Vascular plants of Waipipi windfarm proposal area

C C Ogle, 22 Forres St Wanganui

Excludes coastal strip of beach, sea cliffs and dune slacks outside the study area

Plant species presence is shown in either or both of the East and West Blocks of the study area by 'X', except for the addition of 'u' to denote species present but uncommon in those blocks. For five areas with particular natural botanical values, two in the East Block and three in the West Block, the presence of each species is shown by a subjective abundance rating, as follows: a = abundant (seen through much or all of that area and is the dominant plant cover, at least in places); c = common (often seen through the area and a prominent contributor to plant cover in places, though mostly not dominant); o = occasional (scattered through the area, mostly as a minor contributor to plant cover); u = uncommon (few plants or colonies seen of the species - the actual number is also given in a few cases); ll = local (plants that were seen to be common in only a small part of the area).

Last revised 3 June 2014

EV1. East Swamp (dune hollows - near eastern boundary fence at Pt 206)		**Flora of survey area (red confined to sea cliffs)**	**Flora of key areas for indigenous flora and vegetation within the proposed windfarm**							**Flora of significant areas adjoining the proposed windfarm**		
EV2. East Block Dunes (south-west dunes and dune slacks)												
WV1. West Stream (the major stream near eastern boundary)												
WV2. West Bog (terrace below western tower)												
WV3. West Block Dune Wetland (pond and rushland)												
Formal name (* denotes species not native to South Taranaki but growing in wild; species **in bold** are on the national list of threatened and uncommon plants [de Lange et al. 2009])	**Common name**		***EV1***	***EV2***	**RAP**	***WV1***	***WV2***	***WV3***	**NW Cabb-age tree corner**	**Whenua-kura R mouth and sea cliffs**	**NW Whenua-kura swamp**	**Whenua-kura R mouth and sea cliffs**
Trees, Shrubs, Lianes												
Calystegia soldanella	sand convolvulus	X		o	o	o				X		X
Calystegia sepium ssp. *roseatum*	pink bindweed	X	o			o		lc			?	
* *Calystegia silvatica*	bindweed	X				o						
Calystegia tuguriorum		Xu	u									
Coprosma acerosa	**sand coprosma**	**X**										

	Coprosma repens	taupata	Xu				2?						
	Coprosma robusta	karamu	X									u	
	Cordyline australis	cabbage tree	X				l			c			
*	*Lupinus arboreus*	shrub lupin	X		u	u	c				X		X
*	*Lycium ferocissimum*	boxthorn	X		u		a		ll	la	X		X
	Melicytus ramiflorus	mahoe	X				1						
	Muehlenbeckia complexa	pohuehue	X			o	c			c	c	o	c
	Olearia solandri	a shrub daisy	X	ll								u	
	Ozothamnus leptophyllus	tauhinu	Xu		ll	ll							
*	*Pittosporum crassifolium*	karo	Xu										
*	*Rubus fruticosus* agg.	blackberry	X	o	o	o	a			u	o		o
*	*Rubus laciniatus*	cut-leaved blackberry	Xu										
	Tetragonia implexicoma (T. trigyna)	NZ spinach	X				o				lc		lc
*	*Ulex europaeus*	gorse	X				ll				lc	o	lc
	Grasses												
*	*Agrostis capillaris*		X				c						
*	*Agrostis stolonifera*	creeping bent	X	c	o-a		la	lc	c			o	
*	*Ammophila arenaria*	marram	X		c	a	c				la		la
*	*Anthoxanthum odoratum*	sweet vernal	X		u	o	o						
*	*Avena sativa*	oats	Xu										
*	*Bromus diandrus*	rip-gut brome	Xu										
*	*Bromus hordeaceus*	soft brome	X										
*	*Bromus willdenowii*	prairie grass	X				o			u			
	Cortaderia fulvida	cliff toetoe	Xu								o		o
*	*Cortaderia selloana*	pampas grass	X		1	u	u				u		u
	Cortaderia toetoe	swamp toetoe	X	o	u	o	o		u		o	c	o
*	*Cynodon dactylon*	Indian doab	Xu										
*	*Cynosurus cristatus*	crested dogstail	X		u	o	o						
*	*Dactylis glomerata*	cocksfoot	X			o	c						
*	*Eleusine indica*	crow's foot grass	X				u						
*	*Glyceria declinata*	glaucous sweetgrass	X			u	c						
*	*Glyceria fluitans*	floating sweetgrass	Xu					u	u				

*	*Festuca rubra* ssp. *commutata*	Chewing's fescue	X										
*	*Holcus lanatus*	Yorkshire fog	X	c	o	o	a	o	o	o	o	o	o
*	*Hordeum murinum*	barley grass	Xu										
	Lachnagrostis billardierei	sand bent	Xu?		u?	u							
	Lachnagrostis billarderei (with stolons!)		Xu								u		u
	Lachnagrostis striata		Xu										
*	*Lagurus ovatus*	hare's tail	X		lc	o	c						
*	*Lolium multiflorum*	Italian ryegrass	Xu										
*	*Lolium perenne*	perennial ryegrass	Xu			u	o			u			
	Microlaena stipoides	meadow ricegrass	X										
*	*Paspalum dilatatum*	paspalum	Xu				o				o		o
*	*Paspalum distichum*	Mercer grass	X		o	la	la		c	c		a	
*	*Pennisetum clandestinum*	kikuyu grass	X				ll						
*	*Phalaris aquatica*	phalaris	Xu										
*	*Phalaris minor*	lesser canary grass	Xu										
*	*Piptatherum miliaceum*		Xu										
*	*Poa annua*	annual poa	Xu										
*	*Schedonorus arundinaceus*	tall fescue	X		c	o	c		u			o	
*	*Setaria gracilis*	knot-root bristle grass	X				o						
	Spinifex sericeus	spinifex	Xu		lc	lc							
*	*Sporobolus africanus*	ratstail grass	X				o						
*	*Vulpia bromoides*	vulpia hairgrass	X										
	[unknown grass]		Xu							u			
	Sedges												
	Bolboschoenus fluviatilis [prob]		Xu									u	
	Carex sp. (aff. *C. geminata)*	large cutty grass	X									ll	
*	*Carex demissa*		Xu										
	Carex lessoniana	cutty-grass	X	a	o		la			c		lc	
	Carex pumila	sand carex	X		lc	c	ll						
	Carex secta	purei	X									o	
	Carex virgata		Xu	u								u	
*	*Cyperus congestus*	congested sedge	X	o	o	o	c	o-c	u			u	
	Cyperus ustulatus	mariscus	X	o	o	u	o		u	o	o	o	o

	Eleocharis acuta	sharp spike sedge	X	lc			lc					o	
	Eleocharis gracilis	slender spike sedge	X			ll	ll	c	o		o		o
	Ficinia (Isolepis) nodosa	club rush	X	o	o-c	c	c	1	u				
	Ficinia (Desmoschoenus) spiralis	**pingao**	**X**		**ll**	lc							
	Isolepis cernua		Xu		ll	o						u	
	Isolepis prolifer		X			u	u					c	
*	*Isolepis setacea*		Xu										
	Machaerina (Baumea) articulata	jointed twig-rush	Xu	lc									
	Schoenoplectus pungens	3-square	X		la	lc	o	o					
	Schoenoplectus tabernaemontani	kapungawha	X	lc			ll					c	
	Schoenus maschalinus		Xu										
	Schoenus nitens		X		lc	la	lc	a	la				
	Rushes												
	Apodasmia similis	jointed wire-rush, oioi	X	lc	c	la	o	u	a				
*	*Juncus articulatus*	jointed-leaved rush	X	a	c	a	a	c-a	a			c	
*	*Juncus bufonius*	toadrush	X	ll		o	ll						
	Juncus caespiticius		X		o	lc	c	o	u				
*	*Juncus dichotomus*		Xu										
	Juncus edgariae		X										
*	*Juncus effusus*	soft rush	X				u					u	
*	*Juncus fockei*		X										
	Juncus pallidus		X				u					u	
	Juncus sarophorus	broom rush	Xu										
	Monocot herbs other than grasses, sedges, rushes												
*	*Landoltia (Spirodela) punctata*	purple-backed duckweed	Xu										
	Lemna disperma	duckweed	X	ll		lc							
	Lepilaena bilocularis ??		**Xu**										
	Microtis unifolia	onion-leaved orchid	Xu				u						
	Phormium tenax	harakeke, NZ flax	X	o	u		o				c		c

	Potamogeton cheesemanii	pondweed	Xu						u				
*	*Potamogeton crispus*	curled pondweed	Xu										
	Potamogeton ochreatus		Xu										
	Ruppia polycarpa		Xu										
	Triglochin striata	arrow-grsss	Xu		ll	o	u	u	lc			ll	
	Typha orientalis	raupo	X		o	lc	la	o-a				a	
	Wolffia australiana	water meal	Xu										
	Dicot herbs												
*	*Achillea millefolium*	yarrow	X										
*	*Amaranthus deflexus*	prostrate amaranth	Xu										
*	*Amaranthus powellii*	redroot	Xu										
*	*Anagallis arvensis*	scarlet pimpernel	Xu								u		u
*	*Anthemis cotula*	stinking mayweed	Xu										
	Apium prostratum	sea celery	Xu								o	ll	o
*	*Arctotheca calendula*	Cape daisy	X										
*	*Atriplex prostrata*	orache	Xu								u		u
*	*Bidens frondosa*	beggar's ticks	X	o		u	o					o	
*	*Callitriche stagnalis*	starwort	X				u						
*	*Cerastium fontanum*	mouse-ear chickweed	X						u				
*	*Cerastium glomeratum*	annual mouse-ear chickweed	Xu										
*	*Chenopodium album*	fathen	X										
*	*Chenopodium pumilio*	clammy goosefoot	Xu										
*	*Cirsium arvense*	Californian thistle	X			u	u				o		o
*	*Cirsium vulgare*	Scotch thistle	X			u	o				o		o
	Colobanthus muelleri		Xu										
*	*Conium maculatum*	hemlock	Xu							ll			
*	*Conyza bonariensis*	wavy-leaved fleabane	X										
*	*Conyza sumatrensis*	broad-leaved fleabane	X		o	u	o				o	o	o
	Cotula coronopifolia	batchelor's button	X				u		u		u		u
*	*Crepis capillaris*	hawksbeard	X				o				o		o
*	*Dianthus armerius*	Deptford pink	Xu										
	Disphyma australe	NZ iceplant	Xu								u		u

	Epilobium billardiereanum	sand willow-herb	X			u		2	ll				
	Epilobium komarovianum		Xu								u		u
*	*Epilobium parviflorum*	American willow-herb	Xu			u		c	o				
*	*Erodium moschatum*	crane's bill	X										
*	*Eupatorium cannabinum*	hemp agrimony	X	la			lc	1				ll	
*	*Foeniculum vulgare*	fennel	Xu										
*	*Galium aparine*	cleavers	Xu							u			
*	*Galium palustre*	marsh bedstraw	X			lc							
*	*Gamochaeta spicata*	cudweed	Xu										
*	*Geranium molle*	soft dove's foot	Xu										
	Gunnera arenaria	**sand gunnera**	**Xu**		**lc**			**o**	**u**				
*	*Helminthotheca echioides*	ox-tongue	Xu	u									
	Hydrocotyle pterocarpa	swamp pennywort	Xu	u									
*	*Hypochoeris radicata*	catsear	X		o	c	o						
*	*Lactuca virosa*	wild lettuce	X				u						
*	*Leontodon saxatilis*	hawkbit	X		c	c	c	c	u				
*	*Lepidium africanum*		X			o							
*	*Lepidium bonariense*	Argentine cress	X				u						
*	*Lepidium didymum*	twin cress	X										
	Leptinella dispersa* ssp. *rupestris	**a NZ button daisy**	**X**								lc		lc
	Leptinella squalida ssp. *squalida*	a NZ button daisy	Xu										
	Lilaeopsis sp. (*L. novae-zelandiae* ?)	tape-measure plant	Xu		ll	lc							
	Limosella lineata?		X								u		u
	Lobelia anceps	native lobelia	X	o	o	u	o	o	o		u	o	u
*	*Lotus pedunculatus*	lotus major	X	c	o	o	c	c	o	o	o	o	o
*	*Lotus suaveolens*	hairy lotus	X		o	o	u	u	o				
*	*Lythrum hyssopifolia*	loosestrife	X	o		o	o		u				
*	*Medicago lupulina*	black medick	X										
*	*Medicago sativa*	lucerne, alfalfa	Xu										
*	*Mentha pulegium*	pennyroyal	X						u				
*	*Malva neglecta*	dwarf mallow	Xu										
*	*Modiola caroliniana*	creeping mallow	Xu										
*	*Myosotis laxa*	water forgetmenot	X	o		o	o		c			u	

	Myriophyllum propinquum	water milfoil	Xu										
	Myriophyllum votschii	**sand milfoil**	**Xu**		**ll**	lc							
*	*Orobanche minor*	broomrape	Xu										
	Oxalis rubens	sand oxalis	X			u							
*	*Parentucellia viscosa*	tarweed	X	o	o		c	o	lc			u	
	Persicaria decipiens (=Polygonum salicifolium)	swamp willow weed	Xu	u					lc				
*	*Persicaria (Polygonum) hydropiper*	water pepper	X	u		u	u						
*	*Persicaria maculosa (Polygonum persicaria)*	willow weed	Xu										
*	*Phytolacca octandra*	inkweed	X				o				u		u
*	*Plantago australis*	swamp plantain	X		c	o		o	c				
*	*Plantago coronopus*	buck's horn plantain	Xu								u		u
*	*Plantago major*	broad-leaved plantain	Xu			u							
*	*Plantago lanceolata*	narrow-leaved plantain	X	o	o	o	o	o	u		o		o
*	*Polygonum aviculare*	wireweed	Xu										
*	*Portulacca oleracea*	purslane	X										
	Potentilla anserinoides	silver weed	Xu	u				u					
	Pseudognaphalium luteo-album agg.	cudweed	X								lc		lc
	Ranunculus acaulis	sand buttercup	Xu		u						lc		lc
*	*Ranunculus flammula*	spearwort	Xu						lc				
	Ranunculus macropus	**swamp buttercup**	**Xu**	**lc**									
*	*Ranunculus repens*	creeping buttercup	X	o	o	c	c	o	o	o		c	
*	*Ranunculus sceleratus*	celery-leaved buttercup	Xu				u						
*	*Ranunculus trichophyllus*	water buttercup	X						lc				
*	*Rorippa nasturtium-aquaticum*	two-rowed watercress	X			ll	o		u			u?	
*	*Rumex acetosella*	sheep sorrel	X										
*	*Rumex crispus*	curled dock	X		u	o	o						
*	*Rumex obtusifolius*	broad-leaved dock	X										
*	*Rumex pulcher*	fiddle dock	Xu										
*	*Rumex sagittatus*	climbing dock	X										
*	*Sagina procumbens*	pearlwort	Xu										

	Samolus repens	sea primrose	X			u			u		o	ll	o
	Selliera radicans	half-star	X			u						ll	
	Selliera rotundifolia	**dune half-star**	**Xu**		**ll**	lc							
*	*Senecio bipinnatisectus*	fireweed											
*	*Senecio elegans*	purple groundsel	Xu										
*	*Senecio jacobaea*	ragwort	X			u	u						
	Senecio lautus	NZ groundsel	Xu								u		u
*	*Silene gallica*	catchfly	X										
*	*Sisymbrium orientale*	oriental mustard	Xu										
*	*Solanum chenopodioides*	velvety nightshade	X				o						
*	*Solanum nigrum*	black nightshade	Xu			u				ll			
*	*Sonchus asper*	prickly sow thistle	Xu							u			
	Sonchus kirkii	**native sowthistle**	Xu										
*	*Sonchus oleraceus*	puwha, sow thistle	Xu	u		u			1	u			
*	*Stachys sylvatica*	hedge woundwort	Xu							ll			
*	*Stellaria media*	chickweed	Xu										
*	*Taraxacum officinale*	dandelion	X										
*	*Trifolium arvense*	hare's foot trefoil	X			u							
*	*Trifolium campestre*	hop trefoil	Xu					u					
*	*Trifolium dubium*	suckling clover	X										
*	*Trifolium fragiferum*	strawberry clover	X		o			u					
*	*Trifolium glomeratum*	clustered clover	Xu										
*	*Trifolium pratense*	red clover	X	o	o	la	c	c	o				
*	*Trifolium repens*	white clover	X	o	o	c	o	o	o		o	o	o
*	*Verbascum thapsis*	mullein	Xu										
*	*Veronica anagallis-aquatica*	water speedwell	X			u	ll						
*	*Verbena officinalis*	vervain	X										
*	*Vicia disperma* ?	vetch	Xu										
	Ferns & fern allies												
	Azolla filiculoides ssp. *rubra*	azolla	Xu										
	Blechnum blechnoides	coastal blechnum	Xu										
	Blechnum minus [*auct. NZ*]	swamp kiokio	X	u								ll	
	Blechnum triangularifolium	cliff kiokio	X			u	o						

	Cyathea dealbata	ponga	Xu			u							
	Cyathea medullaris	mamaku	Xu				1						
	Dicksonia squarrosa	wheki	Xu			u	1						
*	*Equisetum arvense*	horse tail	Xu										
	Microsorum pustulatum	hound's tongue	Xu							u			
	Pteridium esculentum	bracken	X							ll	o		o

225 species