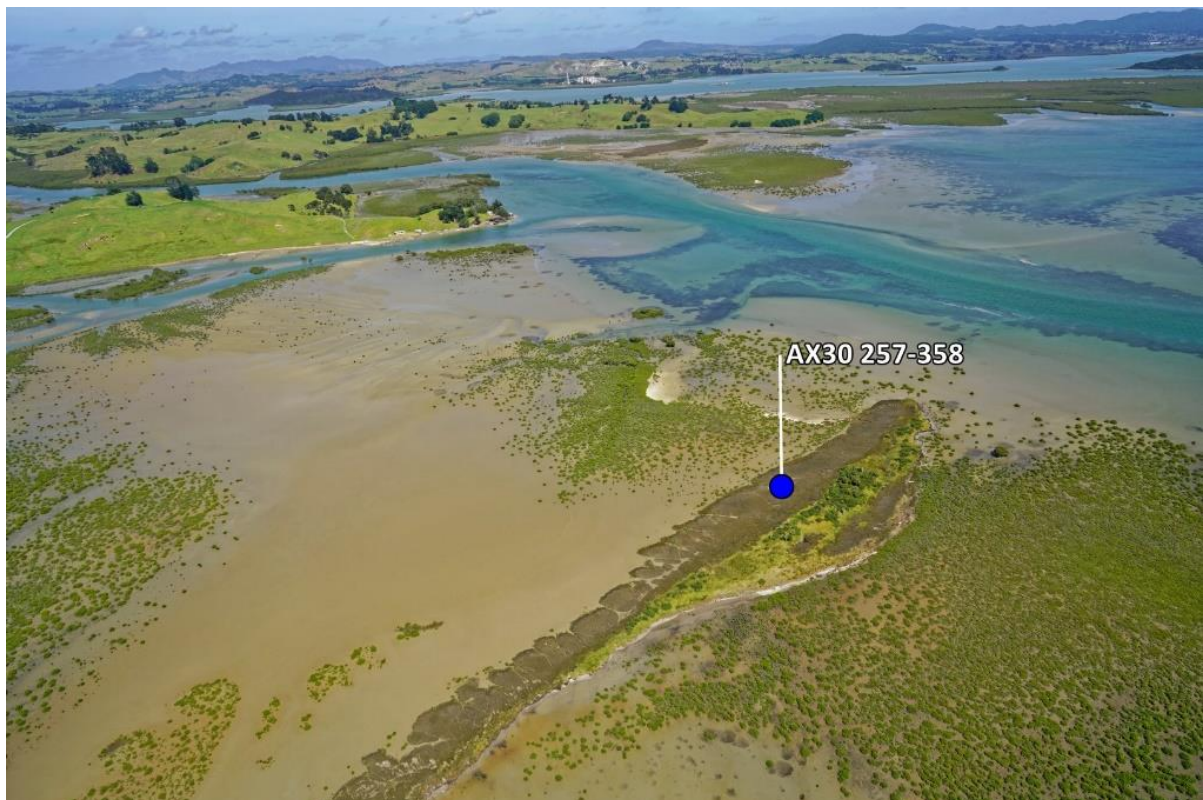


Figure 8: AX30 243-361



Figure 9: AX30 231-377



Figure 10: AX30 233-374

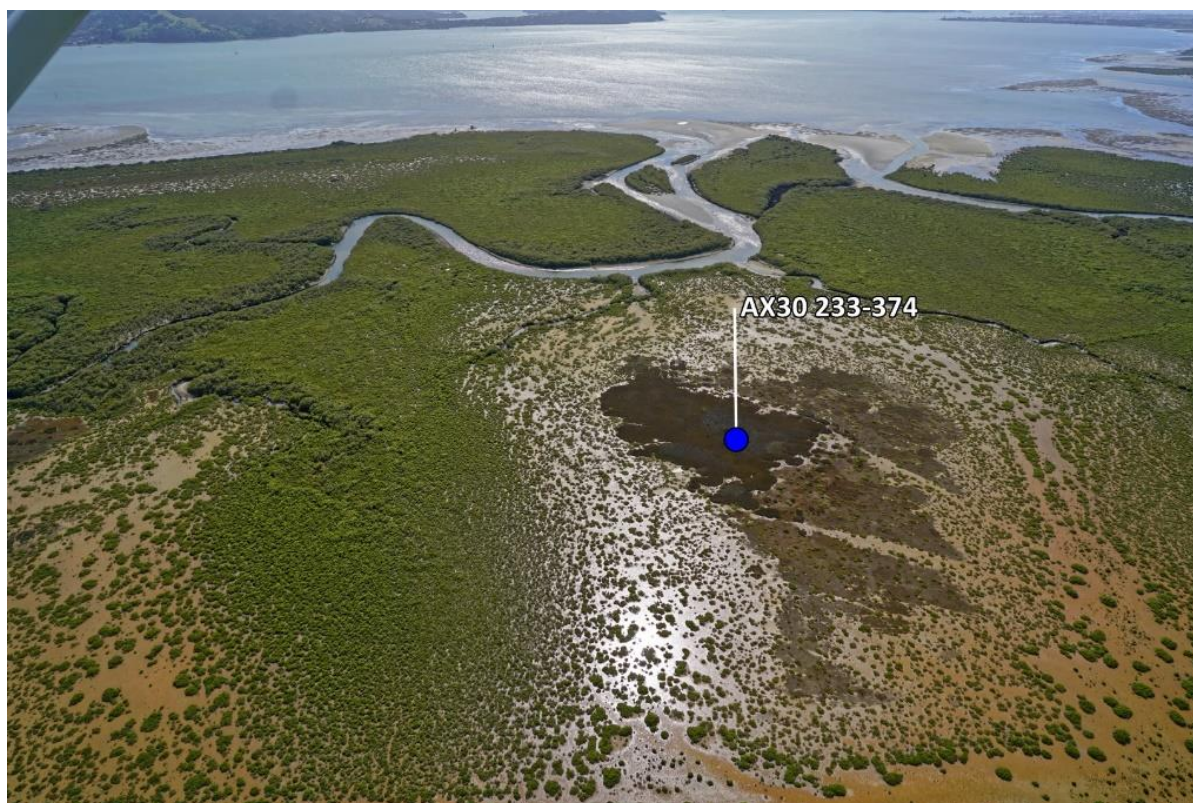


Figure 11: AX30 232-370



Figure 12: AX30 233-367



Figure 13: AX30 230-383



Figure 14: AX30 195-363



Figure 15: AX30 193-434



Figure 16: AX30 230-440



Figure 17: AX30 205-371



Figure 18: AX30 189-405, AX30 189-404



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