



# Parengarenga 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

Parengarenga Harbour is a shallow drowned valley on the east coast of the Northland peninsula. One thousand, six hundred and eighteen hectares of mangrove and 397 hectares of saltmarsh have been mapped. A total of 42 saltmarsh habitats 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 84 ha (Figure 1 & Table 1).

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

Reference	Area (m <sup>2</sup> )	Reference	Area (m <sup>2</sup> )
AT25 966-722	6,107	AT25 931-820	5,915
AT25 972-688	19,067	AT24 870-808	10,501
AT25 980-752	55,540	AT24 877-809	10,980
AT25 971-740	9,338	AT25 908-861	9,846
AT25 972-761	5,283	AT25 901-789	38,432
AT25 981-698	5,580	AT25 901-848	54,824
AT25 968-739	8,279	AT25 905-849	24,868
AT25 961-739	12,567	AT25 884-806	13,526
AT25 954-718	13,860	AT25 936-855	5,950
AT25 963-729	8,128	AT25 944-854	18,233
AT25 955-736	6,318	AT25 944-857	13,470
AT25 922-774	11,379	AT25 948-852	37,846
AT25 937-750	5,144	AT24 874-811	24,480
AT25 926-769	7,222	AT25 879-810	9,154
AT25 991-728	17,096	AT25 886-811	6,181
AT25 989-732	7,666	AT25 902-851	180,636
AT25 939-776	38,403	AT25 904-852	8,643
AT25 915-824	5,456	AT25 974-758	6,008
AT25 911-830	14,404	AT25 963-813	16,490
AT25 909-828	8,254	AT25 970-729	50,537
AT25 884-768	9,511		
AT25 883-803	22,871		
		<b>Total</b>	<b>843,991</b>

Parengarenga Harbour is flanked by a mix of mangrove, saltmarsh, shrubland, farmland, plantation forestry and the large Kokota Sandspit and containing very extensive tidal flats.

The harbour supports tens of thousands of waders, including local breeding residents (northern NZ dotterel, variable oystercatcher) as well as migratory waders from within New Zealand (important concentrations of wrybill and banded dotterel) and northern hemisphere migrants (particularly bar-tailed godwit, lesser knot, ruddy turnstone, Pacific golden plover).

Reef heron and pied shag breed within the harbour, while Caspian terns and red-billed gulls sometimes breed on Kokota Sandspit and feed in the harbour. There are important populations of Australasian bittern, banded rail, spotless crane and fernbird in the local saltmarsh and other wetlands (Table 2).

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

Species Scientific Name	Species Common Name	NZ threat classification (2016)		Significance for species
<i>Botaurus poiciloptilus</i>	Australasian bittern	Threatened	Nationally critical	Nationally important breeding and feeding (saltmarsh/mangrove)
<i>Hydroprogne caspia</i>	Caspian tern	Threatened	Nationally vulnerable	Nationally important feeding and breeding (mangrove channels)
<i>Bowdleria punctata vealeae</i>	North Island fernbird	At Risk	Declining	Nationally important breeding and feeding (saltmarsh/mangrove)
<i>Gallirallus philippensis assimilis</i>	Banded rail	At Risk	Declining	Nationally important breeding and feeding (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	Nationally important feeding (mangrove edges)
<i>Porzana tabuensis tabuensis</i>	Spotless crane	At Risk	Declining	Locally important 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	Nationally important breeding and feeding (mangrove edges)

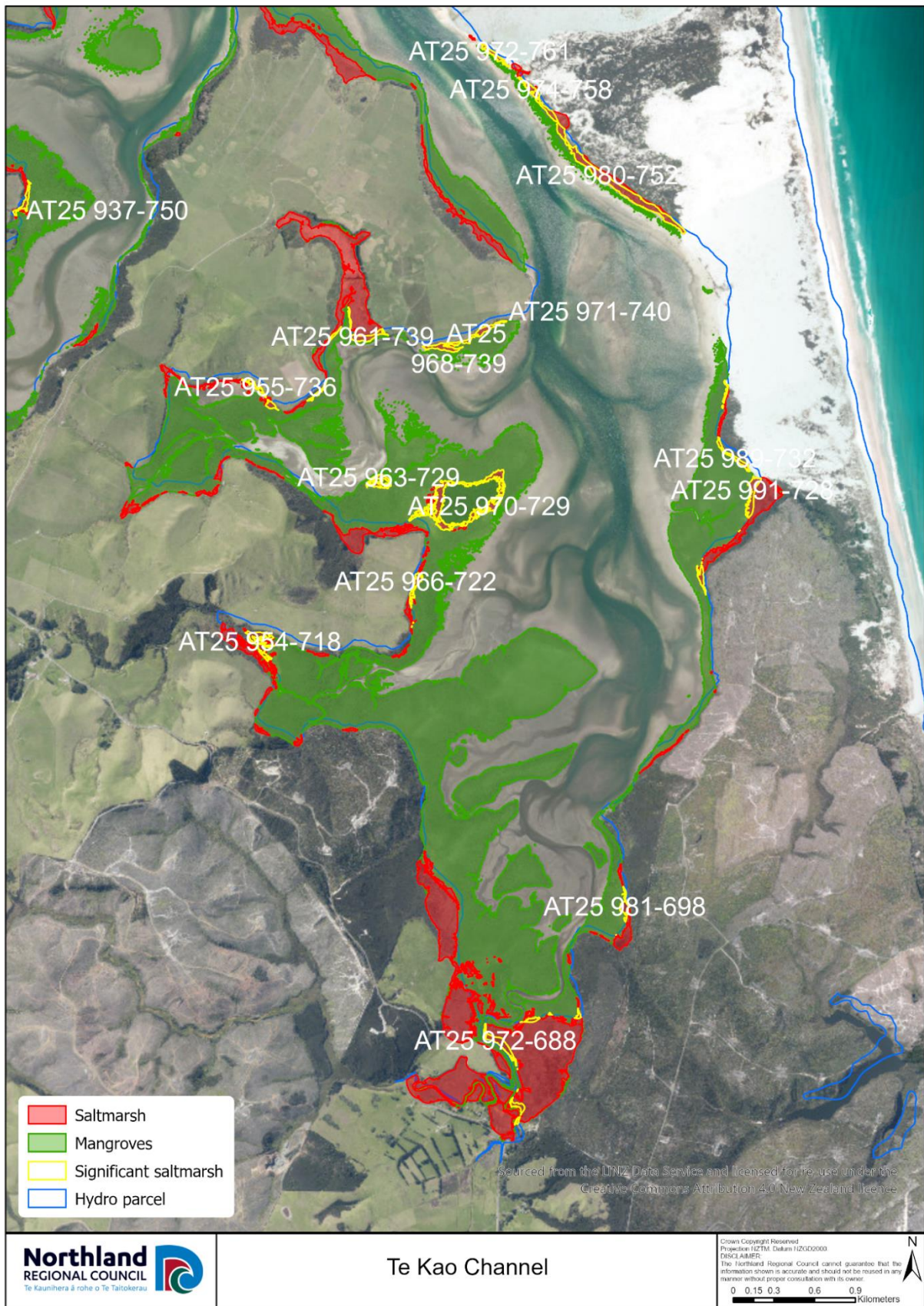


Figure 1: Mangrove and saltmarsh habitat in Parengarenga Harbour





**Figure 2:** Mangrove and saltmarsh habitat in Te Kao Channel





**Figure 3:** AT25 974-758, AT25 972-761



**Figure 4:** AT25 980-752





**Figure 5:** AT25 989-732



**Figure 6:** AT25 989-732, AT25 991-728





**Figure 7:** AT25 991-728



**Figure 8:** AT25 981-698





**Figure 9:** AT25 972-688



**Figure 10:** AT25 954-718





**Figure 11:** AT25 966-722



**Figure 12:** AT25 970-729





**Figure 13:** AT25 963-729



**Figure 14:** AT25 955-736





**Figure 15:** AT25 961-739

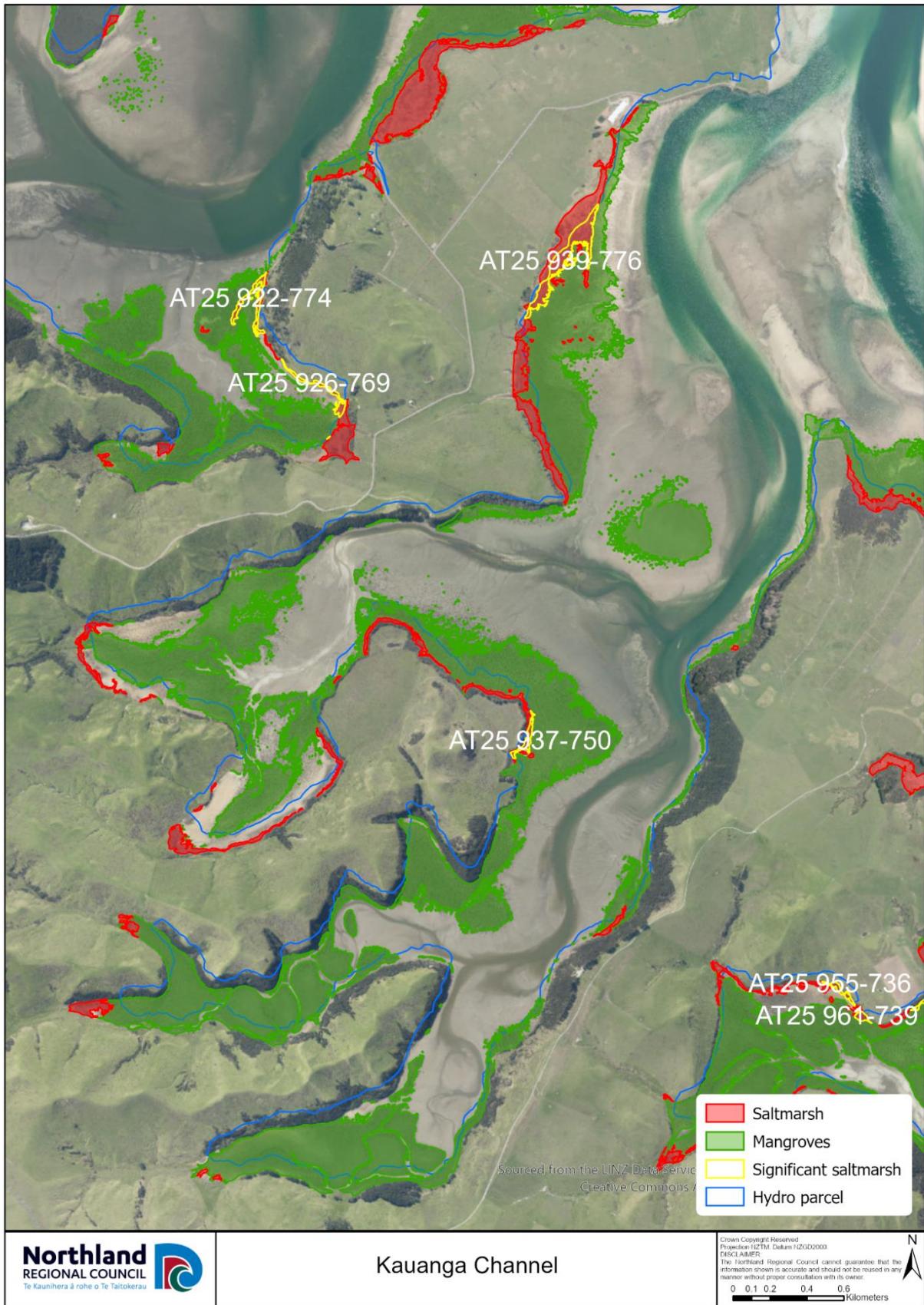


**Figure 16:** AT25 971-740, AT25 968-739





Figure 17: Mangrove and saltmarsh habitat in Kauanga Channel

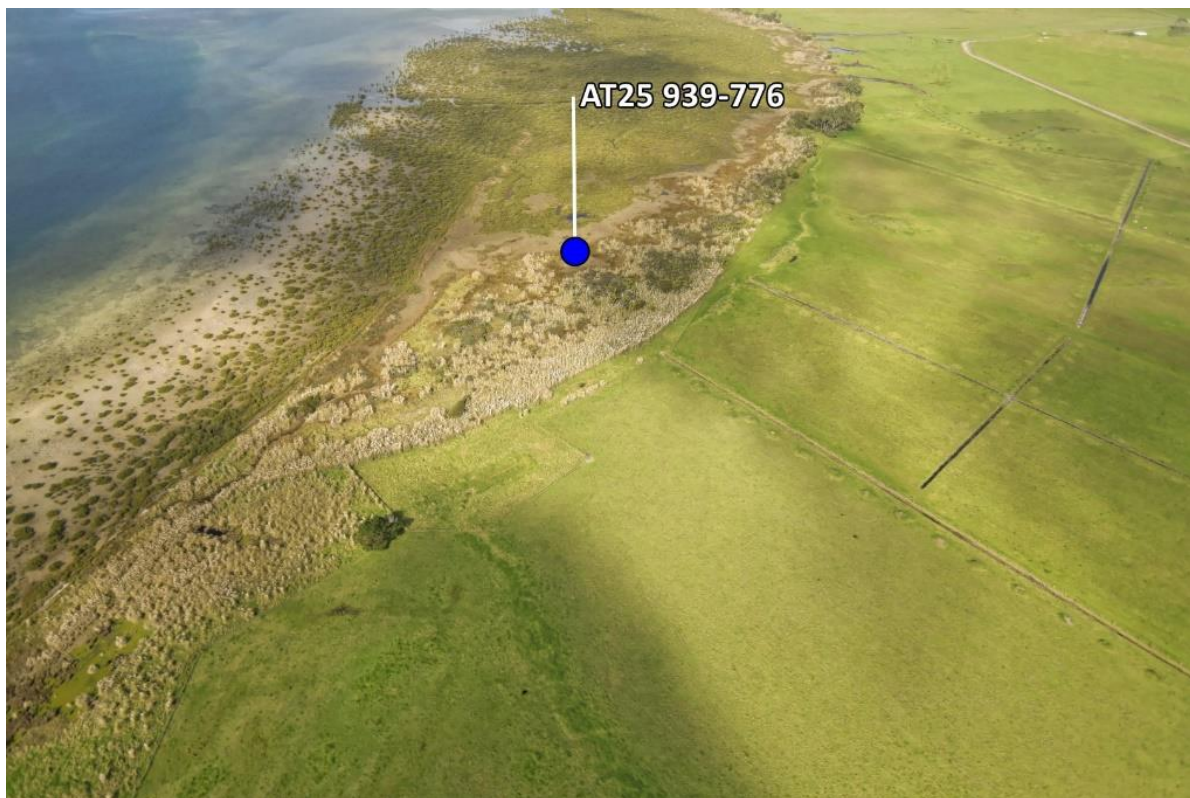




**Figure 18:** AT25 937-750

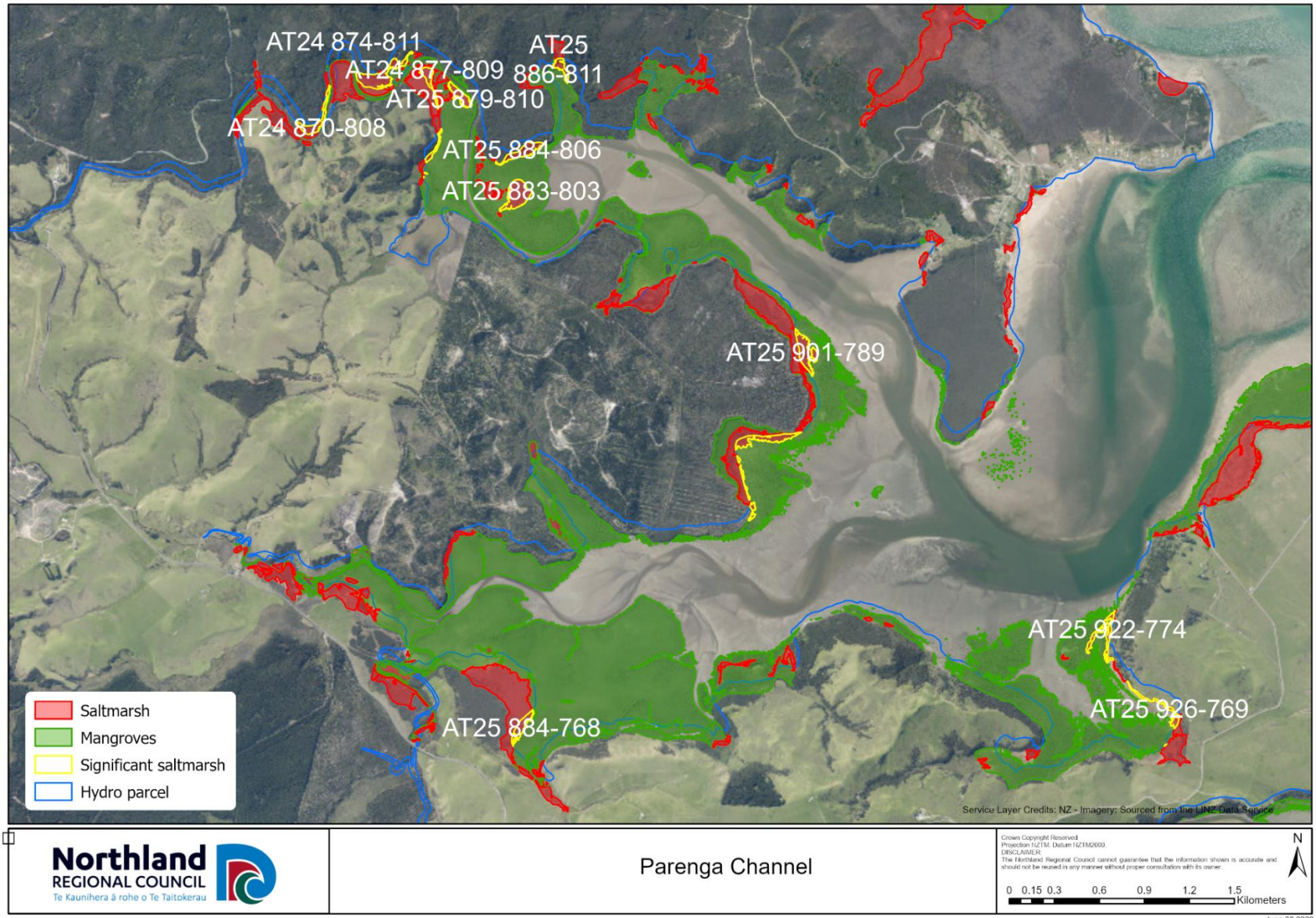


**Figure 19:** AT25 939-776



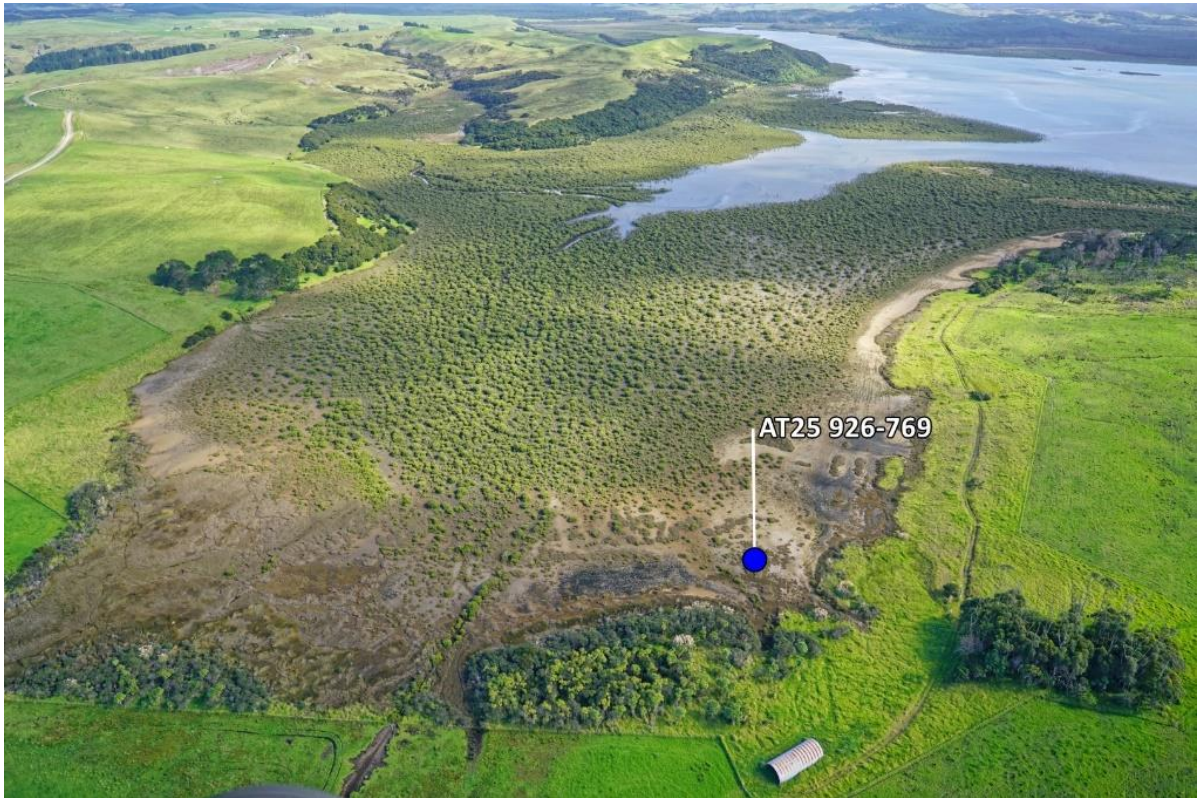


**Figure 20:** Mangrove and saltmarsh habitat in Parenga Channel





**Figure 21:** AT25 926-769

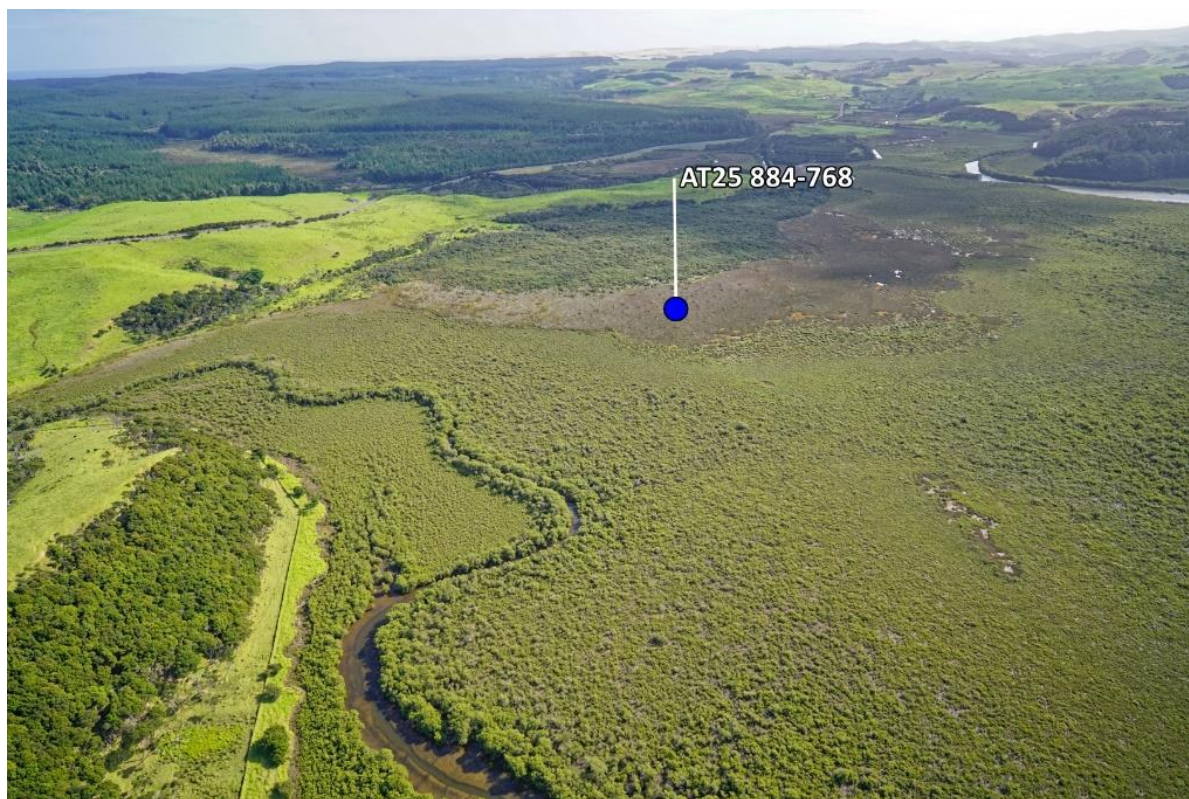


**Figure 22:** AT25 922-774





**Figure 23:** AT25 884-768



**Figure 24:** AT25 901-789

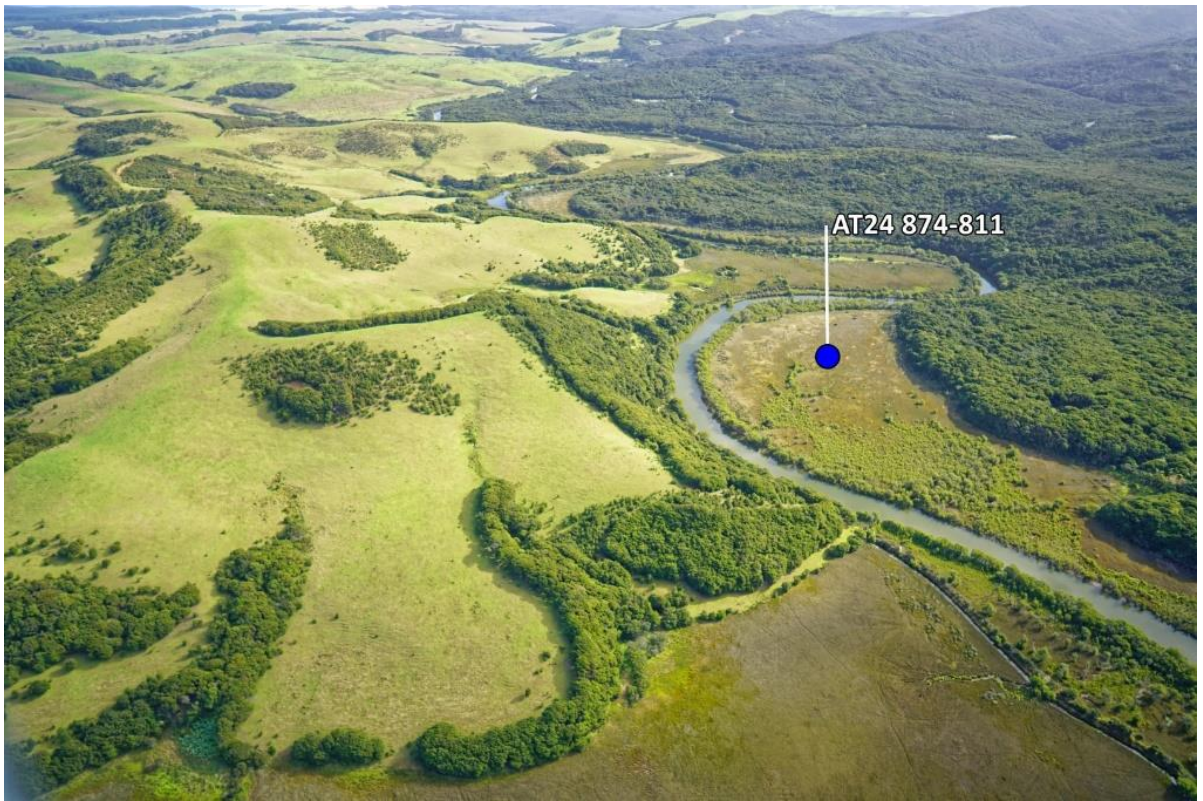




**Figure 25:** AT24 870-808



**Figure 26:** AT24 874-811

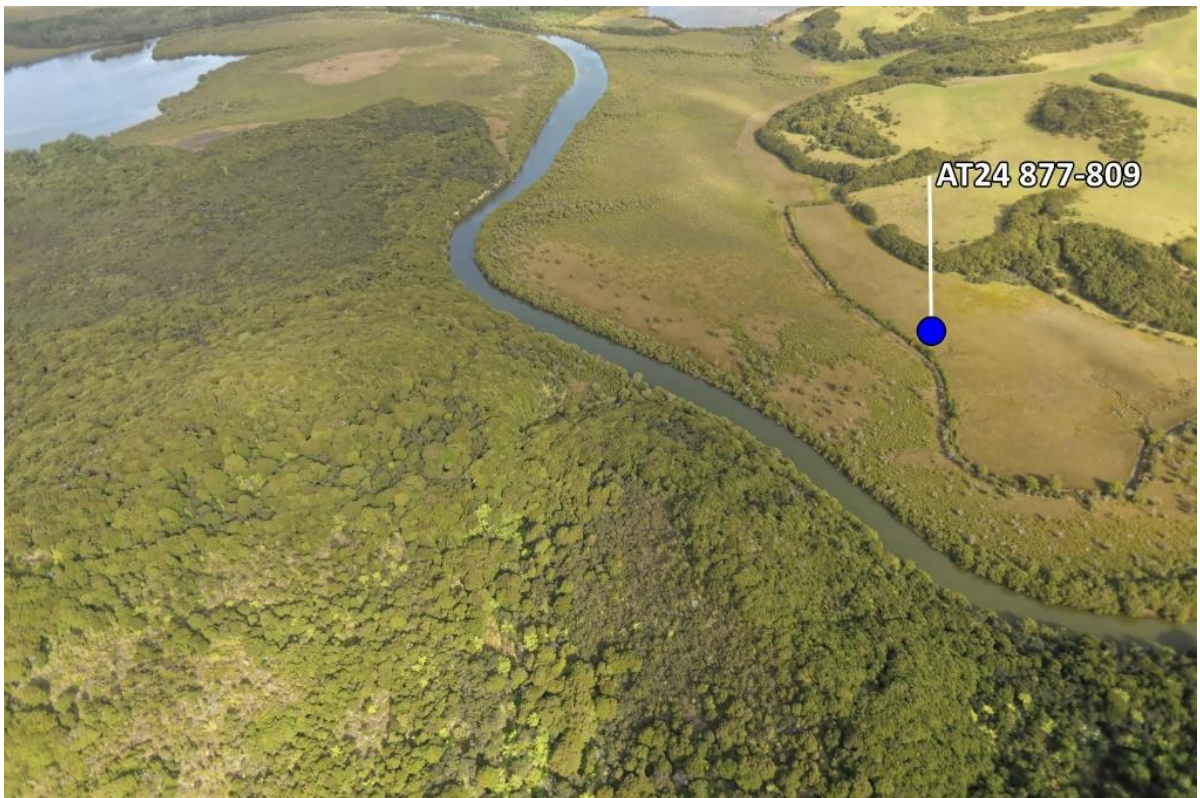




**Figure 27:** AT25 879-810



**Figure 28:** AT24 877-809





**Figure 29:** AT25 884-806, AT25 883-803



**Figure 30:** AT25 886-811

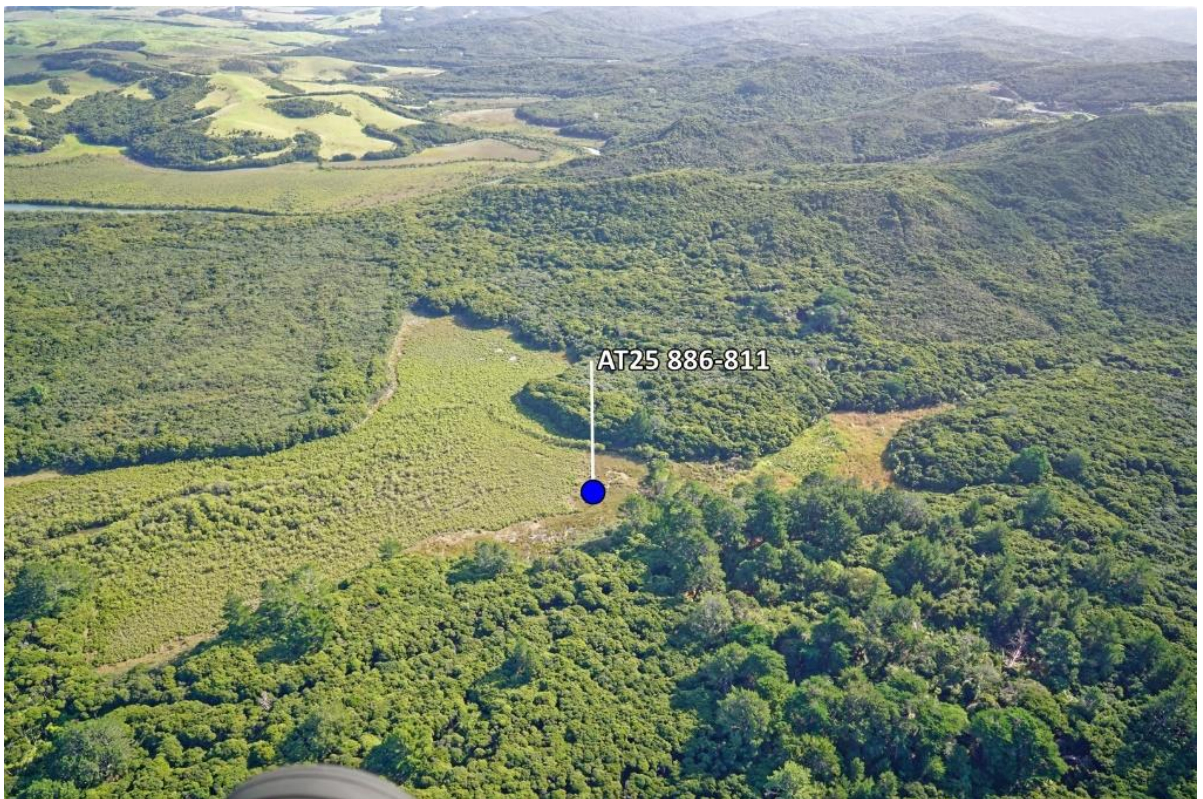
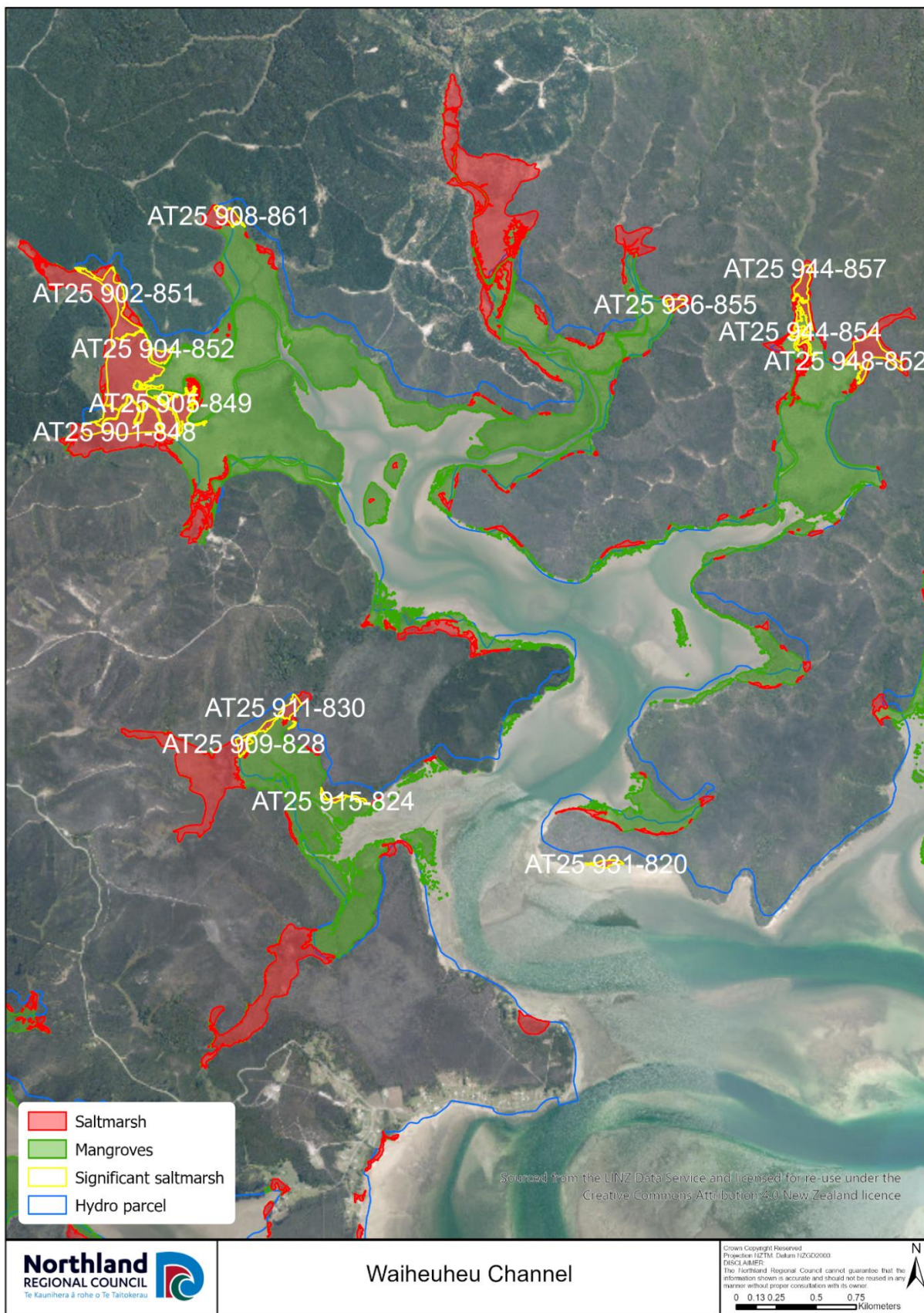


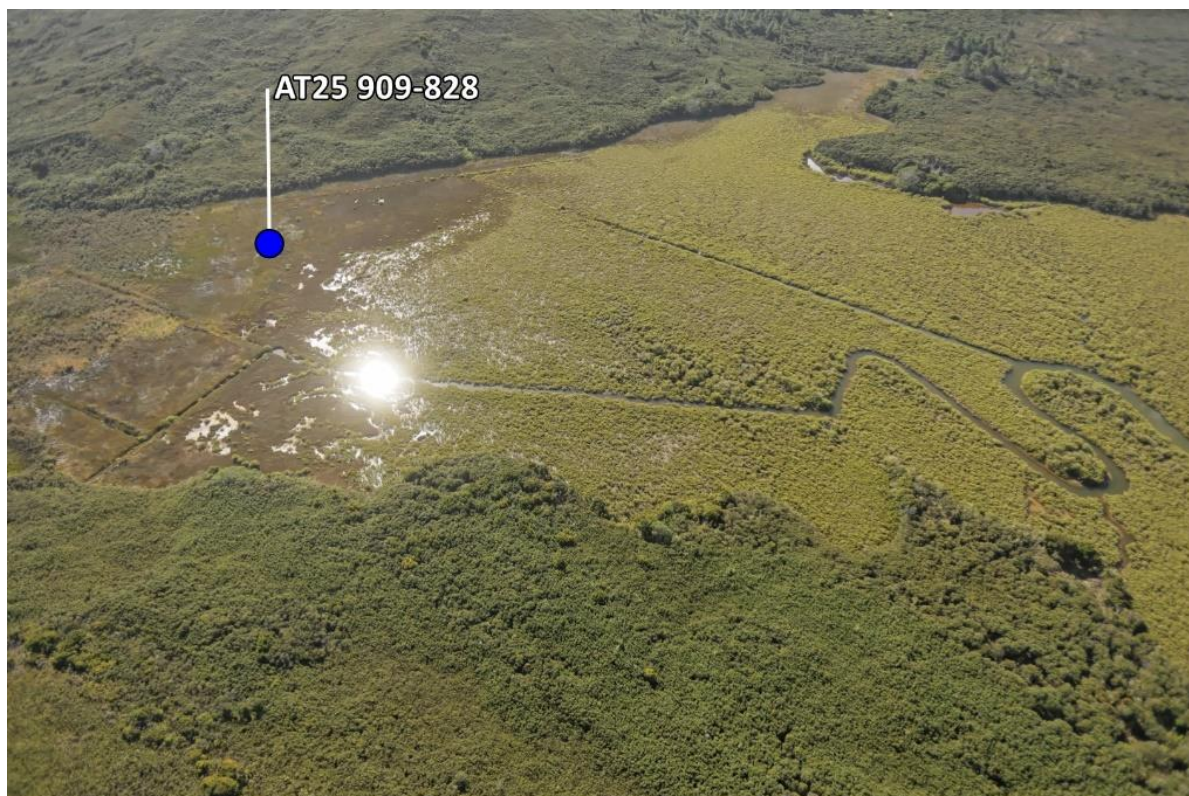


Figure 31: Mangrove and saltmarsh habitat in Waiheuheu Channel

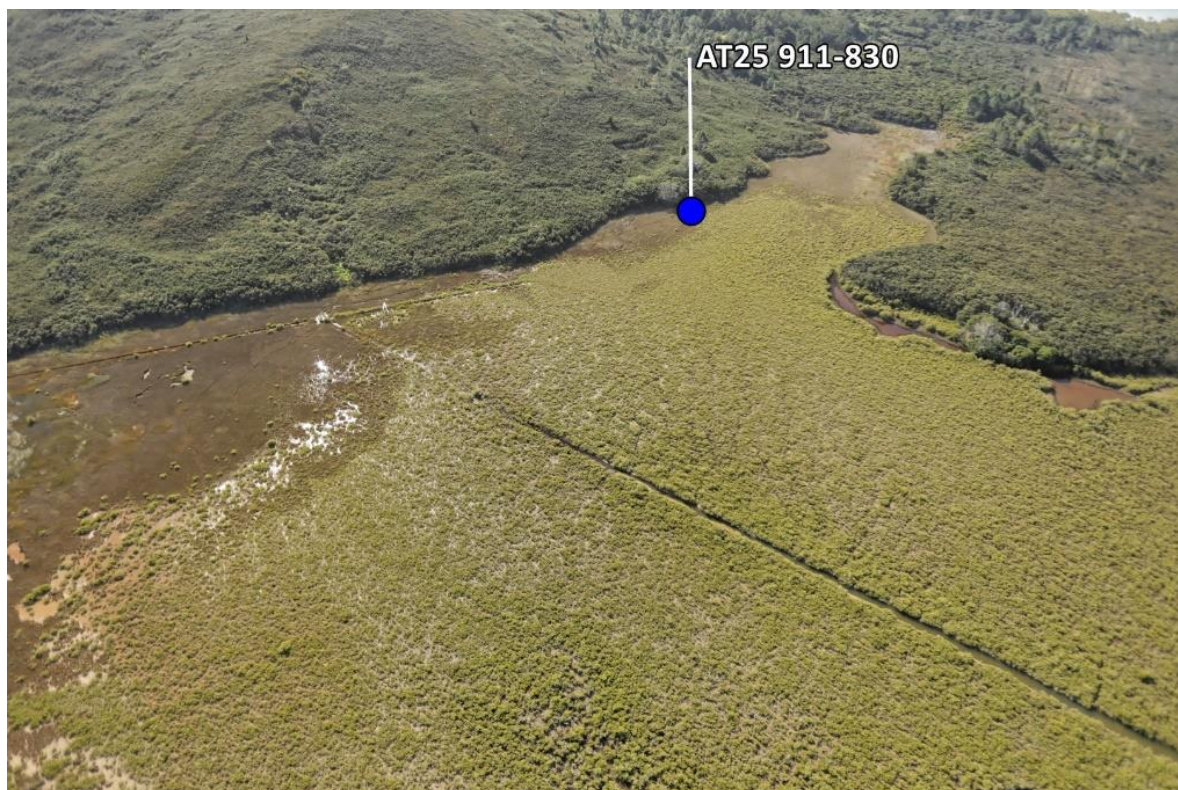




**Figure 32:** AT25 909-828



**Figure 33:** AT25 911-830





**Figure 34:** AT25 915-824

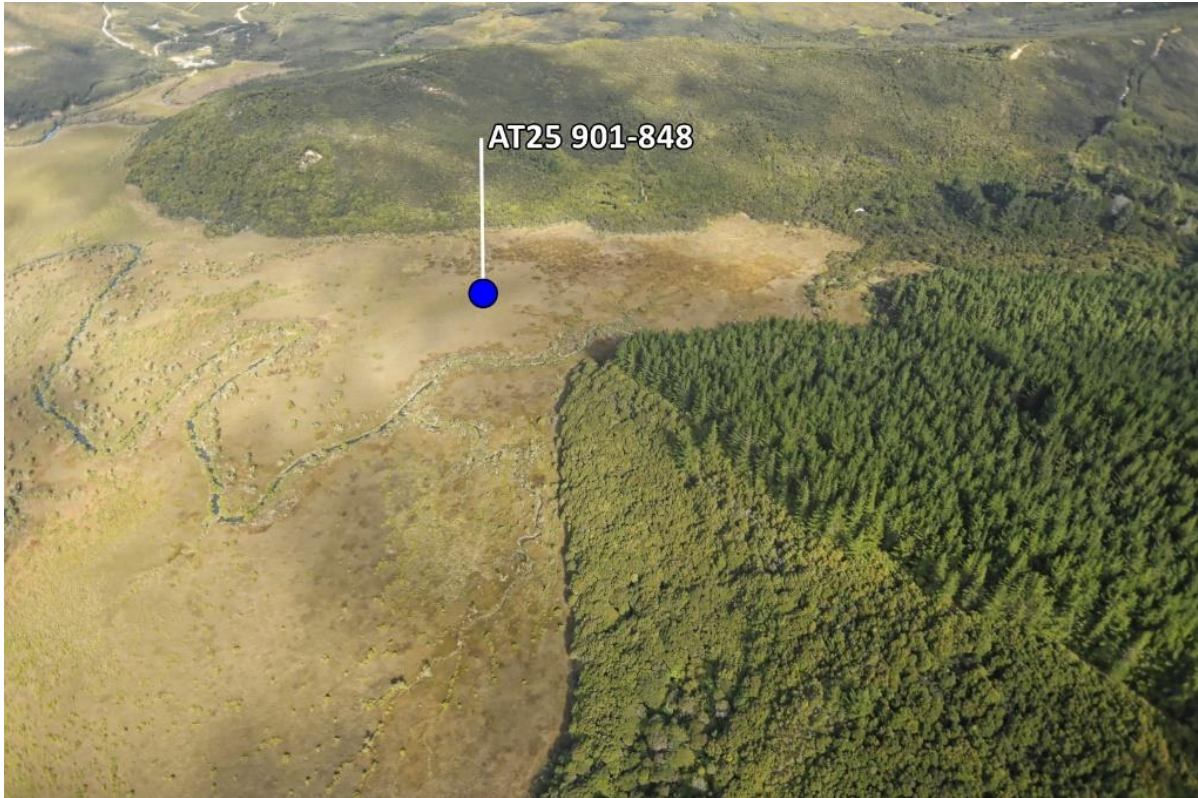


**Figure 35:** AT25 931-820

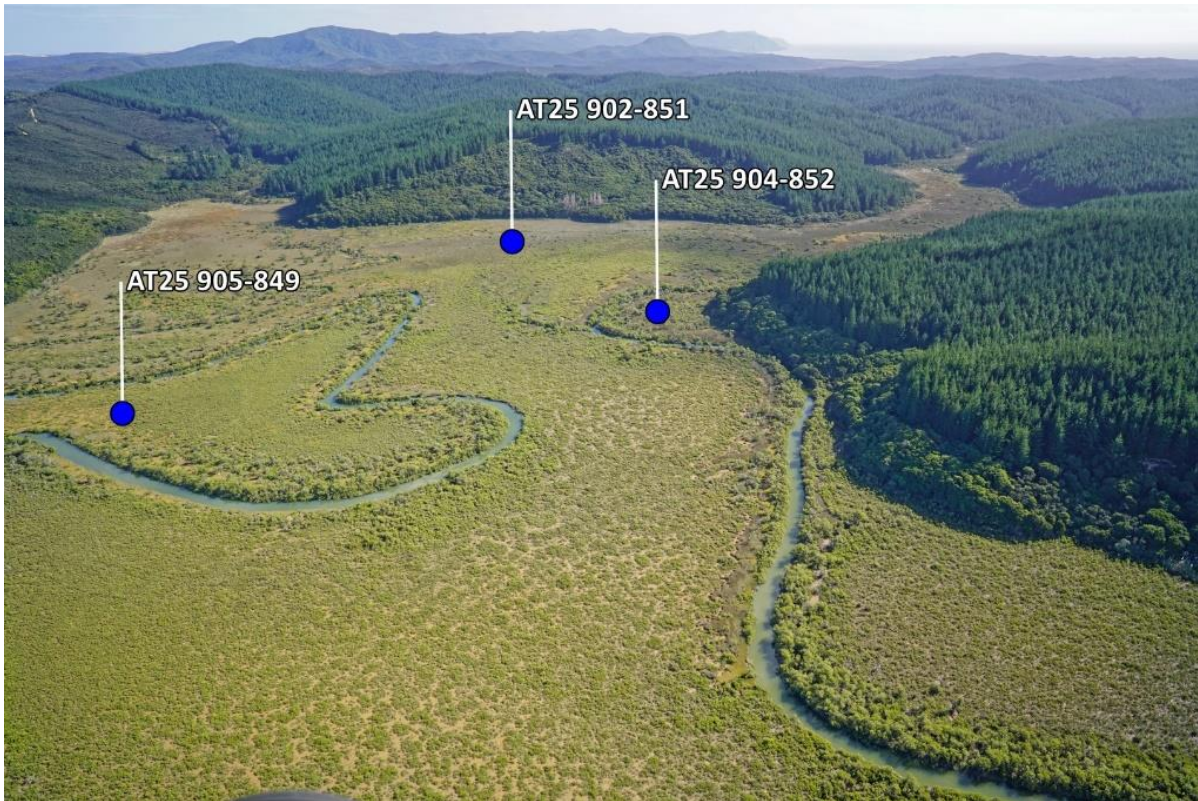




**Figure 36:** AT25 901-848

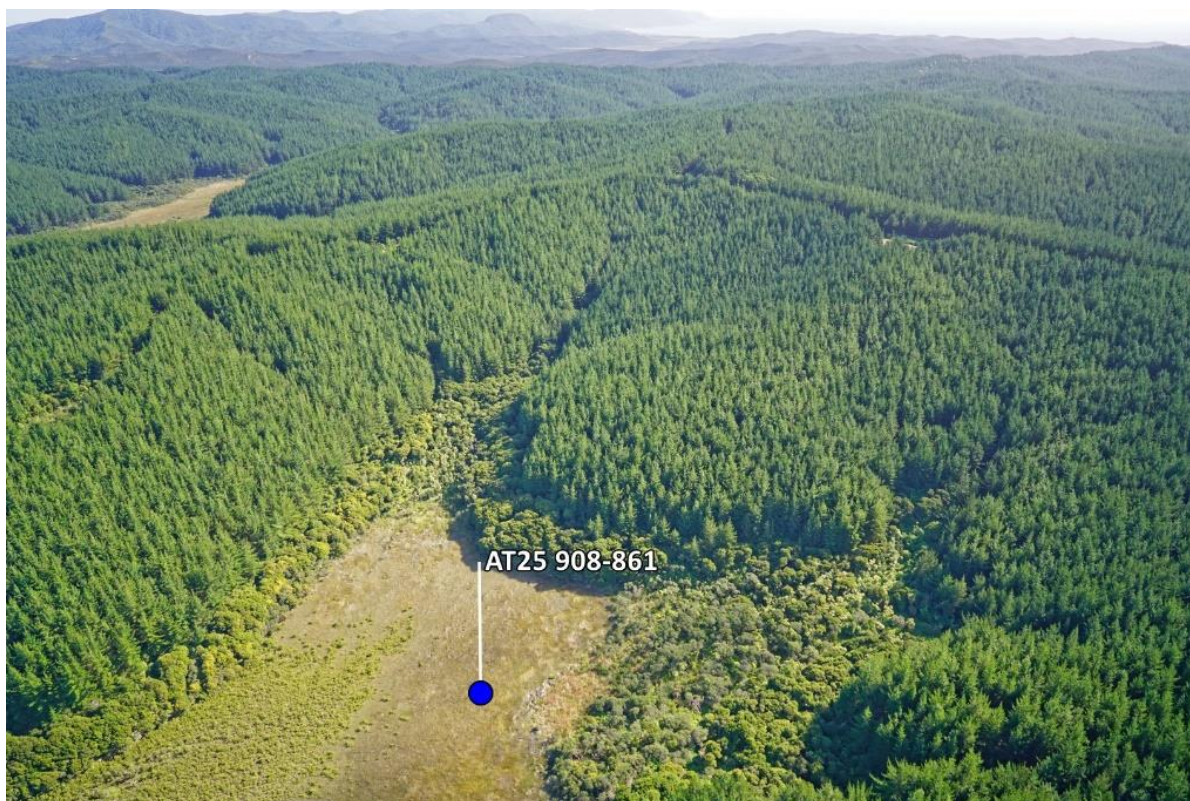


**Figure 37:** AT25 902-851, AT25 904-852, AT25 905-849





**Figure 38:** AT25 908-861



**Figure 39:** AT25 936-855





**Figure 40:** AT25 948-852

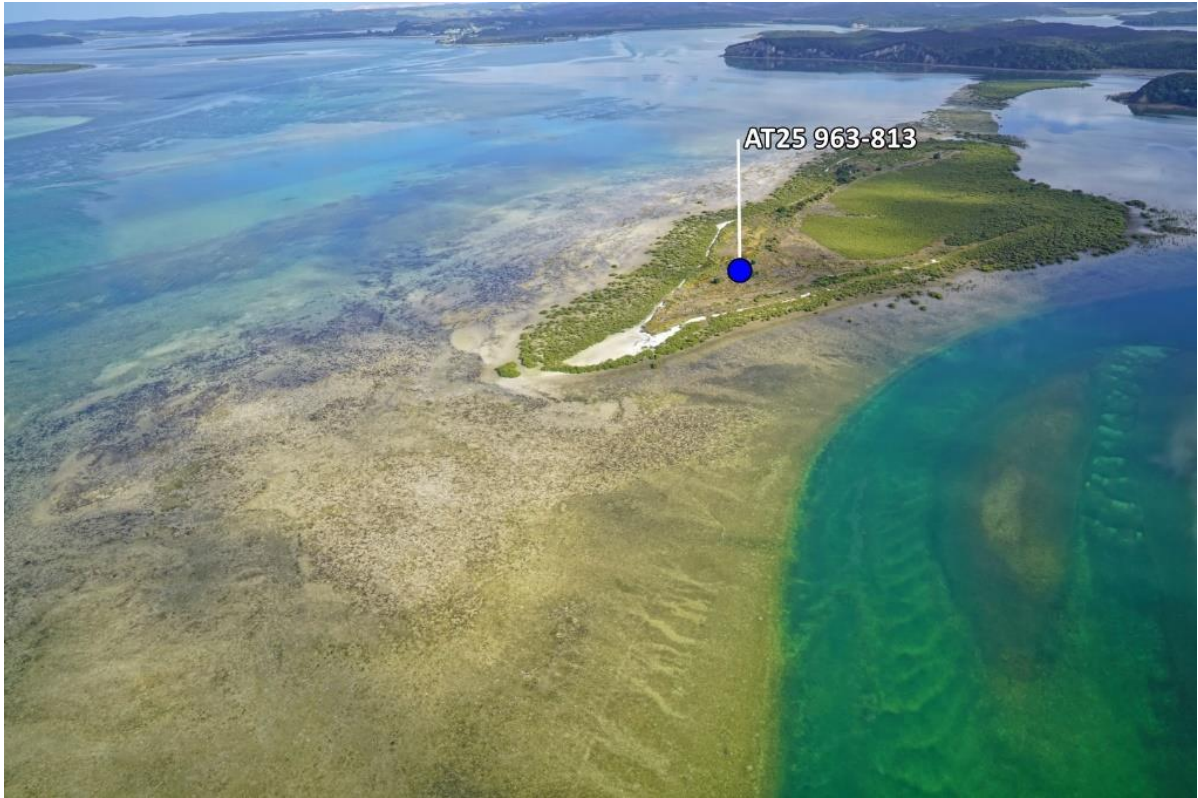


**Figure 41:** AT25 944-857, AT25 944-854





**Figure 42:** AT25 963-813





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