Rangaunu 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[1] 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

Rangaunu is a shallow drowned valley estuarine system on the east coast of the Northland peninsula. A total of 2,935 hectares of mangrove and 480 hectares of saltmarsh have been mapped. Seventy-one saltmarsh habitats, with an area of 259 hectares (Figure 1 & Table 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 Rangaunu Harbour

Reference	Area (m^2)
AU26 253-284	375,085
AU26 263-278	120,660
AV26 225-247	12,808
AU26 220-342	69,736
AU26 234-268	21,189
AV26 223-244	11,134
AV26 223-246	10,718
AV26 208-258	24,455
AU26 208-263	19,669
AU26 208-323	235,281
AU26 207-339	12,893
AU26 213-263	6,130
AU26 213-297	68,275
AU26 210-263	66,829
AU26 209-265	11,954
AV26 239-252	10,101
AU26 232-285	6,111
AU26 297-286	36,712
AV26 240-246	9,059
AU26 244-285	10,815
AV26 242-254	11,771
AU26 240-263	22,219
AV26 238-257	6,550
AU26 252-273	8,381

Reference	Area (m^2)
AU26 237-291	28,713
AU26 202-274	45,039
AU26 206-262	10,819
AU26 204-285	9,361
AU26 203-311	152,781
AU26 200-288	17,037
AU26 203-339	12,757
AU26 207-290	29,135
AU26 198-299	14,585
AU26 198-342	17,953
AU26 201-292	9,917
AU26 200-341	20,472
AU26 196-305	27,481
AU26 197-309	6,078
AU26 196-342	10,338
AU26 216-270	11,191
AU26 217-297	15,144
AU26 197-304	5,195
AU26 197-307	14,918
AU26 241-266	6,446
AU26 300-346	5,335
AU26 305-334	111,589
AU26 308-319	166,810
AV26 280-245	28,317

Reference	Area (m^2)
AV26 281-246	6,180
AV26 272-251	7,529
AU26 271-267	154,553
AV26 268-248	38,928
AV26 270-260	37,865
AV26 282-245	6,813
AV26 267-253	9,986
AU26 288-274	5,535
AU26 290-275	6,242
AU26 247-372	5,000
AU26 251-372	57,492
AU26 240-269	13,707
AU26 294-364	7,898
AU26 292-275	8,367
AU26 278-301	8,045
AU26 278-305	46,281
AU26 282-379	11,464
AU26 281-382	6,136
AU26 284-380	141,738
AU26 297-354	21,356
AU26 213-341	7,101
AU26 226-345	8,015

Total	**2,582,179**

A large harbour bordered by the extensive Kaimaumau Wetland, East Beach and the largest mangrove forest in New Zealand, the harbour contains the extensive tidal flats and the inner-harbour Walker Island. The harbour supports many thousand 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).

The harbour is important for tern and gull species with Caspian and white-fronted tern and red-billed gull breeding. There are important populations of Australasian bittern, banded rail, spotless crake and fernbird, as well as shags and royal spoonbills breed locally (Table 2).

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

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

Figure 1: Mangrove and saltmarsh habitat in Rangaunu Harbour

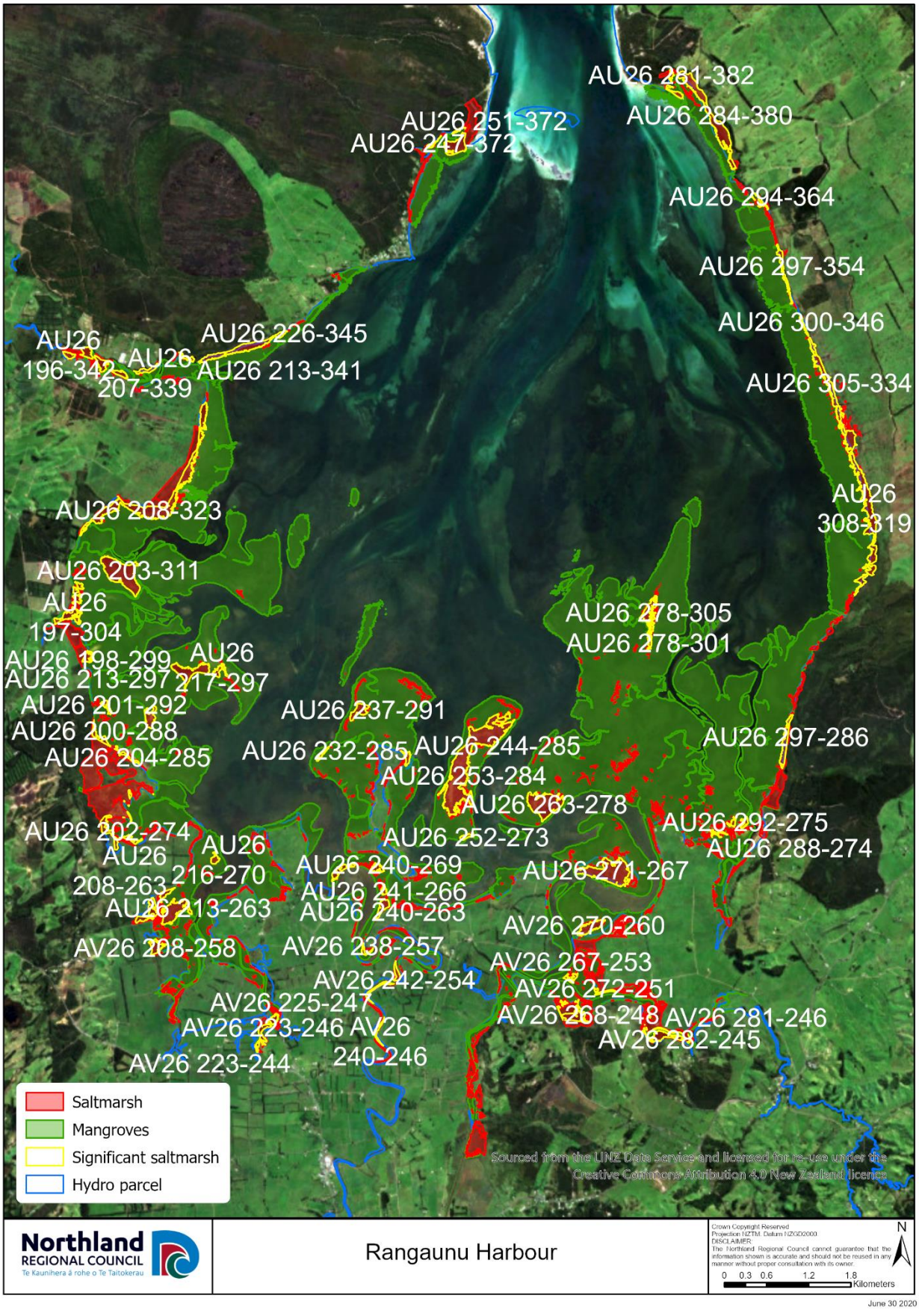

Figure 2: AU26 251-372, AU26 247-372

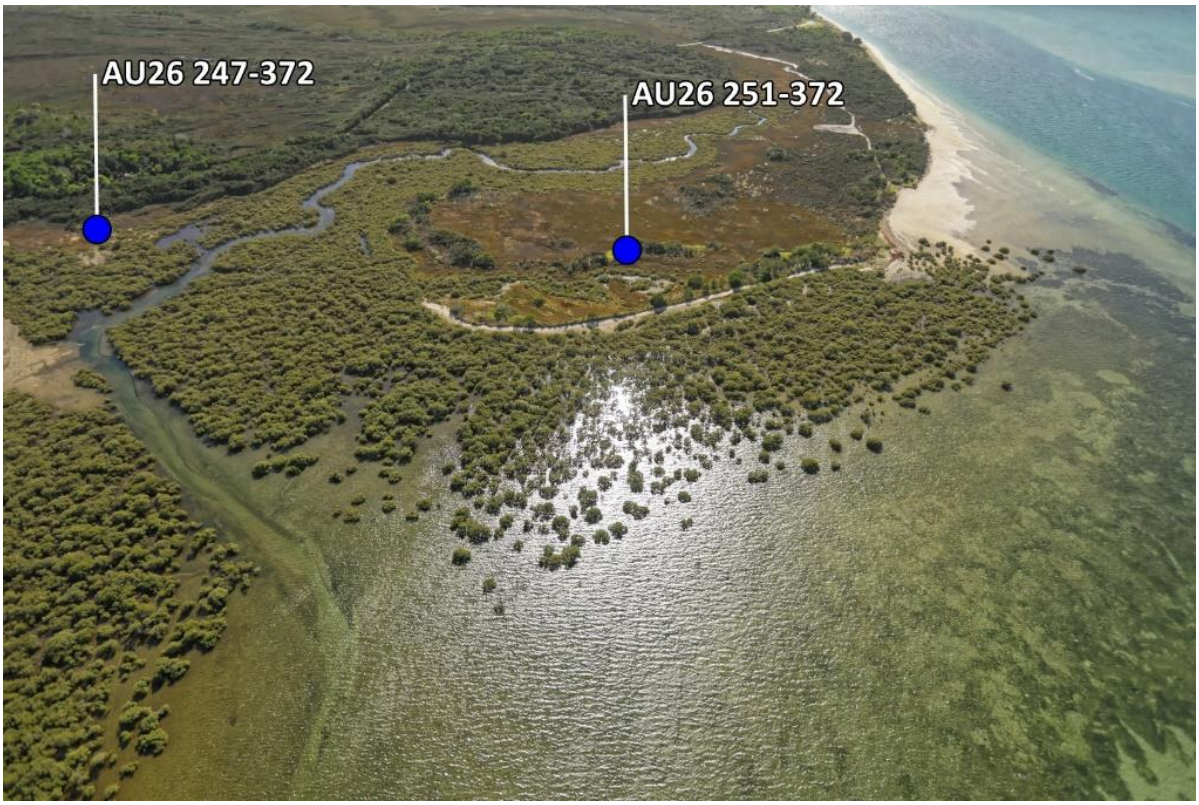

Figure 3: AU26 226-345, AU26 220-342

Figure 4: AU26 213-341, AU26 220-342

Figure 5: AU26 196-342, AU26 200-341

Figure 6: AU26 198-342, AU26 200-341

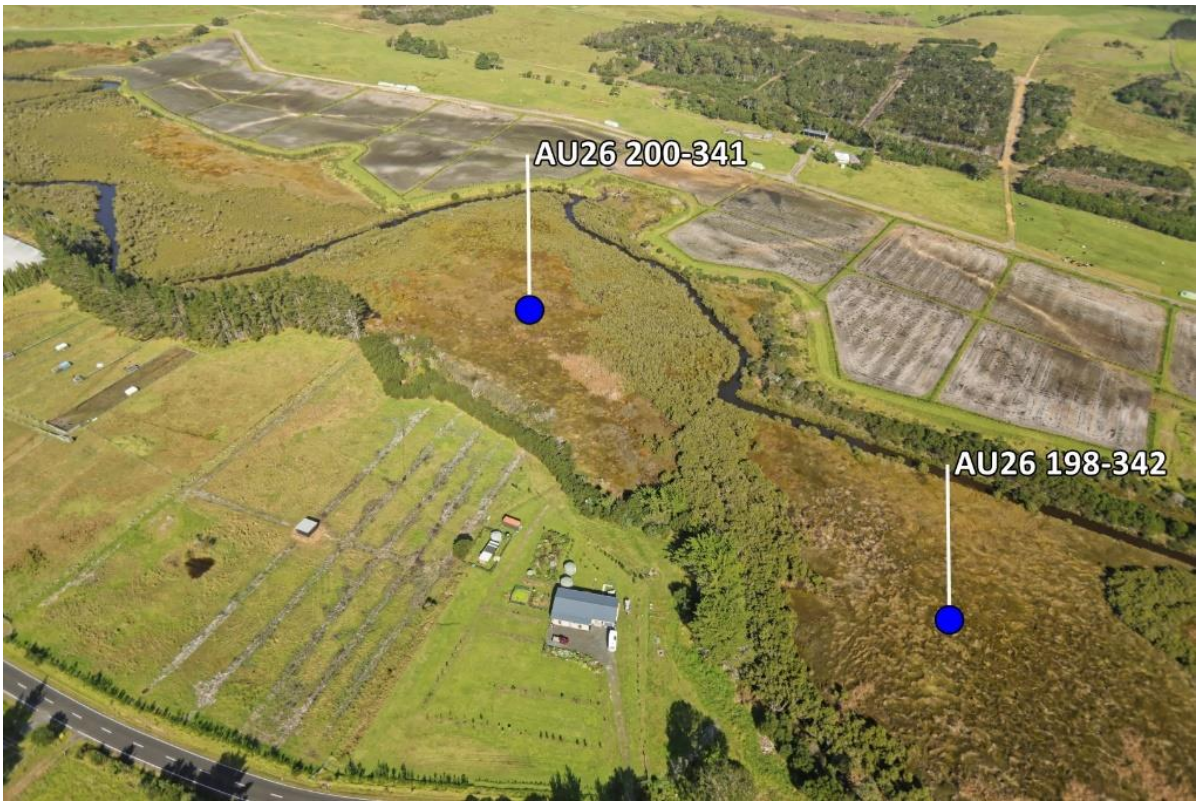

Figure 7: AU26 203-339

Figure 8: AU26 207-339

Figure 9: AU26 220-342

Figure 10: AU26 208-323

Figure 11: AU26 203-311

Figure 12: AU26 197-307, AU26 197-309

Figure 13: AU26 197-304, AU26 196-305

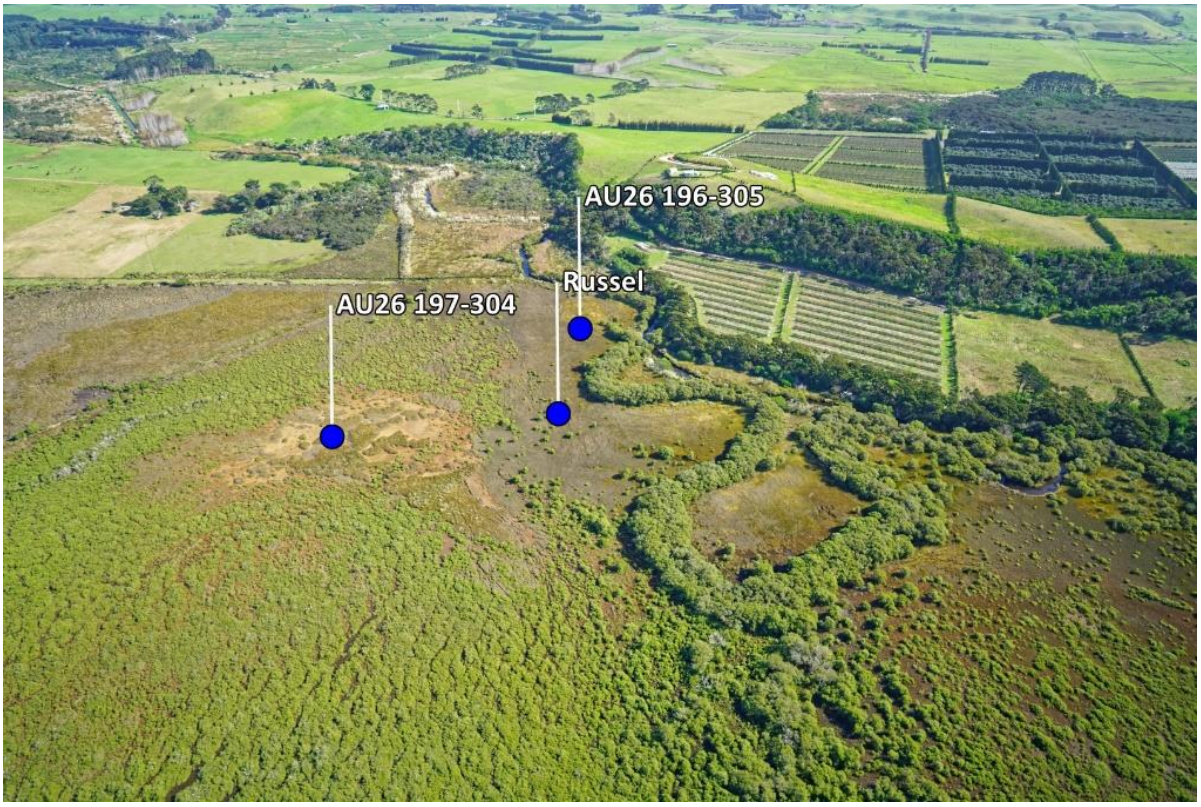

Figure 14: AU26 198-299

Figure 15: AU26 213-297

Figure 16: AU26 207-290

Figure 17: AU26 201-292

Figure 18: AU26 200-288

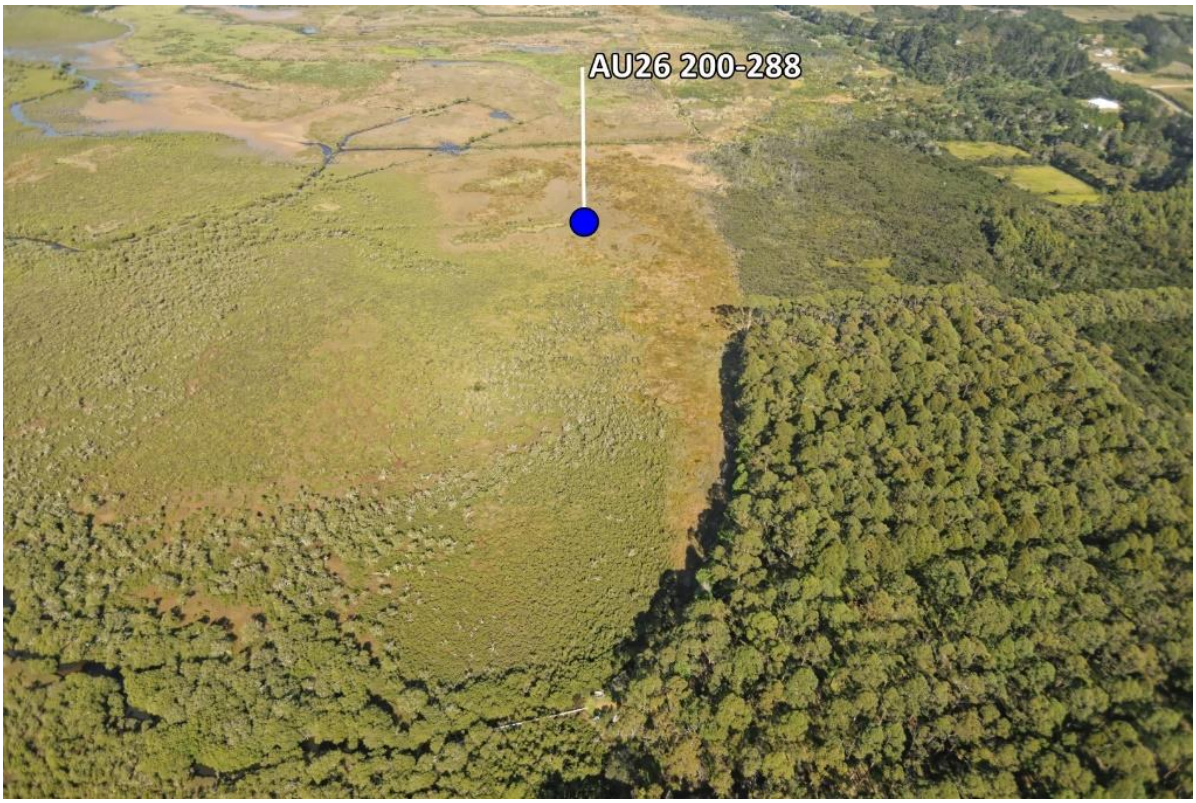

Figure 19: AU26 204-285

Figure 20: AU26 202-274

Figure 21: AU26 202-274

Figure 22: AU26 202-274

Figure 23: AU26 202-274

Figure 24: AU26 216-270

Figure 25: AU26 209-265

Figure 26: AU26 206-262, AU26 208-263

Figure 27: AU26 210-263, AU26 208-263

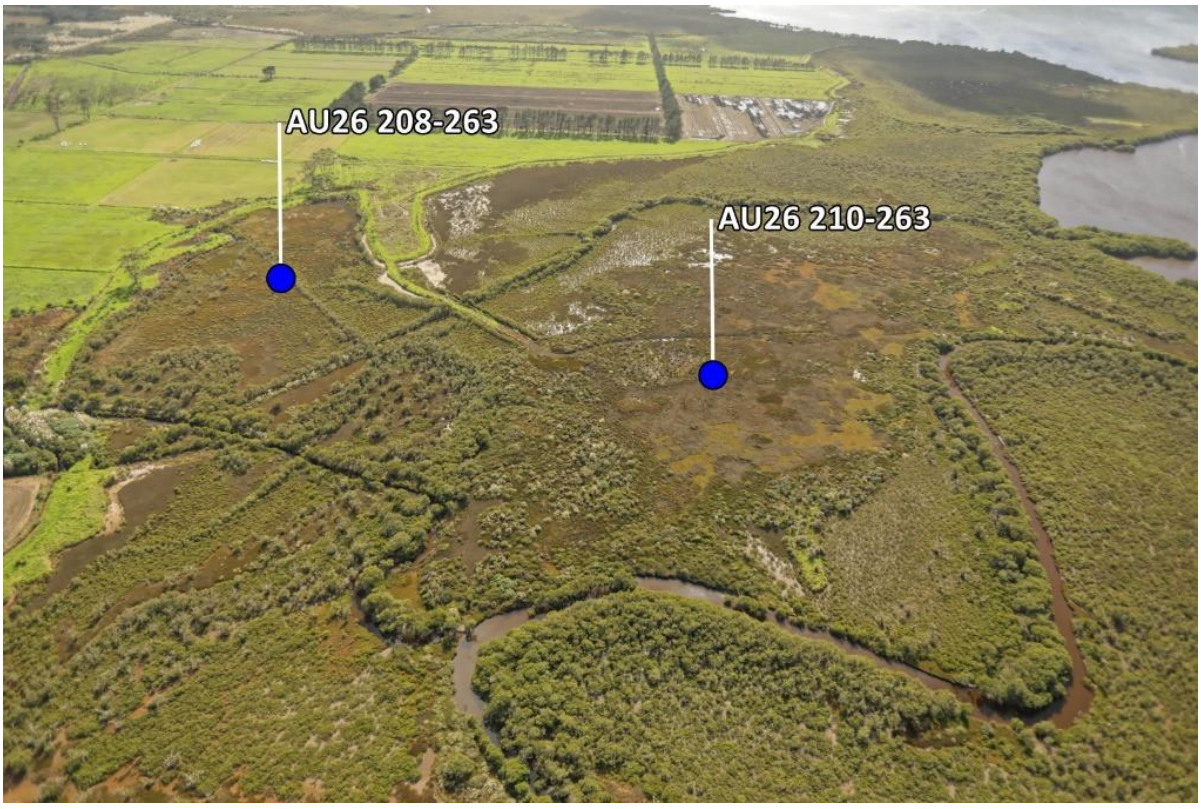

Figure 28: AV26 208-258

Figure 29: AV26 225-247

Figure 30: AV26 225-247

Figure 31: AV26 223-246, AV26 223-244

Figure 32: AV26 240-246

Figure 33: AV26 239-252

Figure 34: AV26 238-257

Figure 35: AU26 240-263

Figure 36: AU26 241-266

Figure 37: AU26 234-268

Figure 38: AU26 240-269

Figure 39: AU26 232-285

Figure 40: AU26 244-285

Figure 41: AU26 237-291

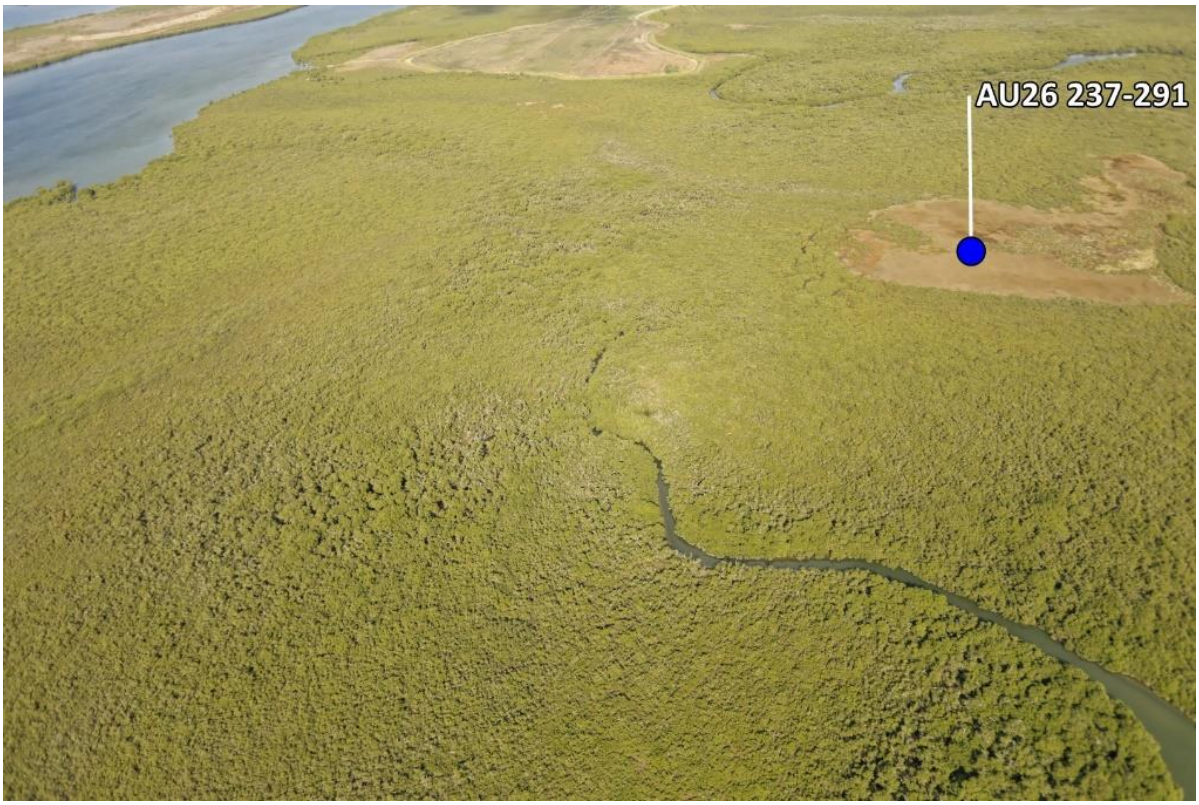

Figure 42: AU26 253-284, AU26 252-273

Figure 43: AU26 253-284

Figure 44: AU26 263-278

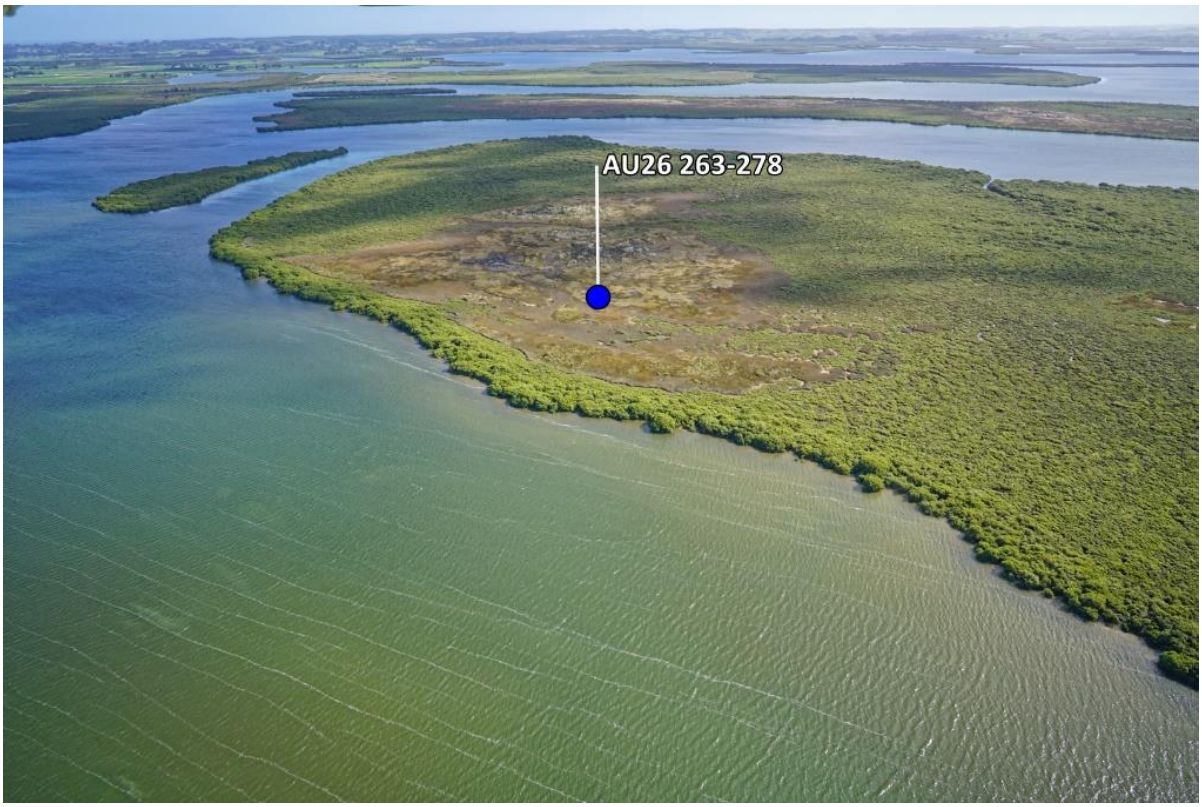

Figure 45: AV26 282-245, AV26 281-246

Figure 46: AV26 282-245, AV26 281-246, AV26 280-245

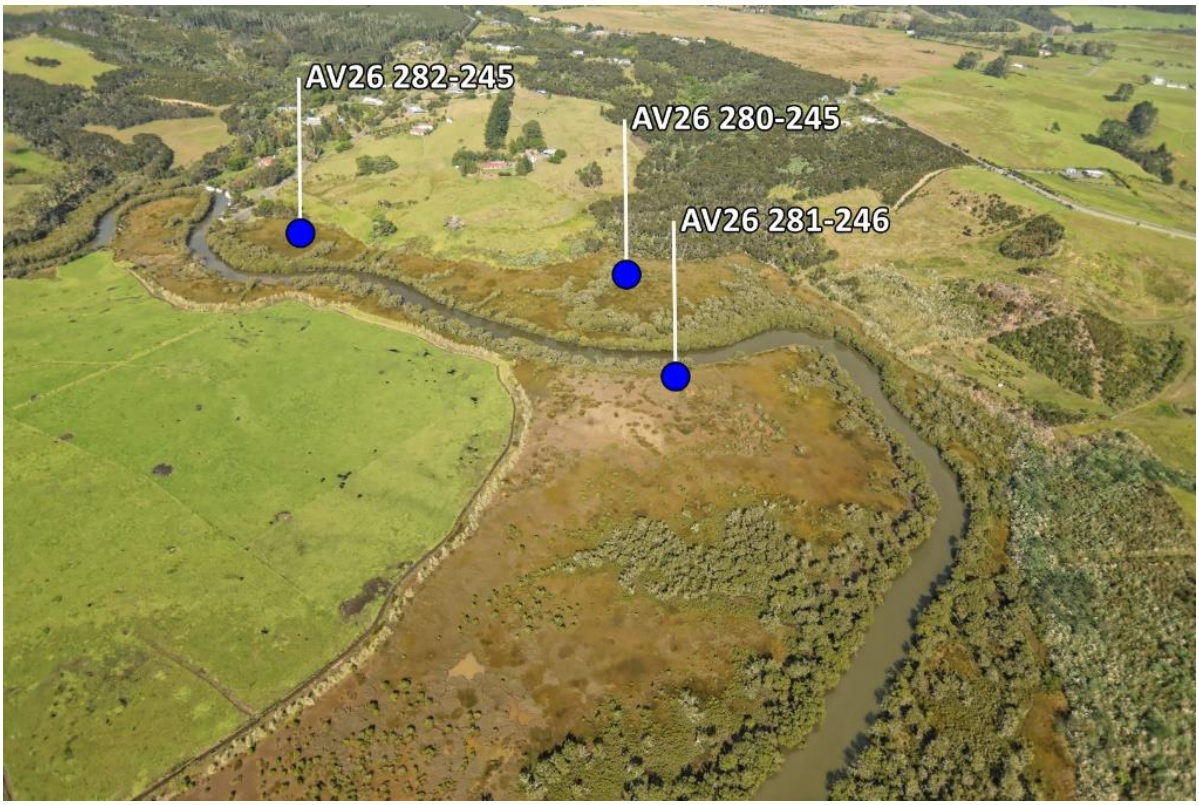

Figure 47: AV26 272-251, AV26 267-253

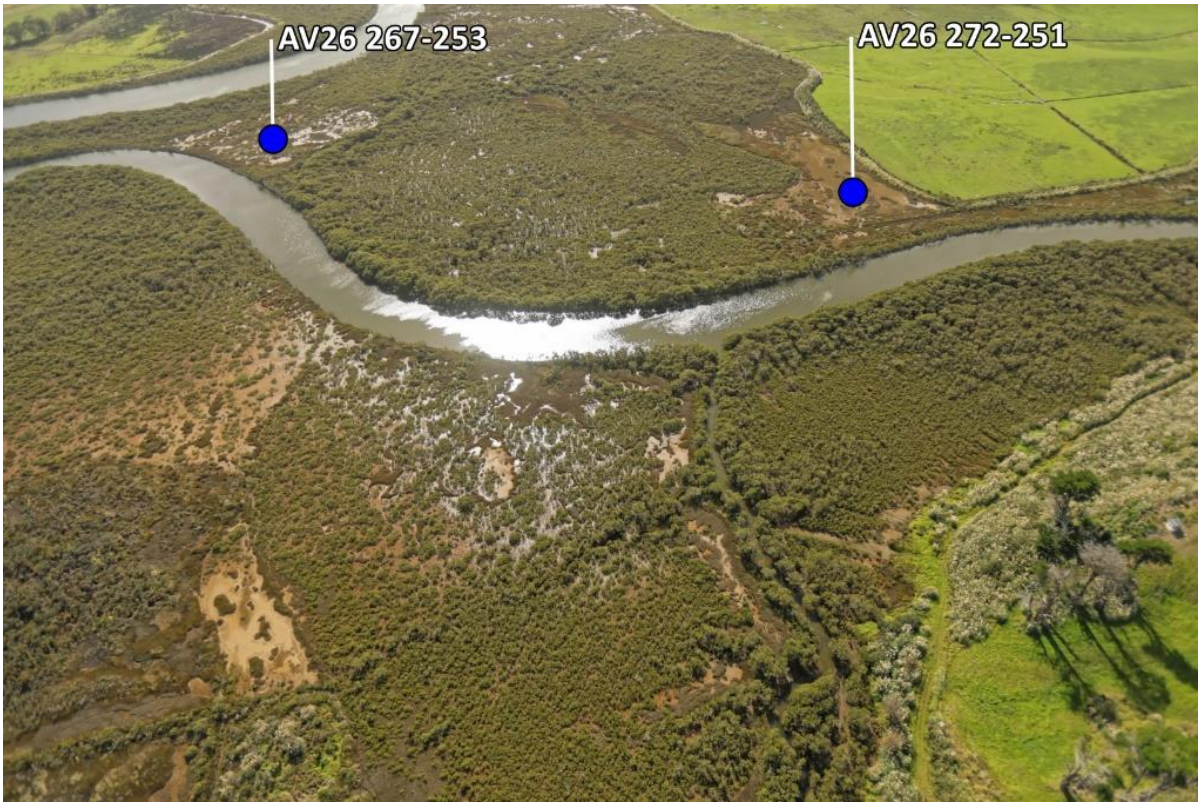

Figure 48: AV26 268-248

Figure 49: AU26 271-267

Figure 50: AV26 270-260

Figure 51: AU26 288-274, AU26 290-275, AU26 292-275

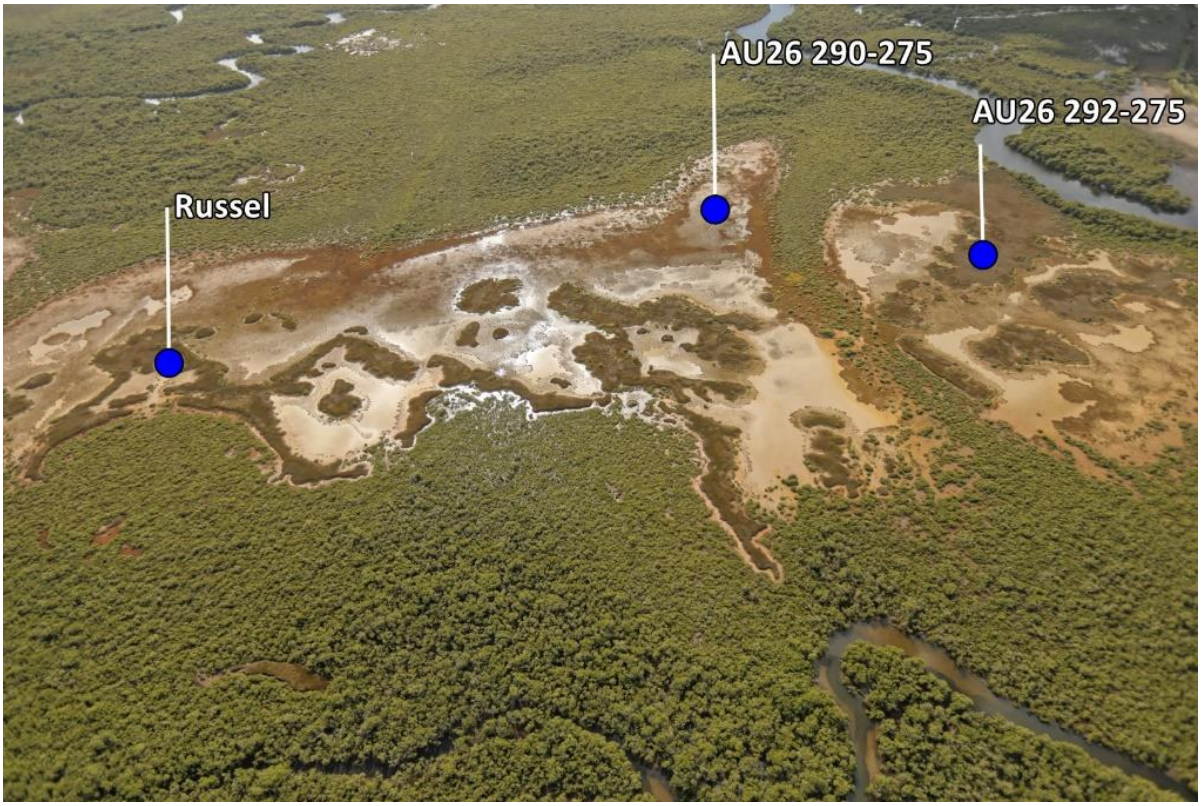

Figure 52: AU26 297-286

Figure 53: AU26 308-319

Figure 54: AU26 308-319

Figure 55: AU26 305-334

Figure 56: AU26 305-334

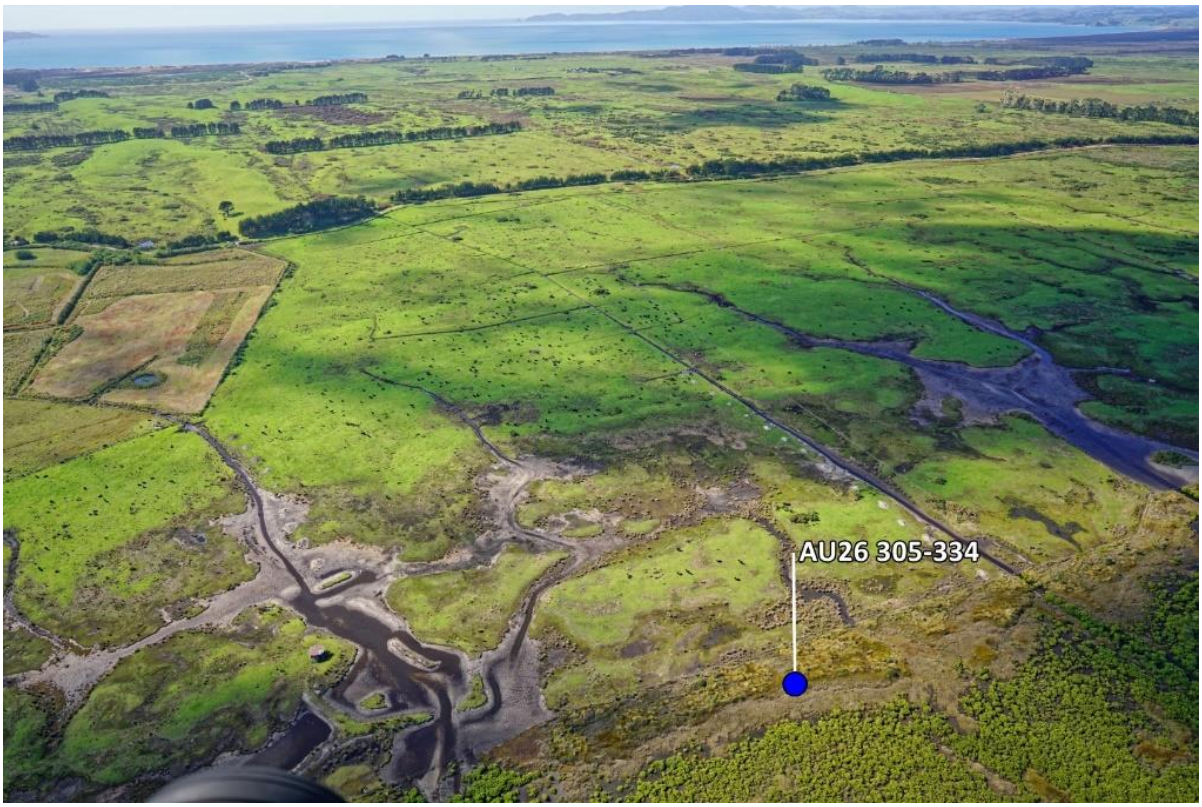

Figure 57: AU26 300-346

Figure 58: AU26 294-364

Figure 59: AU26 282-379, AU26 284-380

Figure 60: AU26 284-380, AU26 281-382, AU26 282-379

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