



WAIRARAPA LAKE SHORE SCENIC RESERVE								GRID REF S27 266666-335668																																																																																																																																																																																							
for:	scenery ✓	bush ✓	scrub/tussock etc	wetland ✓	plants ✓	animals	geology/suif ✓	history/prehistoric ✓	water supply																																																																																																																																																																																						
<b>LOCATION</b>	Alongside Lake Wairarapa on Western Lake Road, 15 km south of Featherston, Southern Wairarapa.								<b>AREA</b> ha/28 27.3739																																																																																																																																																																																						
<b>ACCESS</b>	Reserve runs alongside Western Lake Road.								<b>L.D. No.</b> Sections 105-115, Block IX Wairarapa SD																																																																																																																																																																																						
<b>OUTLINE &amp; TOPO</b> The reserve consists of a narrow strip of land along the lake edge rising from flat swamp on the east of Western Lake Road, to terrace and spurs of the lower foothills of the Rimutaka Ranges on the west side. Gradients are mostly gentle but the reserve also includes terrace bluffs and very deep gullies. The reserve is in three blocks separated by road and farmland.									<b>STATUS</b> Scenic																																																																																																																																																																																						
<b>SURROUNDINGS</b> The reserve adjoins sheep pasture to the northern and southern ends, lake shore on the east, and continuous black beech forest of the eastern Rimutaka Ranges to the west.									<b>RES sub-Ctrs</b>																																																																																																																																																																																						
<b>GEOLOGY</b> Undifferentiated alluvium flood plain deposits at lake-level; the Wairarapa Fault forms the uplifted terrace above the road; greywacke to the west.									<b>CONTROL</b> Local residents																																																																																																																																																																																						
<b>SPM</b> Alluvium.									<b>GAZETTEED</b> 1912/3292, 1979/1751																																																																																																																																																																																						
<b>SOIL</b> Central recent soils from alluvium; Kairanga and Manawatu, and YBE steepland soils, Kuhine and Rimutaka.									<b>RESERVED</b>																																																																																																																																																																																						
<b>DRAINAGE</b> Good on slopes, poor to moderate on lake level.									<b>HISTORY</b> An exchange of land under the old Scenery Preservation Act, 1908																																																																																																																																																																																						
									<b>AIR PHOTO</b> 5497 K/7 date 11.10.79																																																																																																																																																																																						
									<b>nearby town</b> 15... km Featherston <b>nearest reserve</b> 11... km Kahutara SR <b>public road</b> Western Lake Road <b>snn (km)</b> 19																																																																																																																																																																																						
									<b>ALTITUDE m/xx</b> 2-60																																																																																																																																																																																						
									<b>ASPECT</b> SE																																																																																																																																																																																						
									<b>RAIN mm/yr</b> 1710 (approx)																																																																																																																																																																																						
									<b>NAT FERTILITY</b> Medium - High.																																																																																																																																																																																						
<table border="1"> <thead> <tr> <th colspan="2"></th> <th colspan="4">MAIN HABITATS and FEATURES</th> <th>% area</th> <th>area ha</th> <th>native f°</th> <th>ex 2°ind</th> <th>regen</th> <th>HAT</th> <th>trend</th> <th>exotics</th> </tr> <tr> <th>ID</th> <th>NZ</th> <th>ID</th> <th>NZ</th> <th>ID</th> <th>NZ</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>✓</td> <td>✓</td> <td>1.</td> <td>Patchy to continuous canopy of black beech with rewarewa and pukatea along northern hill-slopes and terraces, extending up ridges behind reserve. Dense broadleaved understorey; nikau in blocks 106 to 109. Small area of hard beech in 108.</td> <td>42.6</td> <td>11.7</td> <td></td> <td></td> <td></td> <td></td> <td>H</td> <td>H</td> <td>S</td> <td></td> </tr> <tr> <td>✓</td> <td>✓</td> <td>1a.</td> <td>On drier ridges and slopes, understorey is open, higher proportion of small-leaved Coprosma, very few nikau.</td> <td>18.0</td> <td>4.9</td> <td></td> <td></td> <td></td> <td></td> <td>H</td> <td>H</td> <td>S</td> <td></td> </tr> <tr> <td>✓</td> <td>✓</td> <td>2.</td> <td>Black beech - kanuka of equal height forming canopy with occasional titoki over a mixed broadleaved and nikau subcanopy on moderately steep hillslopes.</td> <td>10.6</td> <td>2.9</td> <td></td> <td></td> <td></td> <td></td> <td>H</td> <td>H</td> <td>I</td> <td></td> </tr> <tr> <td>✓</td> <td>✓</td> <td>3.</td> <td>Low canopy along lake shore, modified by NZED transmission line which since clearing has become weed infested. Flax along lakeshore. Canopy of pukatea, kanuka, willow, black beech above dense broadleaved-nikau subcanopy. Koromiko, native broom common in undergrowth.</td> <td>10.4</td> <td>2.8</td> <td></td> <td></td> <td></td> <td></td> <td>H</td> <td>L</td> <td>I</td> <td>H</td> </tr> <tr> <td>✓</td> <td>✓</td> <td>4.</td> <td>Mahoe, kowhai, titoki and karaka on grazed alluvial ground; discontinuous canopy. No regeneration.</td> <td>6.1</td> <td>1.7</td> <td></td> <td></td> <td></td> <td></td> <td>N</td> <td>L</td> <td>D</td> <td>H</td> </tr> <tr> <td>✓</td> <td>✓</td> <td>5.</td> <td>Young black beech-kanuka over ferns, some shrubs, extensive Tradescantia in 105.</td> <td>4.2</td> <td>1.1</td> <td></td> <td></td> <td></td> <td></td> <td>L</td> <td>L</td> <td>D</td> <td>L</td> </tr> <tr> <td>✓</td> <td>✓</td> <td>6.</td> <td>Vigorous secondary broadleaved regeneration with scattered rewarewa emergent over 3-4m high broadleaved scrub and juvenile black beech.</td> <td>2.3</td> <td>0.6</td> <td></td> <td></td> <td></td> <td></td> <td>H</td> <td>H</td> <td>I</td> <td></td> </tr> <tr> <td>✓</td> <td>✓</td> <td>7.</td> <td>Area of grassland, exotic weeds in 112 used as a carpark and picnic area.</td> <td>2.1</td> <td>0.6</td> <td></td> <td></td> <td></td> <td></td> <td>L</td> <td>L</td> <td>D</td> <td>H</td> </tr> <tr> <td>✓</td> <td>✓</td> <td>8.</td> <td>Hinai-warewa/mixed broadleaved-nikau bush in steep gullies and road margins.</td> <td>1.8</td> <td>0.5</td> <td></td> <td></td> <td></td> <td></td> <td>M</td> <td>H</td> <td>S</td> <td></td> </tr> <tr> <td>✓</td> <td>✓</td> <td>9.</td> <td>Canopy of titoki-karaka-warewa-matai-miro on well-drained flat alluvium.</td> <td>1.8</td> <td>0.5</td> <td></td> <td></td> <td></td> <td></td> <td>M</td> <td>M</td> <td>S</td> <td></td> </tr> <tr> <td colspan="10"></td> <td>99.9</td> <td>27.2</td> <td></td> <td></td> </tr> </tbody> </table>												MAIN HABITATS and FEATURES				% area	area ha	native f°	ex 2°ind	regen	HAT	trend	exotics	ID	NZ	ID	NZ	ID	NZ									✓	✓	1.	Patchy to continuous canopy of black beech with rewarewa and pukatea along northern hill-slopes and terraces, extending up ridges behind reserve. Dense broadleaved understorey; nikau in blocks 106 to 109. Small area of hard beech in 108.	42.6	11.7					H	H	S		✓	✓	1a.	On drier ridges and slopes, understorey is open, higher proportion of small-leaved Coprosma, very few nikau.	18.0	4.9					H	H	S		✓	✓	2.	Black beech - kanuka of equal height forming canopy with occasional titoki over a mixed broadleaved and nikau subcanopy on moderately steep hillslopes.	10.6	2.9					H	H	I		✓	✓	3.	Low canopy along lake shore, modified by NZED transmission line which since clearing has become weed infested. Flax along lakeshore. Canopy of pukatea, kanuka, willow, black beech above dense broadleaved-nikau subcanopy. Koromiko, native broom common in undergrowth.	10.4	2.8					H	L	I	H	✓	✓	4.	Mahoe, kowhai, titoki and karaka on grazed alluvial ground; discontinuous canopy. No regeneration.	6.1	1.7					N	L	D	H	✓	✓	5.	Young black beech-kanuka over ferns, some shrubs, extensive Tradescantia in 105.	4.2	1.1					L	L	D	L	✓	✓	6.	Vigorous secondary broadleaved regeneration with scattered rewarewa emergent over 3-4m high broadleaved scrub and juvenile black beech.	2.3	0.6					H	H	I		✓	✓	7.	Area of grassland, exotic weeds in 112 used as a carpark and picnic area.	2.1	0.6					L	L	D	H	✓	✓	8.	Hinai-warewa/mixed broadleaved-nikau bush in steep gullies and road margins.	1.8	0.5					M	H	S		✓	✓	9.	Canopy of titoki-karaka-warewa-matai-miro on well-drained flat alluvium.	1.8	0.5					M	M	S												99.9	27.2		
		MAIN HABITATS and FEATURES				% area	area ha	native f°	ex 2°ind	regen	HAT	trend	exotics																																																																																																																																																																																		
ID	NZ	ID	NZ	ID	NZ																																																																																																																																																																																										
✓	✓	1.	Patchy to continuous canopy of black beech with rewarewa and pukatea along northern hill-slopes and terraces, extending up ridges behind reserve. Dense broadleaved understorey; nikau in blocks 106 to 109. Small area of hard beech in 108.	42.6	11.7					H	H	S																																																																																																																																																																																			
✓	✓	1a.	On drier ridges and slopes, understorey is open, higher proportion of small-leaved Coprosma, very few nikau.	18.0	4.9					H	H	S																																																																																																																																																																																			
✓	✓	2.	Black beech - kanuka of equal height forming canopy with occasional titoki over a mixed broadleaved and nikau subcanopy on moderately steep hillslopes.	10.6	2.9					H	H	I																																																																																																																																																																																			
✓	✓	3.	Low canopy along lake shore, modified by NZED transmission line which since clearing has become weed infested. Flax along lakeshore. Canopy of pukatea, kanuka, willow, black beech above dense broadleaved-nikau subcanopy. Koromiko, native broom common in undergrowth.	10.4	2.8					H	L	I	H																																																																																																																																																																																		
✓	✓	4.	Mahoe, kowhai, titoki and karaka on grazed alluvial ground; discontinuous canopy. No regeneration.	6.1	1.7					N	L	D	H																																																																																																																																																																																		
✓	✓	5.	Young black beech-kanuka over ferns, some shrubs, extensive Tradescantia in 105.	4.2	1.1					L	L	D	L																																																																																																																																																																																		
✓	✓	6.	Vigorous secondary broadleaved regeneration with scattered rewarewa emergent over 3-4m high broadleaved scrub and juvenile black beech.	2.3	0.6					H	H	I																																																																																																																																																																																			
✓	✓	7.	Area of grassland, exotic weeds in 112 used as a carpark and picnic area.	2.1	0.6					L	L	D	H																																																																																																																																																																																		
✓	✓	8.	Hinai-warewa/mixed broadleaved-nikau bush in steep gullies and road margins.	1.8	0.5					M	H	S																																																																																																																																																																																			
✓	✓	9.	Canopy of titoki-karaka-warewa-matai-miro on well-drained flat alluvium.	1.8	0.5					M	M	S																																																																																																																																																																																			
										99.9	27.2																																																																																																																																																																																				
<b>CONDITION</b> There is no regeneration in 110-111, but elsewhere good regeneration after minor logging, animal damage, fire and NZED construction. The only planting has been of willows on the lakeshore. The north end has much <i>Tradescantia</i> needing attention. The disturbed 112 block is weed infested. Amateur hunting has controlled animal populations.																																																																																																																																																																																															
<b>FENCING</b> 113-115: fenced along NW and S end. N fenceline dilapidated. 105-109: road frontage fenced and N, S ends. 112: unfenced. 110-111: fenced on road frontages only.																																																																																																																																																																																															
<b>PRIORITY</b> Low, except for 110-111.																																																																																																																																																																																															
<b>RATING 0-10</b>																																																																																																																																																																																															
<b>SCIENTIFIC</b> 6. Black beech, representative of E. Rimutaka Range. Unusual black beech/nikau association. Wide range of habitats.																																																																																																																																																																																															
<b>SCENIC</b> 5. The bush is attractive although there are no vantage points for views either of reserve or Lake.																																																																																																																																																																																															
<b>RECREATION</b> 5. Picnic sites with tables are well patronised. Access to lakeshore for boating, fishing. No marked tracks through reserve.																																																																																																																																																																																															
<b>CONCLUSIONS and RECOMMENDATIONS</b>																																																																																																																																																																																															
The reserve has good scenic properties and preserves the black beech/nikau association not found elsewhere in the Wairarapa. It preserves a habitat gradient from lake shoreline, through swampy scrub and well drained podocarp and broadleaved associations to hillslope black beech and gully broadleaved spp. forest. Past logging, planting of willows, the NZED transmission line and stock grazing are the human-induced modifications to the reserve; the only current damage is the grazing of blocks 110-111. Control of <i>Tradescantia</i> present at the north end of block 105 is urgent as lack of undergrowth is permitting rapid spread. It would be desirable to fence off blocks 110-111 from the grazed pasture. Although weed growth would be excessive, regeneration of the canopy spp (titoki, karaka, kowhai) would provide a continuum, otherwise once the present trees become overmature there will be no reason to retain this block as scenic reserve. The reserve is well suited to the development of bush walks especially in terrace areas not dissected by the deep gullies. At present only one unmarked rough track exists. It has been proposed to substantially extend the scenic reserve by purchasing a block of bushed hillsides beyond the existing boundary. This would be a significant contribution to the reservation of unmodified vegetation in the Wairarapa and should be strongly recommended especially if further development of surrounding farmland is ever considered.										(Continued..)																																																																																																																																																																																					
										6	Fine	IG	1981																																																																																																																																																																																		
										..... hours ..... conditions																																																																																																																																																																																					

CONCLUSIONS AND RECOMMENDATIONS (Continued)

Section 112: The low-lying lakeshore broadleaved bush has had a swathe cut through it by the NZED and although regeneration is vigorous there is an abundance of exotics including briar, *Tradescantia*, hollyhock, buttercup, broom, gorse, *Prunus* spp., daisy, *Calystegia* and grasses. Native regeneration is vigorous elsewhere so eventually natives should choke out and shade out some of these weeds. The bush consists of willow, pukatea, kanuka, black beech, *Pittosporum tenuifolium* *Myrsine australis*, some lemonwood, putaputaweta, titoki, nikau, cabbage tree above a dense undergrowth of shrubs and juveniles, sedges, unciniias and ferns (encouraged by clearings and canopy gaps). There is a lot of rubbish left along the line of clearance.

Sections 113-115: 70% black beech forest. On drier spurs and slopes the floor is clear with scattered *Dianella*, *Uncinia*, *Phymatosorus*, small-leaved *Coprosma*, mingimingi, *Olearia rani* and *Myrsine australis*, often stripped. On moister terraces there is a rich floor mat of ferns and mosses, tree ferns, juvenile broadleaved spp, dense mingimingi. On the dry banks of the gullies which dissect these terraces, *Earia* orchids grow in abundance along with kidney fern. At one point above the road there are 17 deep pits aligned at right angles to the shoreline. They are mostly 1m x 2m and up to 2m deep, possibly some of the pre-European Maori storage pits common around the Southern Wairarapa coastline.

Sections 105-109: The black beech canopy becomes less continuous with more broadleaved species entering the canopy towards the north. At the south end of 105 is a young patch of dense regenerative growth amongst toppled and dead upright trunks of black beech. At the north end kanuka is a major component of the canopy in a 2° growth stand of equally aged black beech and kanuka. On the lower, storey terrace this association merges into an adult podocarp-titoki-karaka-rewarewa stand. On the banks at the back of the reserve there is evidence of pig-rooting. Beyond the northern reserve boundary is an area of dense regenerating broadleaved scrub merging into kanuka. A rather casual track in 109 opposite the car pull-off leads into this bush.

**REFERENCES** Druce, A.P. 1971. Indigenous Vascular Plants in Vicinity of Western Lake Reserve, Lake Wairarapa, unpublished, BOT. DIV., DSIR Report.

% area	SUMMARY	HABITATS	ORGANISMS										INFER				OBSERVED								
			a = adjoins reserve	large	small	several	flat/cultivable	overhanging	emergent	herbs	cliffs	rock	stony	sand/mingle	mud	organic	rubbish	eutrophic	soil	post	ear	N	L	M	H
2	tall conifer <sup>1</sup> forest/trees																								
71	conifer <sup>2</sup> forest/trees																								
22	beech forest/trees																								
2	BL <sup>3</sup> forest/trees																								
	scrub/shrubs < 6m																								
	tall tussocks/grassland																								
	short tussocks/grassland																								
	grassland/grasses																								
	sedge/land/sedges																								
	rushland/rushes/raupo																								
	herbland/herbs																								
	"tussock" herblend <sup>4</sup>																								
	fernland/ferns																								
	"moss" land																								
	breckens																								
	exotic grassland <sup>5</sup>																								
	exotic herbland/weedland																								
	exotic scrub/shrubs																								
	exotic forest/trees																								
	introduced "native" cover																								
	bog/swamp/pakiki																								
	marsh sw/fw																								
	mudflat sw/fw																								
	bluff/rocks																								
	bluff/rocks in bush																								
	waterfall																								
	cave/gorge																								
	gravel habitat/screen																								
	dunes/sand																								
	limestone																								
	ultrabasics																								
	geological site																								
	braiding ground																								
	rare/interesting animals																								
	rare/interesting plants																								
	historic site																								
	historic building																								
	prehistoric site																								
	camp/midden/pits																								
	terraces/earthworks																								
	burial/tapa																								
97	boating																								

<sup>1</sup> tall conifer: kahikatea, kauri, matai, miro, rimu, totara

<sup>2</sup> remaining 11 tree-sized spp

<sup>3</sup> broadleaved

<sup>4</sup>

v.g. flax

<sup>5</sup> incl. rough grassland, pasture etc

### NATIVE SPECIES

#### Trees and shrubs

*Alectryon excelsus*  
*Aristotelia serrata*  
*Brachyglottis repanda*  
*Carmichaelia arborea*  
*Carpodetus serratus*  
*Cassinia leptophylla*  
*Coprosma areolata*  
*C. grandifolia*  
*C. microcarpa*  
*C. propinqua* var. *propinqua*  
*C. rhamnoides*  
*C. robusta*  
*C. tenuicaulis*  
*C. propinqua* x *C. robusta*  
*Cordyline australis*  
*Coriaria arborea*  
*Corynocarpus laevigatus*  
*Cyathodes juniperina*  
*Dacrydium cupressinum*  
*Elaeocarpus dentatus*

#### Climbers, Lianes etc.

*Calystegia tugoriorum*  
*Clematis forsteri* (incl. *C. australis*  
*C. hookeriana* and *C. petrei*)  
*Fuchsia perscandens*  
*Metrosideros diffusa*

#### Grasses, rushes and like plants

*Baumea ruhiginosa*  
*Bromus*  
*Carex buchananii*  
*C. cirrhosa*  
*C. dipsacea* s.s.  
*C. dissita*  
*C. geminata* s.s.  
*C. lambertiana*  
*C. lessoniana*  
*C. maorica*  
*C. secta*  
*C. sinclairii*  
*C. solandri*  
*C. virgata*  
*Cortaderia toetoe*

#### Herbs

*Acaena anserinifolia*  
*Acianthus fornicatus* var. *sinclairii*  
*Astelia fragrans*  
*Bulbophyllum pygmaeum*  
*Caladenia carnea*  
*Callitricha petriei*  
*Cardamine sp.* (*C. debilis* agg.)  
*C. sp.* (*c.f.C. corymbosa*)  
*Centella uniflora*  
*Chiloglottis cornuta*  
*Collospermum hastatum*  
*Colobanthus apetalus*  
*Corybas aconitiflorus*  
*C. trilobus*  
*Cotula australis*  
*C. coronopifolia*  
*Cotula dioica* subsp. *dioica*  
*C. dispersa* subsp. *dispersa*  
*C. maniototo*  
*Crassula sp.* (*Tillaea sinclairii*)  
*Dendrobium cunninghamii*  
*Dianella nigra*  
*Dichrorhiza* sp.  
*Drymoanthus adversus*  
*Earina autumnalis*  
*E. mucronata*  
*Epilobium insulare*

*Fuschia excorticata*  
*Geniostoma ligustrifolium*  
*Griselinia lucida*  
*Hebe stricta* var. *atkinsonii*  
*H. sp.* (*Veronica arborea*)  
*Hedycarya arborea*  
*Hoheria populnea* var. *lanceolata*  
*Fleostylus micranthus*  
*Knightia excelsa*  
*Korthalsella salicornioides*  
*Laurelia novae-zelandiae*  
*Leptospermum ericoides*  
*L. scoparium*  
*Leucopogon* (*Cyathodes*) *fasciculatus*  
*Lophomyrtus bullata*  
*Macropiper excelsum*  
*Melicope simplex*  
*Melicytus ramiflorus*  
*Metrosideros robusta*  
*Myoporum laetum*

*Myrsine australis*  
*M. salicina*  
*Nestegis cunninghamii*  
*N. lanceolata*  
*Nothofagus solandri* var. *solandri*  
*N. truncata*  
*N. solandri* X *N. truncata*  
*Olearia paniculata*  
*O. rani*  
*Pittosporum eugenioides*  
*P. tenuifolium* var. *tenuifolium*  
*Podocarpus dacrydioides*  
*P. ferrugineus*  
*P. spicatus*  
*Pseudopanax anomalus*  
*P. arboreus*  
*P. crassifolius*  
*Rhopalostylis sapida*  
*Sophora microphylla*  
*Weinmannia racemosa*

*Metrosideros fulgens*  
*M. perforata*  
*Muehlenbeckia australis*  
*M. complexa*  
*Parsonsia capsularis*

*Parsonsia heterophylla*  
*Passiflora tetrandra*  
*Ripogonum scandens*  
*Rubus australis*  
*R. schmidelioides*

*Cyperus ustulatus*  
*Echinopogon ovatus*  
*Eleocharis acuta*  
*E. gracilis*  
*Gahnia pauciflora*  
*Isachne globosa*  
*Juncus australis*  
*J. caespiticius*  
*J. gregiflorus*  
*J. planifolius*  
*J. pusillus*  
*J. sarophorus*  
*Lachnagrostis filiformis*  
*Leptocarpus similis*  
*Microlaena avenacea*

*Microlaena stipoides*  
*Poa anceps* var. *anceps*  
*P. pusilla*  
*Schoenus concinnus*  
*S. maschalinus*  
*Scirpus cernuus*  
*S. inundatus*  
*S. nodosus*  
*S. prolifer*  
*S. reticularis*  
*Uncinia angustifolia*  
*U. banksii*  
*U. scabra*  
*U. uncinata*

*E. nerteroides*  
*E. pallidiflorum*  
*E. rotundifolium*  
*Eryngium vesciculosum*  
*Galium propinquum*  
*G. sp.* (unnamed; aff. *G. perpusillum*)  
*Gastrodia cunninghamii*  
*Glossostigma elatinoides*  
*Gnaphalium audax* ss.  
*G. gymnocephalum*  
*G. involucratum*  
*G. limosum*  
*G. sphaericum*  
*G. sp.* (*G. luteo-album* agg.)  
*Gratiola sexdentata*  
*Gunnera monoica* (incl. *G. albocarpa*  
 and *G. strigosa*)  
*G. prorepens* (incl. *G. flavidia*)  
*Haloragis erecta* subsp. *erecta*  
*Hydrocotyle americana*  
*H. hydrophylla*  
*H. pterocarpa*  
*H. sp.* (*H. novae-zelandiae* agg.)  
*Hypericum japonicum*  
*Hypsela rivalis*  
*Lemna minor*  
*Libertia grandiflora*  
*Lilaeopsis* sp.

*Limosella lineata*  
*Mazus pumilio*  
*Microtis unifolia*  
*Mimulus repens*  
*Myriophyllum propinquum*  
*M. votschii*  
*Nertera setulosa*  
*Oxalis* sp.  
*Parietaria debilis*  
*Phormium tenax*  
*Plantago raoulii* var.  
*Potentilla anserinoides*  
*Pratia angulata*  
*P. perpusilla*  
*Pterostylis allobula*  
*P. banksii*  
*P. micromega*  
*Ranunculus limosella*  
*R. macropus*  
*R. sp.*  
*Schizeilma trifoliolatum*  
*Selliera radicans*  
*Senecio minimus*  
*Thelymitra longifolia*  
*Triglochin striatum*  
*Typha orientalis*  
*Viola lyallii*  
*Wahlenbergia marginata*

Ferns and allies

*Adiantum cunninghamii*  
*Asplenium bulbiferum*  
*A. polyodon*  
*A. flabellifolium*  
*A. hookerianum*  
*A. oblongifolium*  
*A. sp. (A. flaccidum agg.)*  
*Azolla rubra*  
*Blechnum chambersii*  
*B. discolour*  
*B. filifolium*  
*B. procerum*  
*B. sp. (a) (B. capense agg.)*  
*B. sp. (b) (B. capense agg.-bog.)*  
*Botrychium sp.*  
*Cardiomanes reniforme*

*Cyathea dealbata*  
*C. medullaris*  
*Histiopteris incisa*  
*Hymenophyllum bivalve*  
*H. demissum*  
*H. dilatatum*  
*H. flabellatum*  
*H. multifidum*  
*H. rarum*  
*H. sanguinolentum*  
*H. scabrum*  
*Hypolepis tenuifolia*  
*H. sp. (cf. H. rugosula)*  
*Lastreopsis glabella*  
*L. hispida*  
*Lycopodium varium*

*Lycopodium scariosum*  
*Paesia scaberula*  
*Pellaea rotundifolia*  
*Phymatosorus diversifolius*  
*P. scandens*  
*Polystichum richardii*  
*P. vestitum*  
*Pteridium esculentum*  
*Pteris tremula*  
*Pyrrosia serpens*  
*Rumohra adiantiformis*  
*Pneumatopteris pennigera*  
*Todea hymenophylloides*  
*Tmesipteris elongata*  
*T. tannensis*

EXOTIC SPECIES

briar  
broom  
browntop  
buttercup  
cocksfoot  
couch  
clover  
daisy

dandelion  
gorse  
greater bindweed  
hollyhock  
pennyroyal  
perennial ryegrass  
prunus  
ragwort

sweet vernal  
thistle  
timothy  
*Tradescantia*  
white clover  
willow  
yarrow

fantail  
greywarbler

sparrow  
tui

wood pigeon

