

A list of all species seen between road and high tide mark,
5.1.81. Amended 30.06.82.
C.C. Ogle, Wildlife Service, Department of Internal Affairs,
Wellington.

*denotes exotic species, and NZ species not natural to this region.

DICOTYLEDON TREES AND SHRUBS

<i>Avicennia resinifera</i>	:	mangrove
* <i>Casuarina</i> sp.	:	she-oak (recently planted shrubs)
* <i>Erybotrya japonica</i>	:	loquat (1 mature tree)
* <i>Ficus carica</i>	:	fig (1 mature tree)
* <i>Myoporum insulare</i>	:	Tasmanian ngaio (recently planted)
* <i>Olearia lineata</i> (= <i>O. virgata</i> var. <i>lineata</i>):	:	shrub daisy (recently planted shrubs)
* <i>O. traversii</i>	:	Chatham Is shrub daisy (recently planted shrubs)
<i>Plagianthus divaricatus</i>	:	saltmarsh ribbonwood
* <i>Tamarix</i> sp.	:	tamarix (planted shrubs)
* <i>Ulex europaeus</i>	:	gorse

DICOTYLEDON HERBS

* <i>Anagallis arvensis</i>	:	scarlet pimpernel
* <i>Apium nodiflorum</i>	:	water celery
* <i>Arenaria serpyllifolia</i>	:	sandwort
* <i>Aster subulatus</i>	:	sea aster
<i>Atriplex</i> sp.	:	orache
<i>Calystegia soldanella</i>	:	sand convolvulus
* <i>Capsella bursa-pastoris</i>	:	shepherd's purse
* <i>Carduus tenuiflorus</i>	:	wing thistle
* <i>Centaurium erythraea</i>	:	centaury
* <i>Cerastium glomeratum</i>	:	mouse-eared chickweed
* <i>Cirsium vulgare</i>	:	Scotch thistle
* <i>Conyza floribunda</i>	:	fleabane
* <i>Coronopus didymus</i>	:	twin cress
* <i>Cotula coronopifolia</i>	:	batchelor's button
* <i>Crepis capillaris</i>	:	hawkbeard
* <i>Daucus carota</i>	:	wild carrot
* <i>Echium vulgare</i>	:	viper's bugloss
* <i>Erodium</i> sp.	:	crane's bill
* <i>Galium aparine</i>	:	cleavers
* <i>G. divaricatum</i> (= <i>G. parisiense</i>)	:	slender bedstraw
* <i>Geranium molle</i>	:	dove's foot
* <i>G. purpureum</i>	:	lesser herb Robert
<i>Haloragis erecta</i>	:	
* <i>Leontodon taraxacoides</i>	:	hawkbit
* <i>Lotus peduncularis</i>	:	lotus major
* <i>L. subbiflorus</i>	:	hairy lotus
* <i>Lythrum hyssopifolia</i>	:	purple loosestrife
* <i>Malva neglecta</i>	:	mallow
* <i>Medicago arabica</i>	:	spotted bur medick
* <i>M. lupulina</i>	:	black medick

* <i>M. polymorpha</i>	:	bur medick
* <i>Melilotus indica</i>	:	King Island melilot
* <i>Modiola caroliniana</i>	:	creeping mallow
* <i>Parentucellia viscosa</i>	:	tarweed
* <i>Phytolacca octandra</i>	:	inkweed
* <i>Picris echioides</i>	:	ox-tongue
* <i>Plantago coronopus</i>	:	buck's-horn plantain
* <i>P. lanceolata</i>	:	narrow-leaved plantain
* <i>P. major</i>	:	broad-leaved plantain
* <i>Polygonum aviculare</i>	:	wire-weed
* <i>Portulaca oleracea</i>	:	pig-weed
* <i>Rhaphanus raphanistrum</i>	:	wild radish
* <i>Rumex crispus</i>	:	curled dock
* <i>R. pulcher</i>	:	fiddle dock
<i>Salicornia australis</i>	:	glass wort
<i>Samolus repens</i>	:	
<i>Selliera radicans</i>	:	half-star
<i>Senecio glomeratus</i>	:	
* <i>S. jacobea</i>	:	
* <i>Sisymbrium officinale</i>	:	hedge mustard
* <i>Sonchus asper</i>	:	prickly sowthistle
* <i>S. oleraceus</i>	:	puwha, sowthistle
<i>Spergularia media</i>	:	
<i>Suaeda novae-zelandiae</i>	:	
* <i>Taraxacum officinale</i>	:	dandelion
* <i>Torilis arvensis</i>	:	spreading hedgehog parsley
* <i>Trifolium dubium</i>	:	suckling clover
* <i>T. glomeratum</i>	:	clustered clover
* <i>T. repens</i>	:	white clover
* <i>T. resupinatum</i>	:	reversed clover
* <i>T. scabrum</i>	:	rough clover
* <i>Verbascum virgatum</i>	:	moth mullein
* <i>Veronica arvensis</i>	:	speedwell

GRASSES

* <i>Agrostis stolonifera</i>	:	creeping bent
* <i>Avena fatua</i>	:	wild oat
* <i>Briza minor</i>	:	shivery grass
* <i>Bromus mollis</i>	:	soft brome
* <i>B. unioloides</i>	:	prairie grass
* <i>B. sterilis</i>	:	
* <i>Cynodon dactylon</i>	:	Indian doab
* <i>Dactylis glomeratus</i>	:	Cock's foot
* <i>Festuca arundinacea</i>	:	tall fescue
* <i>Holcus lanatus</i>	:	Yorkshire fyxog
* <i>Hordeum murinum</i>	:	barley grass'
* <i>Lagurus ovatus</i>	:	hare's tail
* <i>Lolium perenne</i>	:	perennial ryegrass
* <i>Parapholis incurva</i>	:	
* <i>Poa annua</i>	:	annual poa
* <i>Polypogon monspeliensis</i>	:	beard grass
<i>Puccinellia stricta</i>	:	
* <i>Scleropoa rigida</i>	:	
* <i>Sporobolus africanus</i>	:	rat's tail
<i>Stipa stipoides</i>	:	
* <i>Vulpia bromoides</i>	:	vulpia hair grass

SEDGES

- * *Carex divisa*
- * *Cyperus eragrostis*
- C. ustulatus*
- Scirpus caldwellii* : Purua 'grass'
- S. cernuus*
- S. nodosus*

OTHER MONOCOTYLEDONS (i.e. other than grasses and sedges)

- * *Allium vineale*
- var. *compactum* : wild onion
- * *Juncus bufonius* : toad rush
- J. maritimus*
- var. *australiensis* : sea rush
- Phormium tenax* : NZ flax: planted specimens only
- Triglochin striatum*

VEGETATION PATTERN

TIDAL FLATS → sand: Salicornia OR Salicornia-Spergularia-Samolus
 mud : Mangroves.

SHELL BANKS → Damp: Parapholis
 → Dry : sparse Geranium purpureum - sand convolvulus -
 viper's bugloss - narrow leaved plantain.
 ↓
Stipa - Plagianthus

INLAND → Damp fresh-water and brackish flats: Samolus OR
Salicornia OR Cotula coronopifolia - Plantago coronopus
 ↓
Carex divisa - Scirpus caldwellii
 'Dry' ridges: ryegrass pasture.

BOTANICAL NOTES

1. High proportion of exotic species, especially in better-drained sites. Total 'natural' (non-planted) flora = 97 species (78 exotic - 80%).
2. A relatively high number of exotic legumes, especially herbaceous species (5 of Trifolium, 3 of Medicago, 1 of Melilotus) and gorse. No doubt the shell content of the soils produces a high pH which favours legumes. Eradication of gorse is recommended, and a watch kept for other legumes with the potential to occupy such sites, e.g. brooms (esp. Cytisus scoparius) and lupin (Lupinus arboreus). Conversely, some legumes might be considered for screen planting including kowhai and tree lucerne.

3. No rare or endangered indigenous plants were found.
4. Several exotic species of the Trust's area are of very restricted occurrence in New Zealand. These include:
 - (a) Trifolium scabrum "A single collection from Miranda, Firth of Thames, in 1958 appears to be the only definite occurrence" (Healy 1976, p.41).
"Firth of Thames, Napier, Wellington City. Rare and local." (Webb 1980).
 - (b) Allium vineale "Auckland-Auckland City, Miranda, Thames, near Hamilton; Wanganui, Dunedin." (Healy and Edgar 1980, p. 50).
 - (c) Carex divisa "North Auckland - Kerikeri Inlet, near Warkworth; Auckland - Auckland City, Miranda, Kaiua, Tauranga. Marlborough - Havelock; Otago - Maniototo Plain" (Healy and Edgar 1980, p. 157).

REFERENCES

- Healy A.J. 1976. Identification of Weeds and clovers. . . .
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- Webb C.J. 1980. Checklist of dicotyledons naturalised in
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