

MACKAY'S CROSSING, WILDLIFE RESERVE, PAKAKARIKI

The Mackay's Crossing Wildlife Reserve was visited with D. Pike and B. McKinlay for about 1½ hours on the morning of 23 April 1979.

The swamp community is clearly divided into several major vegetation types, by far the greatest in extent being raupo-dominated, which is probably still expanding in area. Other areas are marginal to the central raupo area, and their composition is probably determined by the water level and the history of disturbance (grazing especially)

Broadly, the following associations were seen:

1. Raupo (Bidens "understorey" - throughout?).
2. Crack willow "forest" (marginal strip parallel to S.H.1)
3. Juncus sarophorus/Agrostis stolonifera
4. Scirpus prolifer/Myriophyllum propinquum
(occasionally grazed swampy pastureland - fairly permanent surface water - area adjacent to main open pond)
5. Cyperus ustulatus - Carex secta
(ungrazed areas mainly on the southern edge of the raupo area. This grades into rank ungrazed pasture towards the dunes and railway at the southwest : much tall fescue, Yorkshire fog, some Baumea spp, and a little gorse and cut-leaved blackberry).
6. Calystegia sp/Cyperus - grasses
(A small area in southwest corner, of rampant "convolvulus")
7. Carex lessoniana
(Small areas, mainly at north end, near outlet)
8. Bracken fern & "weeds" (Disturbed area at extreme north end of the reserve).

Potentially important weeds:

1. Bidens frondosus: part of most plant associations : probably more a nuisance to human use than a potential threat to wildlife values. Its seeds are an important food source for finches, especially goldfinches.
2. Rubus spp. Two blackberry species were seen, both in fairly small amounts. R. fruticosus has covered large areas in the Taupo (Plimmerton) swamp, and must be eradicated from this reserve and adjacent road and rail reserve.
3. Salix fragilis: Only one willow species was identified, and its status here must be monitored. Spread is usually by

vegetative means, and if open water is created, floating fragments will be more readily distributed.

4. Ulex europeus: Gorse will not grow in permanent high water levels but can tolerate quite wet soil subject to periodic flooding. It is established in a number of places along the margin, and also at the southwest end, in the Cyperus - Carex secta swamp. It is recommended that gorse be totally eliminated, including on the railway and highway reserve land.

5. Clematis vitalba: at least one plant beside S.H. 1. at northern end of willow stand.

Rare plant species

Several indigenous plants of very local distribution were found. Management should take these into account and try to preserve them.

1. Hydrocotyle pterocarpa: Apparently widespread in this swamp. Only one previous record in the Wellington district, from swamps west of the railway just north of Plimmerton. (Ogle, 1978)
2. Carex sp (C.geminata agg. "giant"). One patch seen in southwest corner. A recently recognised but unnamed cutty grass of the North Island west coast. One previous Wellington finding, near Cambourne, Plimmerton.
3. Baumea teretifolia: Only one clump seen, in southwest corner. Growing with B.rubignosa, but taller. Common in some regions, this is only the second record of this sedge in that part of the North Island south of the Volcanic Plateau. (A.P. Druce, pers.comm.)

C.C. Ogle

10/5/79

Reference:

- Ogle C.C. 1978 "Vegetation of Swamp Pockets near Plimmerton"
Wellington Botanical Society Bulletin, 40.

APPENDIX

List of Vascular Plants from Wildlife Reserve between S.H.1 and N.I.M.T. Railway just south of Mackay's Crossing, Paekakariki. Compiled 23/4/79, over about one hour's visit, mainly from southern and western parts of swamp.

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10/5/79

- (m) = on damp margins only; not seen in swamp proper.
- * = native species
- (BD) = specimen lodged with Botany Divn. herbarium, Christchurch.

FERNS

Common Name

- * Azolla rubra
- * Blechnum minus (common lowland wetland species)
- * Hypolepis tenuifolia
- *(m) Pteridium esculentum var aquilinum Bracken
- * Pyrrosia serpens (on willows)

SEDGES

- * (BD) Baumea rubignosa CHR 359287
- * (BD) B. teretifolia (1 clump only) CHR 359282
- * (BD) Carex lessoniana CHR 359286 Cutty grass
- * C. secta var secta Niggerhead
- * C. virgata
- * (BD) C. sp. (C.geminata agg. : giant lowland sp.) Giant Cutty grass
- * Cyperus ustulatus CHR 359283
- * Eleocharis acuta
- * E. gracilis
- * Scirpus prolifer

RUSHES

- Juncus articulatus
- * J. australis
- * J. gregiflorus
- * J. planifolius
- * J. sarophorus

GRASSES

- Agrostis stolonifera Creeping bent
- (m) A. tenuis Brown-top
- (m) Bromus unioloides Prairie grass
- Dactylis glomerata Cock's foot
- Festuca arundinacea Tall fescue
- Holcus lanatus Yorkshire Fog

OTHER MONOCOTYLEDONS

| | | |
|---|--------------------------------|-----------|
| * | Lemna minor | Duckweed |
| * | Phormium tenax (3 plants only) | N.Z. flax |
| * | Typha orientalis | Raupo |

DICOTYLEDON TREES AND SHRUBS

| | | |
|-------|---|-----------------|
| * | Coprosma robusta | Karamu |
| † (m) | <i>Coprosma laevigatus</i> | Karaka |
| (m) | Lupinus arboreus | Lupin |
| * | (m) Macropiper excelsum | Kawakawa |
| * | (m) Melicytus ramiflorus | Mahoe |
| (m) | Populus nigra var.italica (2 shrubs only) | Lombardy poplar |
| | Rosa eglanteria (1 plant only) | Briar rose |
| | Salix fragilis | Crack willow |
| (m) | Sambucus nigra (1 plant only) | Elderberry |
| | Ulex europeus | Gorse |

DICOTYLEDON LIANES

| | | |
|-----|---|-----------------------|
| * | Calystegia sp. (C.sepium agg. : pink striped flowers) | Convolvulus |
| * | Muehlenbeckia australis | Pohuehue |
| (m) | Rubus fruticosus | Blackberry |
| | R. laciniatus | Cut-leaved blackberry |
| | <i>Clematis vitalba</i> | Traveller's joy |

DICOTYLEDON HERBS

| | | |
|--------|--|--------------------|
| | Bidens frondosus | Beggar's ticks |
| (m) | Cirsium vulgare | Scotch thistle |
| | Conyza floribunda | Canadian flea bane |
| | Cotula coronopifolia | Batchelor's button |
| * | Epilobium pallidiflorum | Willow herb |
| (m) | Foeniculum vulgare | Fennel |
| (m) | Galium aparine | Cleavers |
| * | G. trilobum | |
| * | Gonocarpus micranthus (=Haloragis mic.) | |
| * | Hydrocotyle sp. (H.novae-zelandiae agg.) | |
| * (BD) | H. pterocarpa CHR. 359281 | |
| | Leontodon taraxacoides | Hawkbit |
| (m) | Linaria purpurea | |
| | Linum marginale | Australian flax |
| * | Lobelia anceps | |
| | Lotus pedunculatus | Lotus major |
| | Mentha pulegium | Penny royal |

| | | |
|--------|---|---------------------------|
| * | Myriophyllum propinquum | Milfoil |
| * | Nertera setulosa | |
| (m) | Physalis <i>peruviana</i> | Cape gooseberry |
| (m) | Phytolacca octandra | Inkweed |
| | Plantago lanceolata | Narrow-leaved plantain |
| | Polygonum hydropiper | Water pepper |
| * (BD) | P.sp (c.f. P.decipiens) <i>CHR 359284, 359285</i> | N.Z. willow weed |
| | Ranunculus repens | Creeping buttercup |
| (m) | Raphanus sativus | Wild radish |
| | Senecio bipinnatisectus | Fireweed |
| (m) | Solanum nigrum | Black Nightshade |
| (m) | Tropaeolum majus | Garden nasturtium |
| | Total of native species in swamp | = 32 |
| | Total of all species in swamp | = 50 |
| | Total of all species on margins and swamp | = 72 |

Unconfirmed previous records from I.A. file 06/37, Report of 27/7/77

Cyperus eragrostis
Callitriche sp.
Rumex sp. (Dock)