Tārerekautuku / Yarrs Lagoon: a brief description and a plant checklist

Joe Potter Butler

Author's note

For the past year (at the time of writing) I have worked as part of a team of contractors at Tārerekautuku / Yarrs Lagoon carrying out restoration work for the Selwyn District Council. The work itself is beyond the scope of this article. However, it is worth mentioning to give the reader an idea of the opportunity I have had to explore and observe. My co-workers and I have walked to all corners, through all seasons as part of the work. This article and plant list are based on the observations we have made during our time so far in "Yarrs".

Introduction

Tārerekautuku / Yarrs Lagoon (TYL) is a wetland located in the Low Plains Ecological District (ED) within the Canterbury Plains Ecological Region (ER) (McEwen 1987). It lies approximately 3.0 km south of Lincoln township, 7.5 km west of the Port Hills, and 4.5 km north of the shores of Te Waihora / Lake Ellesmere (Figure 1).

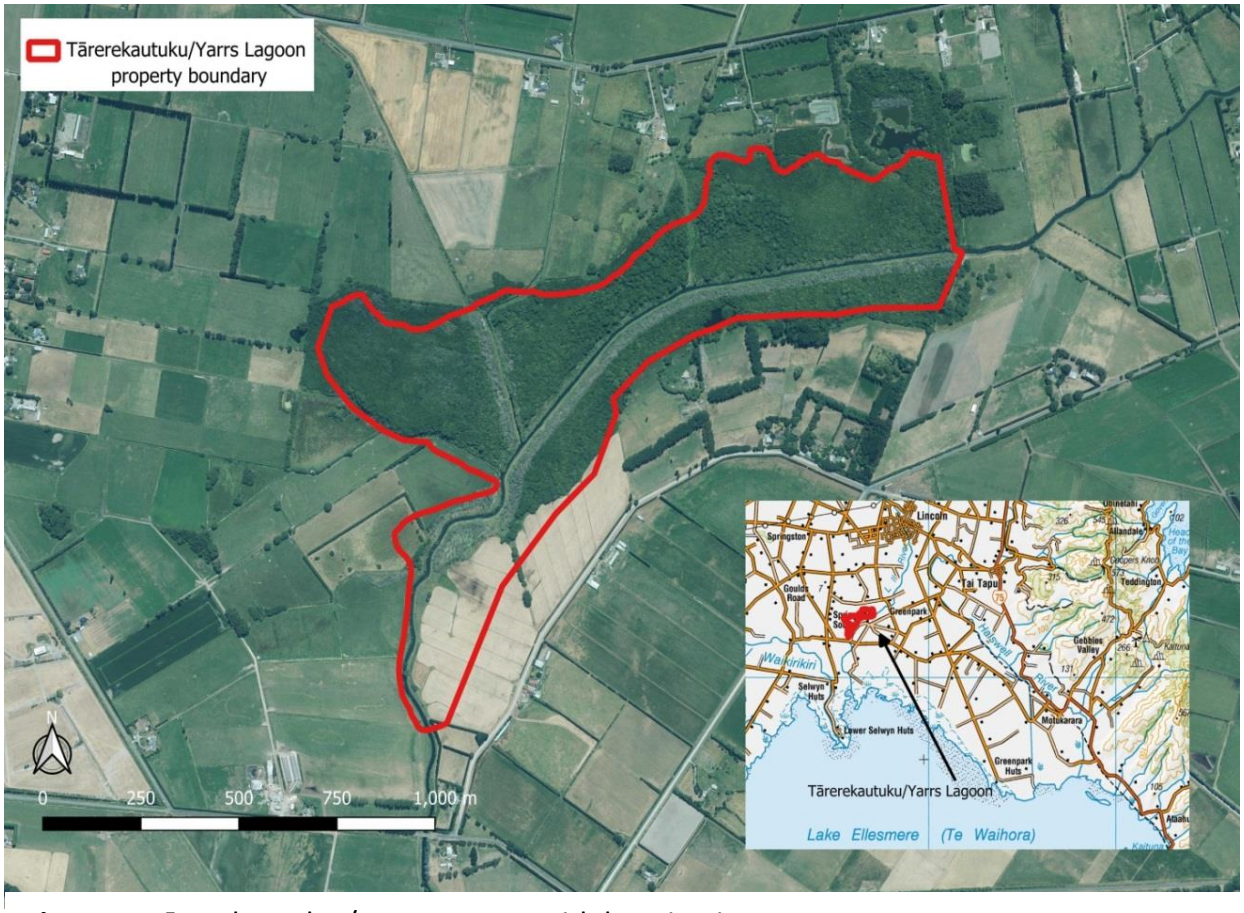

Figure 1. Tārerekautuku / Yarrs Lagoon with location inset.

A broad delimitation of TYL would include approximately 83 ha of ecologically continuous wetland vegetation across several properties. A strict delimitation would include only the 76.9 ha (Figure 1) held by the Selwyn District Council (SDC) as a local works reserve under the Public Works Act (1981) (Hooson et al. 2020). This article and plant lists concern an "in-between" delimitation, with the property boundaries containing the vast majority of the wetland (and species observed), but with some of the included species observed outside these boundaries.

In a 2017 scoping report by Boffa Miskell (Boffa Miskell 2017), TYL was assessed against the criteria for ecological significance found in Appendix 3 of the Canterbury Regional Policy Statement 2013 (Environment Canterbury 2013). It was determined to be ecologically significant, meeting the criteria for representativeness (criteria 1 and 2), rarity/distinctiveness (criteria 3, 4 and 5), diversity and pattern (criterion 7), and ecological context (criteria 8, 9 and 10).

Brief history

Historical maps ("Black maps") from the mid-1800s show that almost all of TYL was at that time an open water body (Figure 2). Following European settlement, wetlands across Canterbury were "reclaimed" (drained) for development as farmland or settlements (Pawson & Holland 2008). TYL was no exception, and aerial photos from 1940-1945[1]

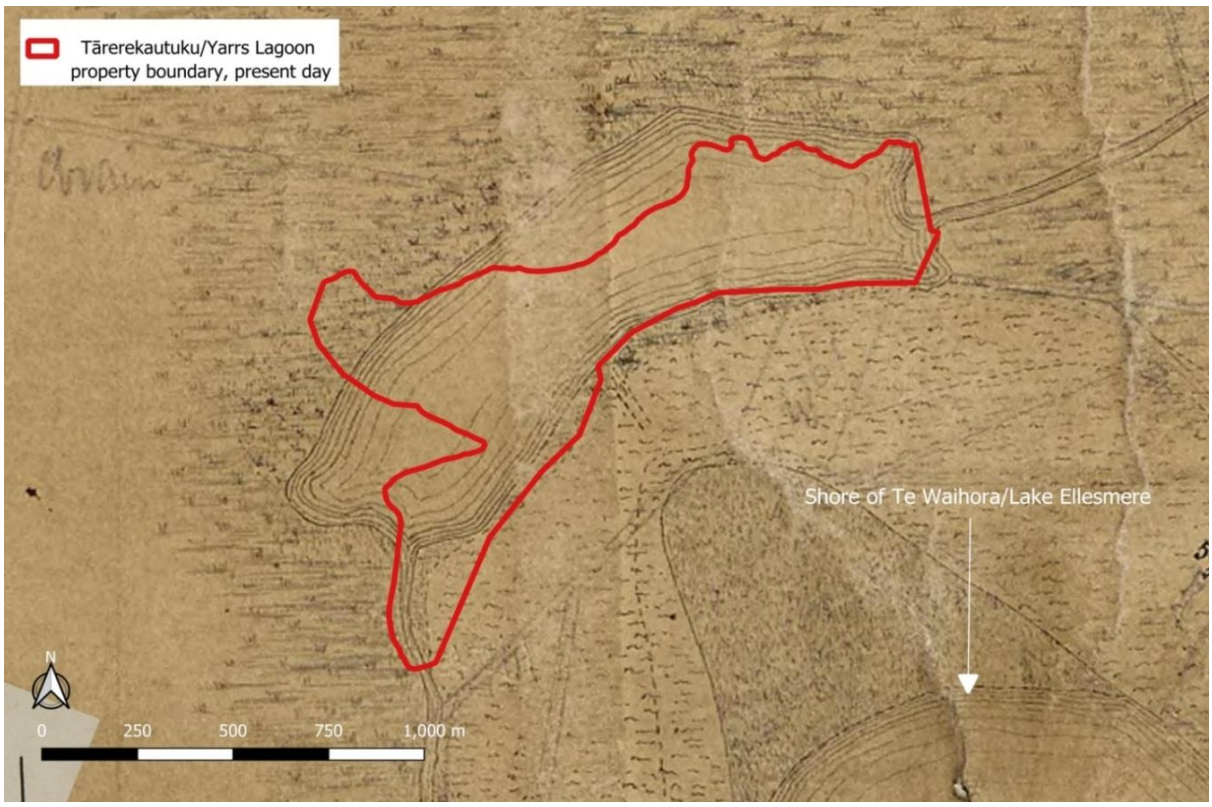

Figure 2. Tārerekautuku / Yarrs Lagoon historical map from mid-1850s ("Black map") with current boundary in red.

[1] https://www.arcgis.com/home/webmap/viewer.html?basemapUrl=https://tiles.arcgis.com/tiles/RNxkQaMWQcgbiF98/arcgis/rest/services/Canterbury_Imagery_1940_to_1944/MapServer?cacheKey=99a891f1079446da

show it more or less as it is now – no longer an open water body, and with a network of drains cut through it, all flowing into the now channelised Ararira / LII River (Figure 1, p. 31). Nevertheless, today TYL is very wet, with shallow water widespread, the extent of it depending on recent rainfall and whether Te Waihora / Lake Ellesmere is open to the sea. There are deeper areas too, formed where large trees have blown over and their roots have lifted divots, or where old, now-disused drains have been cut.

Vegetation cover

Willow forest

Almost all of TYL is dominated by willow (*Salix* spp.), and the vast majority of that is grey willow (*Salix cinerea*), with crack willow (*Salix* x*fragilis*) more or less following the banks of the Ararira / LII river and the various drains that now flow into it or did in the past. Where the grey willow is young and dense, it out-competes indigenous plant life, crowding and shading it; where it is large (from 6-7 m upwards) it is facilitative, forming a shady forest canopy and supporting a diverse and mostly indigenous understorey. The understorey is composed mostly of a small number of common to abundant native species, with a much larger number of scattered to very rare species (common, abundant, and scattered to very rare within Tārerekautuku / Yarrs Lagoon) adding diversity.

A typical scene in the understorey (Figure 3), working from the bottom up, looks like this: In shallow, pooled water, duckweed (*Lemna disperma*) and *Azolla rubra* are abundant; in other pools and on wet mud *Hydrocotyle pterocarpa*, *Isolepis distigmatosa* and *Ranunculus* spp. (mostly *Ranunculus macropus*) are common. *Carex virgata* and swamp kiokio (*Blechnum minus)* are abundant, reaching hip-height. Above these are *Coprosma*

Figure 3. Typical willow forest understorey.

x*cunninghamii* shrubs or small trees (abundant), and tī/cabbage trees (*Cordyline australis*) (very common) of all heights, some stretching to several metres for light. There is also usually one or two kōhūhū (*Pittosporum tenuifolium*). Depending on location, there might also be any of a number of those species that are less common to rare in TYL. Three podocarp species are present: kahikatea (*Dacrycarpus dacrydioides*), mataī (*Prumnopitys ferruginea*) and tōtara (*Podocarpus totara*). These podocarps are commonest in the eastern parts of TYL (Figure 4), and largest there too, with one kahikatea reaching 10 m and two mataī exceeding 7 m in height (Table 1, p. 38). There are eight further flowering tree species, with māhoe very common in eastern parts, especially where spoil from drains has been piled, creating higher and dryer spots. There are nine shrub species with two poroporo (*Solanum laciniatum*) plants known and the other eight species belonging to the genus *Coprosma*, none of which are represented by more than a dozen or so known individuals. Seventeen native species of fern are recorded, most favouring the willow forest understorey. Of these the most surprising is wheki-ponga (*Dicksonia fibrosa*), four individuals of which are known. This species appears to be genuinely wild in TYL, perhaps colonising from nearby garden plants. A number of monocots are found, the most significant of which are four square (*Lepidosperma australe*), bush astelia (*Astelia fragrans*), and dwarf bog rush (*Schoenus maschalinus*).

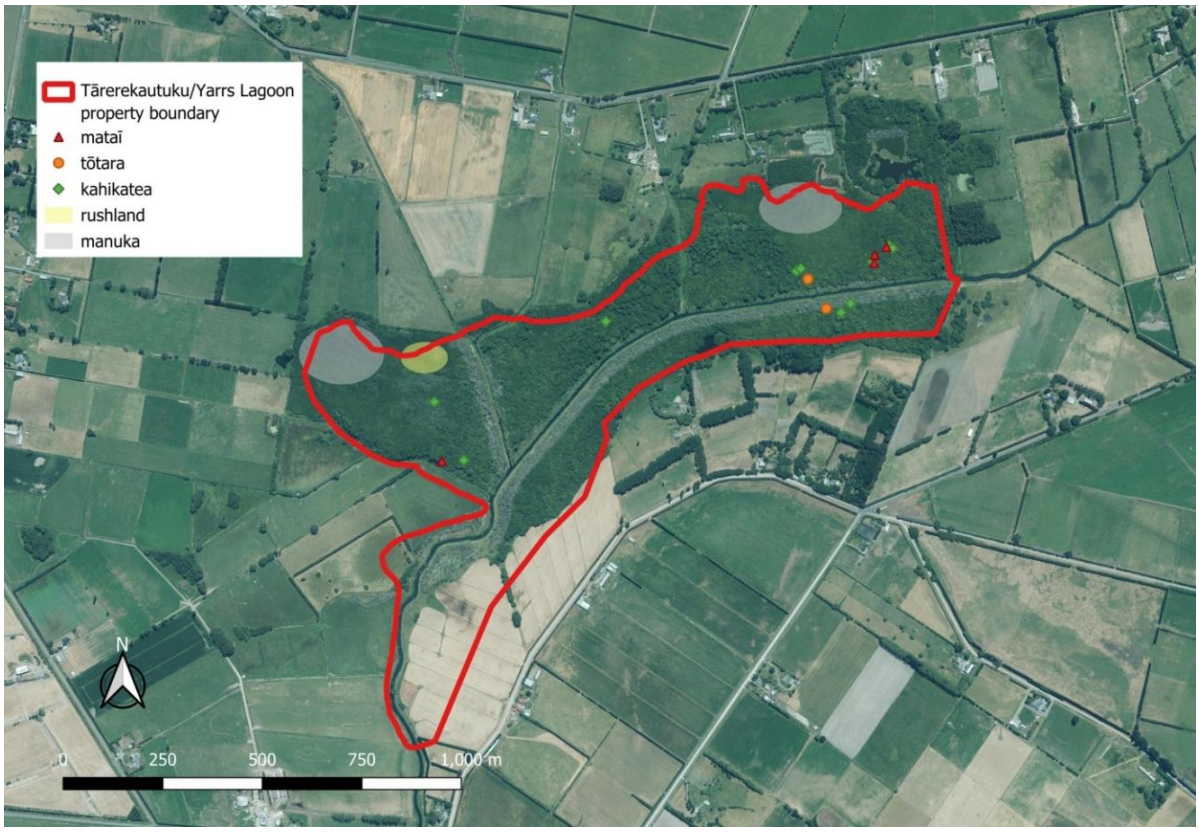

Figure 4. Tārerekautuku / Yarrs Lagoon showing botanical features of note. The podocarps' locations are exact, taken from gps waypoints. The mānuka and rushland locations and extents are approximate.

Rushland

In the northwest of TYL there is one of the two significant exceptions to willow's rule – the so-called rushland (Figure 5). This is a misnomer; the area is in fact dominated by two arundinaceous sedges: baumea (*Machaerina rubiginosa*), which is regionally rare and near its southern limit, and (to a lesser extent) spike sedge (*Eleocharis acuta*). The rushland is the exclusive home in TYL of two species of native violet, *Viola lyallii* (abundant within the rushland), and *Viola cunninghamii*, which is currently down to just a few individuals, but was reportedly more common in the past. *Juncus planifolius*, *Hypericum pusillum,* and silverweed (*Argentina anserinoides*) are all found in the rushland but are rare to absent elsewhere. Several other species of monocot and dicot herb are mostly or exclusively found in the rushland (Table 2, p. 39 - Checklist A). The existence of the rushland in the

Figure 5. The "rushland".

face of aggressively invading grey willow has depended on past grazing by stock. Historical aerial imagery from 1970-1974 (Figure 6, p.36), shows that at that time the present-day site of the rushland was fenced and grazed. The recent removal of grazing from this area caused it to be mostly colonised by willow by the time aerial images were taken between 2015 and 2019[2]. However, control of willow alone may not be enough for the rushland to persist; it is also being colonised by *Coprosma* x*cunninghamii* and mānuka (*Leptospermum scoparium*). It may be that its future would require some kind of managed disturbance regime.

[2]https://www.arcgis.com/home/webmap/viewer.html?basemapUrl=https%3A%2F%2Fgisbasemap.ecan.govt.nz%2Farcgis%2Frest%2Fservices%2FImagery%2FCanterbury_Imagery_2015_2019%2FMapServer&source=sd

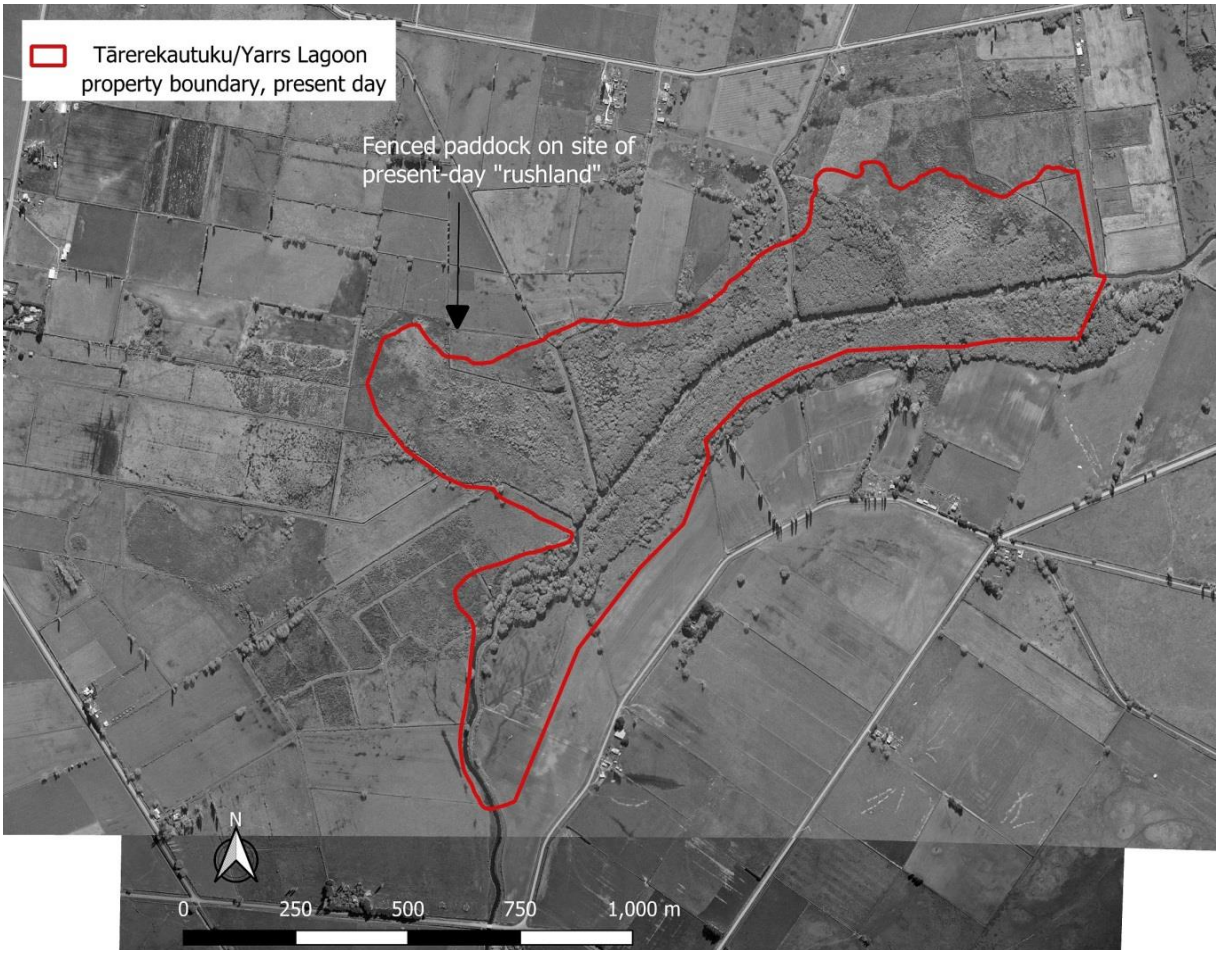

Figure 6. Historical aerial imagery of Tārerekautuku / Yarrs Lagoon (1970-1974) showing fenced paddock at the site of what is now the "rushland".

Mānuka

The other exceptions to the dominance of willow in TYL are the two significant stands of mānuka (Figure 7, p. 37), one at its western end and one at its eastern (Figure 4, p. 34). The very tallest of the mānuka reach approximately 5 m. Where grey willow is not too thick among the mānuka there is an understorey similar to that beneath the willow, although generally less dense and diverse. Spanish heath (*Erica lusitanica*) is common in both mānuka stands and almost absent outside them. Both stands are under serious threat from grey willow. Mānuka is uncommon in the low plains ecological district and classified nationally as At Risk - Declining (de Lange et al. 2018).

Weeds

It is remarkable which weeds are *not* yet established in TYL. Absent are some of the most serious wetland and forest weeds in Canterbury. The list of absent weeds includes old man's beard (*Climatis vitalba*) (although see Table 3, p. 43 - Checklist B), beggar's tick (*Bidens frondosa*), yellow-flag iris (*Iris pseudacorus*), and great willowherb (*Epilobium hirsutum*).

Setting aside the willows, the most serious weed established in TYL is English ivy (*Hedera helix*), which is widespread and in places forms a smothering groundcover. Blackberry (*Rubus fruticosus* agg.) is common throughout and can be dense and competitive where there is sufficient light, but weak and thin on the ground where there is good canopy cover.

Figure 7. Western mānuka stand.

Three wetland herbs have their "feet in the door" with a few small, widely spread patches. These are arum lily (*Zantedeschia aethiopica*), Italian arum (*Arum italicum*), and stinking iris (*Iris foetidissima*). These have the potential to spread widely in TYL.

There are a couple of oddities among the recorded weeds. Common polypody (*Polypodium vulgare*) is well-known in Canterbury as a weed of rock outcrops in the Port Hills. In TYL it is found under the shade of willow canopy, always epiphytic on logs or branches, often with hound's tongue fern (*Microsorum pustulatum*). For now, it does not seem very vigorous or competitive. Chusan palm (*Trachycarpus fortunei*) has been found in western parts of TYL - four plants to date - no doubt brought in by birds from a nearby garden.

References

Boffa Miskell Limited. 2017. Tārerekautuku / Yarrs Lagoon Reserve: Scoping Report. Report prepared by Boffa Miskell Limited for Living Water.

de Lange PJ, Rolfe JR, Barkla JW, Courtney SP, Champion PD, Perrie LR, Beadel SM, Ford KA, Breitwieser I, Schönberger I, Hindmarsh-Walls R, Heenan PB, Ladley K. 2018. Conservation status of New Zealand indigenous vascular plants, 2017. New Zealand Threat Classification Series 22. Wellington: Department of Conservation.

Environment Canterbury. 2013. Canterbury Regional Policy Statement 2013. Christchurch: Environment Canterbury.

Hooson S, Pauling C, Noakes K, Rowe D, Hayes D, Spanton S. 2020. Tārerekautuku Yarrs Lagoon – Te Mahere Whakahaere/Draft Reserve Management Plan. Selwyn District Council.

McEwen WM. 1987. Ecological regions and districts of New Zealand. Third revised edition in four 1:500,000 maps. Booklet to accompany Sheet 3: descriptions of districts in central New Zealand, from eastern Wairarapa to Akaroa, also Chathams, not shown on map. Publication No. 5 (in four parts). Part 3. Wellington: New Zealand Biological Resources Centre, Department of Conservation.

Pawson E, Holland P. 2008. People, environment and landscape since the 1840s. In: Winterbourn M, Knox G, Burrows C, Marsden I. (Eds.), The Natural history of Canterbury (Third edition), pp. 43-44. Christchurch: Canterbury University Press.

Table 1. Registry of all currently recorded podocarps in Tārerekautuku / Yarrs Lagoon. Individual codes beginning with a "K", kahikatea; "M", mataī; "T", tōtara. For foliage "j" indicates that the foliage is entirely juvenile; "j>" mostly juvenile; "a" entirely adult; "a>" mostly adult. More information is available at https://inaturalist.nz/projects/tarerekautuku-yarrs-lagoon-podocarp-monitoring

Individual codes	Height (m)	dbh (cm)	Easting (NZTM)	Northing (NZTM)	Foliage
KI	0.25	N/A	1555768	5162982	j
KIX	0.35	N/A	1556234	5163216	j
KII	1.6	1.5	1556789	5163207	j
KVII	2	1.25	1555842	5162835	j
KVI	2.1	1.3	1556868	5163335	j
KIII	3.4	7	1556813	5163230	j>
KV	3.95	2.8	1556868	5163335	j>
KIV	3.97	3.5	1556918	5163369	a>
KX	5.25	5	1556688	5163318	j>
KXI	4.7	3.5	1556674	5163311	j
KVIII	10	18.2	1556910	5163376	a
MIV	0.28	N/A	1555787	5162833	j
MIII	2.84	4.1	1556903	5163372	a>
MI	7	12	1556872	5163332	a
MII	7.3	11.1	1556874	5163352	a
TII	1.5	N/A	1556706	5163291	N/A
TI	1.6	1.5	1556752	5163217	N/A

Table 2. Checklist A - native vascular plants. Notes: **Tārerekautuku / Yarrs Lagoon Abundance (TYA):** A, widespread, abundant; B, widespread, common; C, widespread but scattered/thin on the ground; D, common in some areas but rare or absent elsewhere; E, uncommon; F, only a very few plants or patches known. **Low Plains Status (LPS)** (M. Hutchison et al. Unpublished data): C, common; U, uncommon; -, no data/uncertain. **National Threat Status (NTS)** (de Lange et al. 2018): NT, not threatened; AR-D, At-risk – Declining; DD, data deficient; D, quite common in places but rare or absent elsewhere; E, uncommon; F, only a very few plants or patches known. **Other Codes (OC):** 1, mostly or entirely restricted to the "rushland"; 2, not seen by author - inclusion based on other records; 3, identification uncertain; 4, known from a single plant. Note: footnotes at end of table.

Species	**Common name**	**TYA**	**LPS**	**NTS**	**OC**
CONIFERS					
Dacrycarpus dacrydioides	kahikatea	F	U	NT	
Prumnopitys taxifolia	mataī	F	U	NT	
Podocarpus totara	lowland tōtara	F	U	NT	
FLOWERING TREES		**TYA**	**LPS**	**NTS**	**OC**
Griselinia littoralis	broadleaf, kāpuka	D	U	NT	
Leptospermum scoparium	mānuka, tea tree	D	U	NT	
Melicytus ramiflorus[3]	māhoe, whiteywood	D	U	NT	
Myrsine australis	māpou	E	U	NT	
Pittosporum eugenioides	tarata	C	U	NT	
Pittosporum tenuifolium	kōhūhū	B	U	NT	
Pseudopanax arboreus	five-finger, whauwhaupaku	F	U	NT	4
Pseudopanax crassifolius	lancewood, horoeka	F	U	NT	4
SHRUBS		TYA	LPS	NTS	OC
Coprosma areolata	thin-leaved coprosma	F	U	NT	4
Coprosma dumosa	mingimingi, mikimiki	F	U	NT	4
Coprosma crassifolia	thick-leaved coprosma, mikimiki	F	U	NT	
Coprosma propinqua[4]	mingimingi, mikimiki	E	U	NT	
Coprosma rhamnoides	mingimingi, mikimiki	F	U	NT	
Coprosma rigida	stiff coprosma	F	-	NT	
Coprosma robusta	karamū	C	C	NT	
Coprosma virescens	mikimiki	F	-	AR-D	4
Coprosma x cunninghamii		A	U	-	
Solanum laciniatum	poroporo	F	U	NT	

VINES		TYA	LPS	NTS	OC
Muehlenbeckia australis	large-leaved pōhuehue	D	C?	-	
Muehlenbeckia complexa	scrub pōhuehue, wire vine	D	U	NT	
Rubus schmidelioides	bush lawyer, tātarāmoa	F	U	NT	4
Urtica perconfusa	swamp nettle	E/F	U	AR-D	
DICOT HERBS		TYA	LPS	NTS	OC
Cardamine dolichostyla	panapana	D	U	NT	3[5]
Centella uniflora	centella	E	U	NT	1
Cotula coronopifolia	bachelor's button	F	U	NT	1
Epilobium billardiereanum ssp. *billardiereanum*	willow herb	F	U	NT	1, 4
Galium trilobum	native bedstraw	F	-	NT	1
Hydrocotyle heteromeria	pennywort	F	C	NT	
Hydrocotyle novae-zeelandiae	pennywort	D	U	NT	
Hydrocotyle pterocarpa	pennywort	A	-	NT	
Hypericum pusillum	swamp hypericum	F	U	NT	1
Persicaria decipiens		F	U	NT	
Potentilla anserinoides	silverweed	F	U	NT	1
Potamogeton cheesemanii	red pondweed, mānihi	F	U	NT	
Pseudognaphalium luteoalbum	jersey cudweed	C	C	NT	
Ranunculus glabrifolius	buttercup, waioriki	C	U	NT	
Ranunculus macropus		B	U	DD	
Senecio glomeratus	native groundsel, fireweed	E	C	NT	
Senecio minimus	native fireweed	E	-	NT	
Viola cunninghamii		F	U	NT	1
Viola lyallii		E	U	NT	1
MONOCOTS EXCL. POALES		TYA	LPS	NTS	OC
Apodasmia similis	oioi	F	U	NT	1
Astelia fragrans	kakaha, bush lily	D	U	NT	
Cordyline australis	cabbage tree, tī kōuka	B	U	NT	
Corybas sp.	spider orchid	F	-	-	2
Lemna disperma	common duckweed	B	C	NT	
Microtis unifolia	onion orchid, maikaika	E	C	NT	
Phormium tenax	lowland flax, harakeke	D	U	NT	
Triglochin striata		E	U	NT	1
Typha orientalis	raupō, bull rush	E	U	NT	

SEDGES		TYA	LPS	NTS	OC
Carex coriacea	cutty grass, rautahi	E	U	NT	2
Carex flagellifera[6]	Glen Murray tussock	F	U	NT	
Carex flaviformis[7]	mania, tussock grass	F	U	NT	
Carex geminata	cutty grass, rautahi	D	U	NT	
Carex maorica	cutty grass, rautahi	B	U	NT	
Carex secta	pūrei, pūkio	B	U	NT	
Carex sinclairii	Sinclair's sedge	F	U	NT	2
Carex virgata	swamp sedge	A	U	NT	
Eleocharis acuta	sharp spike sedge	D	U	NT	
Eleocharis gracilis	slender spike sedge	F	U	NT	
Isolepis cernua	slender club rush	F	U	NT	
Isolepis distigmatosa		B	U	NT	
Isolepis prolifera		E	U	NT	
Isolepis reticularis		F	U	NT	
Lepidosperma australe	square or square-stemmed sedge	E	U	NT	
Machaerina rubiginosa	baumea	C/D	U	NT	
Schoenus maschalinus		C	U	NT	
Schoenus pauciflorus	bog rush	E	U	NT	
Schoenoplectus pungens	three-square	F	U	NT	
RUSHES		**TYA**	**LPS**	**NTS**	**OC**
Juncus caespiticius		F	U	AR-D	
Juncus edgariae	leafless rush, wī	D	C	NT	
Juncus pallidus	giant rush, leafless rush, wī	D	U	NT	
Juncus planifolius	flat-leaved rush	C	U	NT	
Juncus sarophorus	leafless rush, wī	D	U	NT	
GRASSES		TYA	LPS	NTS	OC
Austroderia richardii	toetoe	F	U	NT	4
FERNS		TYA	LPS	NTS	OC
Asplenium appendiculatum	ground spleenwort	C	U	NT	
Asplenium flaccidum	hanging spleenwort, raukatauri	E	U	NT	
Asplenium flabellifolium	necklace fern	E	U	NT	
Asplenium gracillimum	hen & chicken fern	C	U	NT	
Azolla rubra	water fern	B	C?	NT	
Blechnum chambersii	rereti	F	U	NT	2[8], 4

Blechnum fluviatile	kiwakiwa	F	U	NT	4
Blechnum minus	swamp kiokio	A	U	NT	
Blechnum novae-zelandiae[9]	kiokio	F	U	NT	2
Blechnum penna-marina	little hard fern	E	U	NT	
Blechnum procerum	small kiokio	F	U	NT	2[10]
Dicksonia fibrosa	whekī-ponga, golden tree fern	F	-	NT	
Histiopteris incisa	water fern, mātātā	C	U	NT	
Hypolepis ambigua	pig fern	B	U	NT	
Microsorum pustulatum	hounds tongue, kōwaowao	C	U	NT	
Polystichum vestitum	prickly shield fern, pūniu	C	U	NT	
Pteridium esculentum	bracken, rārahu, rauaruhe	C/D	U	NT	

[3] Very common in western parts.

[4] Included here with the caveat that it is hard to find a plant that does not look to have at least a little *C. robusta* in it.

[5] https://inaturalist.nz/observations/110459206

[6] Planted?

[7] Almost all *C. flaviformis*-like plants match the very similar exotic, *C. demissa*. Only a couple of true *C. flaviformis* seen by the author.

[8] https://inaturalist.nz/observations/151898109

[9] There are iNaturalist records of this species and plenty of large-leaved and likely-looking kiokio in TYL. However, all close inspections of the scales made by the author place these large-leaved kiokio in *Blechnum minus* i.e., the scales are uniformly pale brown and lack a dark centre.

[10] https://inaturalist.nz/observations/109358354

Table 3. Checklist B - Exotic vascular plants. Note: **Tārerekautuku / Yarrs Lagoon Abundance (TYA) codes:** A, widespread, abundant; B, widespread, common; C, widespread but scattered/thin on the ground; D, common in some areas but rare or absent elsewhere; E, uncommon; F, only a very few plants or patches known. **Other codes (OC):** 1, mostly or entirely restricted to the "rushland"; 2, not seen by author - inclusion based on other records; 3, identification uncertain; 4, known from a single plant; 5, known plants controlled - possibly no longer present.

Species	Common name	TYA	OC
FLOWERING TREES			
Alnus glutinosa	alder	B	
Acer pseudoplatanus	sycamore	F	3, 4, 5
Betula pendula	silver birch	E	
Crataegus monogyna	hawthorn	C	
Euonymus europaeus	spindle tree	E	
Ilex aquifolium	holly	E	
Ligustrum sinense	Chinese privet	F	
Malus prunifolia	plum-leaved apple	F	3, 5
Salix cinerea	grey willow	A	
Salix ×fragilis	crack willow	B	
Sambucus nigra	elderberry	B	
SHRUBS			
Cotoneaster sp.	cotoneaster	F	4
Erica lusitanica	Spanish heath	D	
Hypericum androsaemum	tutsan	F	4
Rosa multiflora	rambling rose, baby rose	F	2
Rosa rubiginosa	sweet briar, briar rose	E	
Rubus fruticosus	blackberry	B	
Ulex europaeus	gorse	E	
VINES			
Calystegia silvatica	great bindweed	D	
Clematis vitalba	old man's beard	F	4, 5
Hedera helix	ivy	B	
Lonicera japonica	Japanese honeysuckle	F	3, 4
Rubus fruticosus complex	blackberry	B	
Solanum dulcamara	bittersweet	C	
DICOT HERBS			
Anagallis arvensis	scarlet pimpernel	E	

Arctium minus	burdock	F	
Arum italicum	Italian arum	F	
Bellis perennis	daisy	E	
Capsella bursa-pastoris	shepherd's purse	E	
Cerastium glomeratum	annual mouse-ear chickweed	E	
Cirsium arvense	Californian thistle	D	
Daucus carota	wild carrot	E	
Elodea canadensis	oxygen weed	D	
Erythranthe guttata	monkey musk	E	
Galium aparine	cleavers	C	
Linum bienne	pale flax	E	
Lotus pedunculatus	lotus	C	
Malva neglecta	dwarf mallow	F	
Mentha x *piperita*	mint	D	1
Myosotis laxa subsp*. caespitosa*	water forget-me-not	E	
Nasturtium officinale	watercress	D	
Parentucellia viscosa	tarweed	F	
Persicaria hydropiper	water pepper	D	
Persicaria maculosa	water pepper	F	
Plantago lanceolata	narrow-leaved plantain	D	
Potamogeton crispus	curly pondweed	D	
Prunella vulgaris	selfheal	D	
Ranunculus repens	creeping buttercup	C	
Rorippa sylvestris	creeping yellow cress	F	
Rumex crispus	curled dock	E	
Rumex obtusifolius	broad-leaved dock	D	
Sisymbrium officinale	hedge mustard	E	
Sonchus asper	prickly sow thistle	E	
Taraxacum officinale	dandelion	E	
Tripleurospermum inodorum	scentless mayweed	E	
Trifolium fragiferum	strawberry clover	E	
Trifolium pratense	red clover	C	
Trifolium repens	white clover	C	
Zantedeschia aethiopica	arum lily	F	
MONOCOTS excl. POALES			
Allium triquetrum	onion weed	E	
Iris foetidissima	stinking iris, roast beef plant	E	

Trachycarpus fortunei	fan palm, hemp palm	F	5
SEDGES			
Carex demissa	yellow sedge	D	
Carex flacca	carnation sedge	D	
Cyperus eragrostis	umbrella sedge	E	5
RUSHES			
Juncus articulatus	jointed rush	C/D	
Juncus bufonius	toad rush	C/D	
Juncus effusus	soft rush	C/D	
Juncus tenuis	slender rush	C	
GRASSES			
Agrostis stolonifera	creeping bent	C/D	
Anthoxanthum odoratum	sweet vernal	B/C	
Cynosurus cristatus	crested dog's-tail	E	
Dactylis glomerata	cocksfoot	B/C	
Echinochloa crus-galli	barnyard grass	F	
Glyceria declinata	glaucous sweetgrass	D	
Holcus lanatus	Yorkshire fog	D	
Lolium multiflorum	Italian ryegrass	F	
Lolium perenne	ryegrass	D	
Schedonorus arundinaceus	tall fescue	B	
FERNS			
Dryopteris filix-mas	male fern	E	
Polypodium vulgare	common polypody	E	