

WANGANUI PLANT LIST 11

Vascular Plants of Santoft pine forest and adjoining lands, Bulls

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[NB: a separate list exists for Turakina R. mouth (including Koitiata Recreation Reserve): Wanganui Plant List 25]

Some vegetation types of the area

Pine plantations of various ages and pruned and thinned in different regimes: *Pinus radiata* mostly, but some other species. Also amenity plantings of *P. pinea*, *P. contorta*.

Cupressus macrocarpa plantings, mostly as coastal shelterbelt for pines, but some elsewhere.

Amenity groves and road edge plants of various spp. including *Populus deltoides* var. *virginiana* (cottonwood or aspen), false acacia, Lombardy poplar, silver poplar (spreading and fastigate forms), grey willows, *Banksia integrifolia*, osiers, coastal tea-tree (*Leptospermum laevigatum*), sand wattle (*Acacia sophorae*), eucalypts, *Pinus pinea*, *P. mugo*, *P. thunbergii*; *Cupressus lusitanica*.

Road edge grasses and dicot herbs: damper sites with cocksfoot, tall fescue, summer grass, fireweeds, nightshades; dry sites with marram, club sedge, boneseed, hare's tail, ripgut brome, *Ehrharta calycina*, hair grasses. Pyp grass (*Ehrharta villosa*) spreading at western end (Koitiata village).

Swamps: raupo → *Schoenoplectus tabernaemontani* → *Carex secta* → *C. maorica*/marsh bedstraw - creeping bent. Also flax - toetoe → *Cop. propinqua* scrub or *C. propinqua* - *Olearia solandri* - *O. virgata* scrub.

Lake: edge of rank grasses → *Schoenoplectus tabernaemontani* → *Epilobium parviflorum* → *Ludwigia peploides* → *Potamogeton crispus* - *Elodea*

Foredunes: marram ↔ spinifex - pingao

Dunes between plantations and foredune: sand wattle → marram → flax → toetoe-jointed rush (in hollows) → lupins (on ridges), with marram, *Senecio elegans*, hare's tail, evening primrose.

Species List

List compiled by author with members of Wellington Botanical Society during visit 6-8 February 1987; and on author's inspection of parts of the area on 5 February 1986, 15 March 1998, 11 October 1988, 27 January 1992. Additions. D. Ravine June 1990, 24 August 1990, September 1990; DoC staff (Ogle, La Cock, Rouse, Renting) 1 March 2000; C C Ogle 3 Nov 2003; C C Ogle with Horizons Regional Council Council staff (H Webb, E. Iddon, M Matthewson, C Davey, R Fleeson) 15 Nov 2004.

AS WS LK CD TH PP KS BL SR

List last revised 17 Nov 2004.

- AS = Artillery (= Waimahora) Swamp
 WS = Waimahora Stream
 LK = Lake Koitiata
 CD = Coastal Dunes (west of plantations)
 TH = Tunnel Hill: swamp scrub north of L. Koitiata (part private land, part 'Ernslaw 1')
 PP = Pines (among pine plantations west of Santoft Road)
 KS = Koitiata Stream
 BL = Blind Lakes (2 on north side of Fusilier Road)
 SR = Santoft Road and pine forest to east
 * = adventive species; u = uncommon

Gymnosperms									
* Cupressus macrocarpa				✓		✓			
Dacrycarpus dacrydioides	u				u				
* Pinus pinea						u ¹			
* Pinus radiata	u	u	✓			u			
Dicot trees and shrubs									
* Abelia Xgrandiflora									✓
* Acacia longifolia (ssp. longifolia)									u
* Acacia melanoxylon ²						✓			
* Acacia sophorae ³		✓		✓		✓			
* Acer negundo									u
* Alnus glutinosa	✓		✓			✓		✓	
* Artemisia arborescens				✓					
* Atriplex halimus				✓					
* Banksia integrifolia						✓ ⁴			
* Betula pendula									✓
* Chamaecytisus palmensis			✓						✓
* Chrysanthemoides monilifera				✓		✓			
Coprosma acerosa var. acerosa				✓					
Coprosma propinqua var. propinqua	✓	✓			✓	✓		✓	
Coprosma rigida	✓				u			u,1	
Coprosma robusta	✓				✓	✓		✓	
Coprosma propinqua x C. robusta	✓				✓	✓		✓	
* Elaeagnus angustifolia var. orientalis	u ⁵								
Kunzea ericoides agg. (maybe K. robusta)					u,1				
* Leptospermum laevigatum ⁶						✓			

¹ 2 seedlings 10 m & 15 m from nearest planted specimen beside Artillery Road, 2004

² Common among new crop of pines – maybe a mix of planted and self-sown blackwoods?

³ Scattered plantings on dunes “outside” the last macrocarpa plantings in 1987; abundant to locally dominant on outer dunes in March 2000, and common e.g. along gas pipeline route.

⁴ Seedlings uncommon in 1990; locally common near adult plants in 2004

⁵ One possibly planted shrub + a seedling some 5 m away from 'parent'

⁶ Planted grove at coastal end of Fusilier Road – no self-sown plants seen here by CCO in 1987, but seedlings and saplings were locally abundant in March 2000, especially on gas pipeline route.

	AS	WS	LK	CD	TH	PP	KS	BL	SR
<i>Leptospermum scoparium</i>	✓				✓	✓		✓	
* <i>Ligustrum lucidum</i>						✓			
* <i>Lupinus arboreus</i>	✓	✓	✓	✓	✓	✓		✓	✓
* <i>Lycium ferocissimum</i>	✓		✓	✓		✓			
<i>Melicytus ramiflorus</i>									✓
<i>Olearia solandri</i>	✓				✓	✓		✓	
<i>Olearia virgata</i> var. <i>virgata</i>					u	u,1			
<i>Ozothamnus</i> (<i>Cassinia</i>) <i>leptophyllus</i>				✓					
* <i>Populus alba</i>	✓	✓		✓	✓			✓	
* <i>Populus alba</i> cv " <i>pyramidalis</i> "			✓		✓	✓		✓	
* <i>Populus nigra</i> cv " <i>Italica</i> "								✓	
* <i>Populus deltoides</i>	✓		✓			✓			
* <i>Prunus persica</i> (peach/nectarine)						u,1			
* <i>Prunus</i> sp. (plum)						✓			✓
* <i>Quercus ilex</i>						✓			✓
* <i>Rhamnus alaternus</i>						✓			✓
* <i>Robinia pseudacacia</i>				✓		✓		✓	✓
* <i>Rosa rubiginosa</i>	✓				✓				u
* <i>Salix cinerea</i>	✓		✓		✓	✓		✓	
* <i>Salix elaeagnos</i>						✓		✓	
* <i>Salix fragilis</i>	✓		✓						
<i>Solanum laciniatum</i>	✓					✓			
* <i>Solanum mauritianum</i>						✓			✓
* <i>Teline monspessulana</i>						u			
* <i>Ulex europaeus</i>	✓				✓	✓		✓	
Dicot Lianes									
<i>Calystegia sepium</i> subsp. <i>roseata</i> ⁷	?						?	?	
* <i>Calystegia silvatica</i> subsp. <i>disjuncta</i>	?						?	?	
<i>Calystegia soldanella</i>		✓	✓	✓		✓	✓		
* <i>Delairea odorata</i> (= <i>Senecio mikanioides</i>)				✓					
* <i>Fallopia</i> (<i>Polygonum</i>) <i>convolvulus</i>						✓			
<i>Muehlenbeckia complexa</i> ssp. <i>complexa</i>	✓	✓	✓	✓	✓	✓	✓	✓	✓
<i>Parsonsia capsularis</i>					u				
<i>Parsonsia heterophylla</i>					u				
* <i>Rubus fruticosus</i> agg.					✓	✓			
<i>Tetragonia implexicoma</i> (= <i>T. tetragona</i>)				✓					
* <i>Vinca major</i>				✓					✓

⁷ For bindweeds this list had simply "some with pink fls, others white". since then, revised taxonomy has shown that the pink flowered plants are indigenous (*C. sepium* ssp. *roseata*) and white flowered are exotic (*C. silvatica*). It is now unsure which ones are in which places at Santoft.

	AS	WS	LK	CD	TH	PP	KS	BL	SR
Dicot herbs									
* <i>Acaena agnipila</i> ssp. <i>aequispina</i>	u								
* <i>Achillea millefolium</i>						✓			
* <i>Anagallis arvensis</i>						✓			
* <i>Aphanes arvensis/inexpectata</i>									✓
* <i>Apium nodiflorum</i>	✓	✓					✓	✓	
* <i>Arenaria serpyllifolia</i>						✓			
* <i>Bidens frondosa</i>	✓		✓		✓			✓	
* <i>Carduus tenuiflorus</i> (?)					✓				
* <i>Carpobrotus</i> sp. (unidentified)				✓					
<i>Centella uniflora</i>	✓				✓	✓			
<i>Centipeda</i> sp. (indigenous?)				✓					
* <i>Chenopodium album</i> agg.						✓			
* <i>Chenopodium pumilio</i>						✓			
* <i>Cirsium arvense</i>	✓		✓		✓	✓			
* <i>Cirsium vulgare</i>	✓		✓	✓	✓	✓		✓	
* <i>Conium maculatum</i>	✓					✓			
<i>Cotula coronopifolia</i>			✓		✓				
* <i>Crassula alata</i> ⁸									✓
<i>Epilobium billardioreanum</i>	✓							✓	
<i>Epilobium chionanthum</i>	✓								
<i>Epilobium insulare</i>	✓								
<i>Epilobium pallidiflorum</i>	✓				✓				
* <i>Epilobium parviflorum</i>	✓		✓		✓		✓		
* <i>Erigeron sumatrensis</i> (<i>Conyza albida</i>)	✓	✓	✓	✓		✓	✓		✓
* <i>Foeniculum vulgare</i>						✓			
* <i>Galium aparine</i>						✓			
* <i>Galium palustre</i>	✓	✓	✓		✓			✓	
<i>Galium trilobum</i>	✓								
* <i>Geranium molle</i>						✓			
* <i>Geranium robertianum</i>								✓	
<i>Euchiton involocrata</i> (<i>Gnaphalium involocratum</i>)	✓								
<i>Euchiton sphaerica</i> (<i>G. sphaericum</i>)						✓			
* <i>Gamochoaeta</i> (<i>Gnaphalium</i>) <i>coarctata</i>						✓			✓
<i>Haloragis erecta</i>				(u)					
* <i>Helminthotheca</i> (<i>Picris</i>) <i>echioides</i>	✓								
<i>Hydrocotyle novae-zeelandiae</i> agg.	✓		✓					✓	
* <i>Hypericum perforatum</i>	✓							✓	
* <i>Hypochoeris radicata</i>	✓		✓	✓		✓			
* <i>Lactuca virosa</i> (?)						✓			
<i>Lagenifera pumila</i>	✓								
* <i>Leontodon saxatilis</i> (<i>L. taraxacoides</i>)	✓	✓	✓	✓		✓		✓	
* <i>Lepidium bonariense</i>						✓			
* <i>Lepidium pseudo-tasmanicum</i>						✓			
* <i>Linum catharticum</i>	✓								
<i>Lobelia anceps</i>	✓					✓			

⁸ 1st found Nov 2003 – 1st NZ record (a European species, now known to be widespread in NZ; Ogle 2008)

	AS	WS	LK	CD	TH	PP	KS	BL	SR
<i>Lobelia (Pratia) angulata</i>					✓				
* <i>Lotus pedunculatus</i>	✓	✓	✓		✓	✓	✓	✓	✓
* <i>Lotus tenuis</i>						✓			
* <i>Ludwigia palustris</i>			✓						
* <i>Ludwigia peploides</i> var. <i>montevidensis</i>			✓						
* <i>Lythrum hyssopifolia</i>		✓	✓						
<i>Mazus novaezeelandiae</i> ssp. <i>impolita</i>						u ⁹			
* <i>Medicago lupulina</i>			✓						✓
* <i>Melilotus indica</i>	✓		✓				✓		✓
<i>Mentha cunninghamii</i>	✓								
* <i>Mentha pulegium</i>		✓		✓					
* <i>Myosotis laxa</i> var. <i>caespitosa</i>	✓	✓	✓				✓	✓	
<i>Myriophyllum pedunculatum</i>	✓					u			
<i>Myriophyllum propinquum</i>			✓		✓			✓	
* <i>Oenothera stricta</i>		✓				✓			✓
<i>Oxalis rubens</i>						✓			
* <i>Parentucellia viscosa</i>	✓	✓	✓			✓	✓		
* <i>Persicaria (Polygonum) hydropiper</i>	✓						✓		
* <i>Plantago lanceolata</i>	✓		✓			✓	✓	✓	✓
* <i>Plantago major</i>			✓				✓	✓	
<i>Plantago raoulii</i>					✓				
* <i>Polycarpon tetraphyllum</i>			✓			✓			✓
<i>Polygonum salicifolium</i>	✓	✓			✓		✓	✓	
* <i>Portulacca oleracea</i>						✓			
<i>Potentilla anserinoides</i>	✓		✓			✓		✓	
* <i>Prunella vulgaris</i>	✓					✓			
<i>Pseudognaphalium</i> sp. (<i>P. luteo-album</i> agg.)						✓			
<i>Ranunculus acaulis</i>				✓					
<i>Ranunculus amphitrichus</i>	✓		✓		✓				
<i>Ranunculus macropus</i>	✓								
* <i>Ranunculus repens</i>	✓	✓	✓					✓	
* <i>Ranunculus sceleratus</i>			✓					✓	
* <i>Ranunculus trichophyllum</i>			✓			u			
* <i>Rorippa nasturtium-aquaticum</i>								✓	
<i>Rorippa palustris</i>	✓		✓					✓	
* <i>Rumex acetosella</i>			✓					✓	✓
* <i>Rumex crispus</i>	✓	✓	✓			✓		✓	
<i>Selliera radicans</i>				✓					
* <i>Senecio bipinnatisectus</i>			✓		✓	✓		✓	
* <i>Senecio elegans</i>				✓		✓	✓		
<i>Senecio glomeratus</i>	✓					✓			
<i>Senecio minimus</i>				✓		✓			
<i>Senecio quadridentatus</i>						✓			
* <i>Silene gallica</i>						✓			✓
* <i>Sisymbrium officinale</i>						✓			

⁹ In damp sand flat surrounded by pines and alders, on west side of Artillery Swamp, and about 30 m distant.

	AS	WS	LK	CD	TH	PP	KS	BL	SR
* <i>Solanum chenopodioides</i>	✓	✓				✓		✓	✓
* <i>Solanum nigrum</i>			✓			✓			✓
* <i>Sonchus oleraceus</i>					✓	✓	✓		
* <i>Stellaria media</i>						✓			✓
* <i>Trifolium arvense</i>						✓			✓
* <i>Trifolium dubium</i>						✓			✓
* <i>Trifolium fragiferum</i>	✓	✓						✓	
* <i>Trifolium pratense</i>	✓								
* <i>Trifolium repens</i>	✓		✓			✓			
* <i>Verbascum thapsus</i>			✓			✓			
* <i>Veronica anagallis-aquatica</i>	✓	✓	✓				✓	✓	
* <i>Vicia sativa</i>						✓			
Monocot trees & shrubs									
<i>Cordyline australis</i>	✓		✓		✓	✓		✓	
* <i>Yucca gloriosa</i>		u							
Grasses									
* <i>Agrostis capillaris</i>						✓			✓
* <i>Agrostis stolonifera</i>	✓	✓					✓	✓	
* <i>Aira caryophyllea</i>						✓			✓
* <i>Alopecurus geniculatus</i>								✓	
* <i>Ammophila arenaria</i>		✓	✓	✓		✓	✓	✓	✓
* <i>Anthoxanthum odoratum</i>	✓					✓			✓
<i>Austroderia (Cortaderia) toetoe</i>	✓	✓	✓	✓	✓	✓	✓	✓	
* <i>Bromus diandrus</i>		✓	✓			✓			✓
* <i>Bromus willdenowii</i>			✓			✓			✓
* <i>Cortaderia selloana</i>		u				✓			✓
* <i>Cynodon dactylon</i>			✓			✓			
* <i>Dactylis glomerata</i>						✓		✓	✓
* <i>Digitaria sanguinalis</i>						✓			
* <i>Ehrharta calycina</i> ¹⁰				✓					✓
* <i>Ehrharta erecta</i>						u			✓
* <i>Ehrharta villosa</i>						✓			
* <i>Festuca rubra</i> ssp. <i>commutata</i>					✓	✓			
* <i>Glyceria declinata</i> (?)			✓						
* <i>Holcus lanatus</i>	✓	✓	✓			✓	✓	✓	
<i>Isachne globosa</i>	✓								
<i>Lachnagrostis billardierei</i>				✓		✓			
<i>Lachnagrostis filiformis</i> s.s.								✓	
* <i>Lagurus ovatus</i>		✓	✓	✓		✓	✓	✓	✓
* <i>Lolium perenne</i>						✓			
* <i>Paspalum dilatatum</i>			✓			✓			
* <i>Paspalum distichum</i>			✓				✓		
* <i>Phleum pratense</i>						✓			

¹⁰ In 1990 only near wreck of 'Fusilier' at end of Artillery Rd; 1 small patch 2003 beside Santoft Road; along verges of Santoft Rd in 'thin' pasture, and site of old forestry camp 2004

	AS	WS	LK	CD	TH	PP	KS	BL	SR
* Polypogon monspeliensis							✓		
* X Schedololium holmbergii	u								
* Schedonorus arundinaceus	✓	✓	✓	✓	✓	✓	✓	✓	
* Setaria gracilis						✓			
Spinifex sericeus				✓					
* Sporobolus africanus						✓			
* Vulpia bromoides						✓			✓
* Vulpia myuros var. megalura									✓
Rushes									
Apodasmia (Leptocarpus) similis	✓	✓	✓	✓	✓	✓		✓	
* Juncus articulatus	✓	✓	✓		✓			✓	
* Juncus bufonius				✓					✓
Juncus caespiticius	✓								
* Juncus effusus					✓				
Juncus kraussii (maritimus) var. australiensis						u ¹¹			
Juncus pallidus						✓		✓	
* Juncus sp.					u				
Sedges									
Bolboschoenus fluviatilis	✓		✓				✓	?	
* Carex demissa	✓								
* Carex divulsa									u
Carex flagellifera					u				
* Carex flacca	✓				u				
Carex lessoniana	u				✓			✓	
Carex litorosa								✓	
Carex maorica	✓				✓			✓	
Carex pumila		✓		✓		u	✓	✓	
Carex secta var. secta	✓				✓			u	
Carex virgata	✓				✓			✓	
Cyperus ustulatus	✓		✓		✓		✓	✓	
Eleocharis acuta	✓		✓		✓			✓	
Eleocharis gracilis	✓								
Ficinia (Desmoschoenus) spiralis				✓					
Isolepis cernua			✓						
Isolepis nodosa	✓		✓	✓	✓	✓	✓	✓	
Machaerina (Baumea) juncea	✓				✓	✓			
Machaerina (Baumea) rubiginosa	✓				✓				
Schoenoplectus pungens	✓	✓	✓				✓	✓	
Schoenoplectus tabernaemontani	✓	✓	✓		✓		✓	✓	
Schoenus maschalinus					✓				
Schoenus nitens s.s.	✓					u			

¹¹ On west side of Artillery Swamp, in damp sand surrounded by pines and alders.

	AS	WS	LK	CD	TH	PP	KS	BL	SR
Orchids									
Caladenia carnea						✓			
Chiloglottis cornuta						✓			
Corybas (Nematoceras) aff. rivularis	✓								
Microtis unifolia	✓	✓				✓			
Thelymitra longifolia						✓			
Other monocot herbs									
* Egeria densa								✓	
* Elodea canadensis			✓					✓	
Lemna disperma	✓		✓		✓		✓	✓	
Phormium tenax	✓	✓		✓	✓	✓	✓	✓	
Potamogeton cheesemanii			✓		✓			✓	
* Potamogeton crispus			✓						
Potamogeton pectinatus						u ¹²			
Sparganium subglobosum	✓								
* Landoltia (Spirodela) punctata								✓	
Triglochin striatum	✓								
Typha orientalis	✓	✓	✓		✓	✓	✓	✓	
Wolffia australiana	✓								
Ferns									
Adiantum cunninghamii								✓	
Asplenium flabellifolium						✓			
Asplenium flaccidum s.s.						✓			u
Asplenium oblongifolium						✓			
Asplenium polyodon						✓			
Azolla filiculoides var. rubra	✓		✓				✓	✓	
Blechnum fluviatile					✓				
Blechnum minus (of NZ authors)	✓				✓			✓	
Cyathea medullaris					✓				
Dicksonia fibrosa					✓				
Histiopteris incisa	✓							✓	
Hypolepis ambigua	✓				✓	✓		✓	
Microsorium pustulatum					✓	✓	✓		
Paesia scaberula						✓			
Pneumatopteris pennigera					✓				
Pteris tremula					✓				
Pteridium esculentum	✓			✓	✓	✓		✓	u
Pyrosia eleagnifolia					✓				u

References:

Ogle, Colin (2008): Research report: *Crassula alata* is a fully naturalised species in New Zealand. *NZ Botanical Soc. Newsletter* 94: 14-15.

¹² In fire-fighting water holes among pines at Moanaroa and near Koitiata village