

Appendix Five – Description of each lake zone

Zone One

This area on the southeastern side of the lake comprises the main public vehicle access area to the lake, (parking, boat ramp and toilets) fenced plantings and open planted sections on the northern side of a vehicle barrier fence.

Within the vehicle parking / public area, plantings have been fenced to ensure their protection. These original plantings undertaken in 1984 include cabbage tree, hebe species, five finger, and other common wetland margin species as well as some single specimens of kauri and karaka which would not grow here naturally. Plantings of silver birches and poplar along the lake foreshore provide summer shade and winter tree skeletons.

Plantings on the northern side of the vehicle barrier include many other lowland native shrubs and tree species, including a wide variety of hebe cultivars that provide patches of colour.

This section of the lake has the least amount of lakeside plantings to accommodate the mix of summer uses including boating and swimming.

Zone Two

This section on the southern end of the lake has a north-easterly aspect. The vegetation is a mix with groupings of native along the lake edge and deciduous exotic species.

Silt trap ponds that capture the run-off water from the surrounding farmland before it enters the peat lake, have been planted with carex grasses, cabbage tree, and coprossmas.

The native species (planted since the mid 1990's) include a wide mix of tree and shrub species, with cabbage tree, kohuhu, tarata, akeake dominant with ferns along the lake margins and in the long linear plantings of mixed native species between lake edge and the reserve boundary.

Some of the exotic species in this area were planted by the Fish and Game Council in 1988. They provide a contrast of colours and leaf shapes throughout the year. During winter the bare trees appear lifeless, with the ground underneath covered in fallen leaves. Early spring starts with the blossom trees (*Prunus* species) and then followed by the new bright green shoots of oaks, maples, and beech, with the trees in full leaf over summer. Autumn brings the yellow Ginkgo leaves, followed by the colourful maples and liquidamber leaf colours. A planting of waratah, wattle and bottlebrush provide winter flowering and food sources for a variety of bird species along part of the boundary.

Zone Three

This area, all Zone 4 and part of Zone 5 form part of a small inlet in the south western side of the lake. With an opening of approximately 50 metres, the bay widens into a triangular shape being 150 metres wide and long. Rushes and reeds are predominant along the lake margins.

The plantings in this area are a mixture of native and exotic, with larger rewarewa, several kauri and beech, banksias, pate and totara.

Zone Four

This area contains some of the oldest plantings with many larger exotic species (cyprus and oak planted in 1988) and a dense planting of cabbage trees and kaihikatea (1992) with flax and manuka along the lake edge.

The southern part of this area is low lying and includes a sediment trap for water run-off. After periods of rain some of the trees such as the swamp cyprus are often flooded with water.

Zone Five

This section covering most of the western side of the lake, and has been planted over successive stages since 2000. An accessway between the lake edge planting and the boundary planting meanders through dense plantings of different native species, including groups of manuka, cabbage tree, and hebes. Interspersed are karamu, makomako, five finger, nikau and pate that provide a range of habitats and food sources for different bird species.

A wetland / silt pond has been developed at the northern end and will be surrounded by the manuka and coprossma species.

Zone Six

This area is at the northern end of the lake with a few species of plants, including kowhai and five finger, and a swale of manuka flax and cabbage tree (planted in 2009) along the boundary and silt tramps. The older kowhai on the lake edge may be one of the few surviving trees that originally flourished around the lake.

Zone Seven

At the north-eastern end of the lake and with a westerly aspect, this section has relatively few tree species, with a pocket of exotic trees including ginkgo, pin oak and liquidamber (planted in the early 1990's), surrounded by a large mown grass area.

A row of poplar and tarata trees along the reserve boundary is in the neighbouring property.

Zone Eight

This section on the eastern side of the lake includes a wide point that protudes out into the lake. Planting in this area has been occurring each year since 2005 with a range of silt trap ponds dispersed throughout. A walkway at the southern end of this section leads to Lake Road. Amongst the cabbage tree, coprossmas, manuka and hebe plantings, kaihaketa, totara and pate can be found.

Appendix Six – List of flora

Common Name	Botanical Name	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8
Native Trees & Shrubs									
Kauri	<i>Agathis australis</i>	✓		✓					
Titoki	<i>Alectryon excelsus</i>			✓					✓
Makomako (Wineberry)	<i>Aristotelia serrata</i>	✓	✓			✓			✓
Tawa	<i>Beilschmiedia tawa</i>		✓						
	<i>Brachyglottis greyii</i>	✓							
Putaputaweta	<i>Carpodetus serratus</i>		✓		✓	✓			
Puawananga (Clematis)	<i>Clematis paniculata</i>		✓						
Thin leaved Coprosma	<i>Coprosma areolata</i>					✓			
Karamu	<i>Coprosma lucida</i>		✓			✓			
Twiggy Coprossma	<i>Coprosma rhamnoides</i>		✓			✓			
Karamu	<i>Coprosma robusta</i>		✓	✓	✓				
Coprossma cultivars	<i>Coprosma species</i>		✓			✓			✓
Taupata	<i>Coprossma repens</i>	✓	✓			✓		✓	✓
Ti kouka (Cabbage Tree)	<i>Cordyline australis</i>	✓	✓	✓	✓	✓	✓		✓
Dwarf Cabbage Tree	<i>Cordyline pulimo</i>		✓						
Karaka	<i>Corynocarpus laevigatus</i>	✓							
Kaihikatea	<i>Dacrycarpus dacrydioides</i>	✓		✓		✓			✓
Rimu	<i>Dacrydium cupressinum</i>	✓	✓						
Akeake	<i>Dodonaea viscosa</i>		✓			✓			
Purple Akeake	<i>Dodonaea viscosa 'Purpurea'</i>		✓			✓			
Pokaka	<i>Elaeocarpus hookerianus</i>		✓						
Kotukutuku	<i>Fuchsia excorticata</i>	✓							

Common Name	Botanical Name	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8
Puka (Shining Broadleaf)	<i>Griselinia lucida</i>		✓		✓	✓			
Hebe - garden cultivars	<i>Hebe species</i>	✓							✓
Koromiko	<i>Hebe pavidiflora variety</i>	✓	✓	✓					✓
Koromiko	<i>Hebe stricta</i>		✓			✓			
Houhere (Ribbonwood)	<i>Hoheria populnea</i>	✓	✓			✓			
Kanuka	<i>Kunzea ericoides</i>		✓			✓			
Pukatea	<i>Laurelia novae-zelandiae</i>		✓	✓					
Manuka	<i>Leptospermum scoparium</i>	✓		✓	✓	✓	✓		✓
Manuka cultivar	<i>Leptospermum species</i>	✓				✓			✓
Mingimingi	<i>Leucopogon fasciculatus</i>					✓			
Mahoe	<i>Melicytus ramiflorus</i>		✓			✓	✓		
Mapou	<i>Myrsine australis</i>	✓		✓		✓			
Tawhai (Red Beech)	<i>Nothofagus fusca</i>			✓					
Wharariki (Mountain flax)	<i>Phormium cookianum</i>	✓				✓			
Harakeke (Flax)	<i>Phormium tenax</i>	✓			✓	✓	✓	✓	
Tarata (Lemonwood)	<i>Pittosporum eugenioides</i>	✓	✓			✓			
Kohuhu	<i>Pittosporum tenuifolium</i>	✓	✓						
Totara	<i>Podocarpus totara</i>			✓		✓			✓
Golden Totara	<i>Podocarpus totara variety</i>					✓			
Miro	<i>Prumnopitys ferruginea</i>		✓						
Whauwhaupaku (Five finger)	<i>Pseudopanax arboreus</i>	✓	✓			✓	✓		
Horoeka (Lancewood)	<i>Pseudopanax crassifolius</i>	✓	✓			✓			
Nikau	<i>Rhopalostylis sapida</i>					✓			
Pate (Seven finger)	<i>Schefflera digitata</i>			✓		✓			✓
Kowhai	<i>Sophora tetraptera</i>	✓	✓			✓	✓		✓

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Puriri	<i>Vitex lucens</i>		✓						

Ferns

Peretao (Water Fern)	<i>Blechnum colensi</i>					✓			
Kio kio fern	<i>Blechnum species</i>	✓	✓	✓	✓			✓	
Ponga (Silver Tree Fern)	<i>Cyathea dealbata</i>					✓			
Wheki-ponga	<i>Dicksonia fibrosa</i>		✓			✓			
Wheki	<i>Dicksonia squarrosa</i>		✓			✓			
Waewaekaka (Tangle fern)	<i>Gleichenia dicarpa</i>			✓					
Matata (Ring Fern)	<i>Pasia scaberula</i>								✓
Turawera	<i>Pteris tremula</i>					✓			

Sedges and grasses

Carex grasses	<i>Carex species</i>		✓	✓		✓	✓	✓	✓
Toetoe	<i>Cortaderia fulvida</i>					✓			
Sedges	<i>Cyperus species</i>		✓	✓					
Turutu	<i>Dianella nigra</i>					✓			
Rushes	<i>Junus species</i>		✓	✓	✓	✓			

Exotic Trees

Wattle	<i>Accaia species</i>		✓						
Maple	<i>Acer species</i>			✓					
Banksia	<i>Banksia menziesii</i>		✓	✓					
Silver birch	<i>Betula pendula</i>	✓							
Bottlebrush species	<i>Callistemon species</i>		✓	✓					

Common Name	Botanical Name	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8
Chestnut tree	<i>Castanea crenata</i>		✓						
Copper Beech	<i>Fagus sylvatica</i>		✓						
Gingko	<i>Gingko biloba</i>		✓	✓				✓	
Liquidamber	<i>Liquidambar styraciflua</i>		✓					✓	
Tree Lupin	<i>Lupinus arboreus</i>			✓					
Plain tree	<i>Platanus x hispanica</i>		✓						
Poplar	<i>Populus species</i>	✓							
Japanese Oak	<i>Quercus glauca</i>				✓				
Pin Oak	<i>Quercus palustris</i>				✓			✓	
English Oak	<i>Quercus robur</i>		✓		✓				
Weeping Willow	<i>Salix babylonica</i>	✓					✓		✓
Swamp Cypress	<i>Taxodium ascendens</i>			✓	✓				
Waratah	<i>Telopea speciosissima</i>		✓						