Fernglen native plant garden

Newsletter Winter 2016

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1. Curator's Report June 2016

The working bee in Muriel Fisher Reserve went well with more than a dozen people attending, including a handful from Island Bay Road. I think most will be happy to help with another one.

Forty Auckland Garden Design members visited Fernglen on the morning of 29 April and Nev Arbury and I showed them around. "Absolutely inspiring," the organiser told us later by email. "Everyone was so interested and enthused by all the plants and wonderful environment." A generous donation was received.

A couple of weeks later two Verrans School classes came with parents in search of invertebrates, including glow worms. The glow worm population has declined in the last few years but we did find some lairs, marked by delicate "fishing lines".

The Fernglen Education room was again used by two Hash House Harrier groups for their after-run dinner. Their running route included the less-developed tracks going into Chelsea and around Ravenstone Place. They enjoyed the challenge these tracks provided in the dark and wet, with running sometimes reduced to a walk!

Gabi Schmidt-Adam of Massey University would like to bring her group of botany students to Fernglen 14 September. This will be the 5th time in a row that these students and tutors visit, which is a pleasing endorsement of Fernglen's purpose.

On the track to Ben's Ridge, just past the seat overlooking the fallen rimu, a group of kiekie are displaying their cone-shaped fruit. Nearby, a bit off the track on the other side, a cluster of hooded orchids have emerged.

At the Kaipatiki Restoration Network meeting last month I learnt that there will not be any money for track and information signs. So I am intending to put up temporary track signs in Kauri Park until permanent ones are affordable.

I visited Geof Davidson's Oratia Nursery recently where I saw many fine plants assembled for planting projects around Auckland. Some will be despatched to Fernglen so a planting working bee is coming up. Geof is wanting to cease his involvement in the nursery and is trying to find someone keen to take over.

Another native plant nursey well worth a visit is Joy Plants (Lindsay and Terry Hatch) at Jericho Road Pukekohe East. The property also contains some original bush featuring stately totara, taraire and puriri. Many interesting planted specimens are beside the track which follows the stream. Being in the Waikato catchment, but still within the Auckland boundary it supplies eco-sourced plants for Waikato councils as well as Auckland.

Malcolm Fisher

Malcolm Fisher

Next Fernglen management committee meeting 7.30pm Tuesday August 9th at Fernglen

New members welcome.

2. Tiritiri Matangi

Regenerating forest Tiritiri Matangi

Tiritiri Matangi, which means "Tossed by the Wind," is an open scientific reserve managed by the Department of Conservation, in partnership with the Supporters of Tiritiri Matangi (SoTM).

Maori settlement from around 1400AD followed by 120 years of colonial farming totally altered the natural ecosystem. By 1975, grassland covered 52% of the Island, bracken fern 27%, mānuka and kānuka stands 10%, pōhutukawa trees 6%, and kohekohe forest 3%, and māpou stands 1%. The latest vascular flora surveys show that open pasture areas have now been reduced to 10%. Planted regenerating forest now cover 64% of the Island. The remaining areas of natural forest, now comprise up to 19% of the vegetation.

The role of tertiary institutions such as the Auckland and Massey Universities, Cambridge University (UK) and the Zoological Society of London, gives a scientific basis for the modification and management of the Island. Results from the experimentation and study of Tiritiri will help inform other restoration projects throughout the country. Successive Biodiversity Plans for the island chart the direction of the ongoing development.

The 1982 plan describes an enrichment planting programme with pōhutukawa as the main species, and taraire, karo and kohekohe used to a lesser extent. Initially the plan was to re-create a forest of similar species composition to the existing remnants, which were dominated by pōhutukawa. The 1997 working plan for the Island proposed removing indigenous plant species that had already been introduced, but which were no longer considered appropriate because they were not representative of the Inner Gulf region. The philosophy has now expanded into the three main objectives of the 2013 Vegetation Plan:

1. To manage various habitat types for resident species, plant and animal, and for those being considered for future translocation

2. To increase the diversity of native plants by adding species that will make some areas of Tiritiri Matangi more representative of an Inner Gulf Island ecosystem.

3. To provide a safe haven for plant species that are nationally and/or regionally threatened.

At the present time the appearance of the forest is variable. Some areas have tall trees planted close together and are upright without a spreading canopy with little significant understory. Other areas have mature trees and an abundant understory of shrubs and ferns. Around 90,000 pōhutukawa were planted in the 1980s, with an expectation that around 30% would survive. A much higher proportion thrived creating a closed canopy under which other species fail to establish. The experimental Pōhutukawa Project started in 2010-11 and will run for 15-20 years. It aims to determine whether thinning of pōhutukawa and creation of light wells has the potential to increase species diversity.

There are many considerations in siting and selecting plants for Tiritiri Matangi. For example, areas of bracken and muehlenbeckia are used by a range of species, including fernbird, kākāriki, little penguin, kiwi and moko skink, which also uses rank pasture grass. Like grassland, areas of bracken and muehlenbeckia are vulnerable to invasion by regenerating trees and shrubs and need to be protected. Natural water supplies are inadequate on the island and wetland areas, and water needs careful management. Sensitivity to archaeological and historic early Maori and European settlement sites, including the maintenance of a fully functioning lighthouse, are other considerations.

In addition to the 300,000 trees planted between 1984 and 1994, eleven endangered bird species have been introduced including: little spotted kiwi, hihi (stitchbird), takahe, kokako, tiekie (North Island saddleback), toutouwhai (North Island robin), popokotea (whitehead), kakariki, pateke (brown teal) tui and kereru (wood pigeon). Three New Zealand reptiles including tuatara, and one insect species the Wetapunga (giant weta) have also successfully been introduced. Ongoing plans include introducing other animals such as bats, flax snails, and enhanced native fish populations in the predator free environment. The birds are the star attraction of the Island, with feeding stations providing excellent viewing platforms.

The development of a threatened plant garden near the visitors centre offers an opportunity to establish populations of rare plants that are extremely vulnerable on the mainland. Some unusual species of native broom, *Pomaderis kumerahou*, *Elingamata johnsonii* (from the Three Kings), and several populations of kidney fern are currently evident. A table with all of the species intended to be planted in the current 10 year plan can be found on the following link:

Ferry Wharf Tiritiri matangi

http://www.tiritirimatangi.org.nz/miscellaneous%20documents/BPFinalSeptember2013.pdf

Lighthouse Tiritiri Matangi

Supporters of Tiritiri Matangi (SoTM) volunteers provide excellent guides, and can be seen working in the reserve, gift shop, and information centre. The ferry leaves Gulf Harbour at 9 and returns to the mainland at 3.30pm. Overnight accommodation can also be booked in advance for those hoping to catch sight of an elusive kiwi.

3. Auckland's Wetlands worth visiting

Auckland's wetlands have been seriously depleted and degraded as the city has grown. Currently, Auckland has an estimated 3,700 hectares of freshwater wetlands, and 14,000 hectares of estuarine wetlands, along with 30 lakes, and 10,000 kilometres of rivers and streams. They have an important role in the ecology of the city by: improving water quality, controlling floods, providing a habitat for plants and animals, ensuring biodiversity and the preservation of native New Zealand wetland plants species.

Worth visiting are the following:

Whatipu Scenic Reserve is one of the more rugged west coast beaches and combines both freshwater wetlands and salt marsh vegetation. This wilderness area has walking tracks along both coastline and bush.

Tahuna Torea in Glen Innes covers 25 hectares of coastal vegetation with freshwater wetland, saltmarsh, and mangroves. Largely the work of enthusiastic volunteers many of the wetland trees are now maturing. Superb bird hides provide viewing of the range of permanent and migratory birds.

Tahuna torea

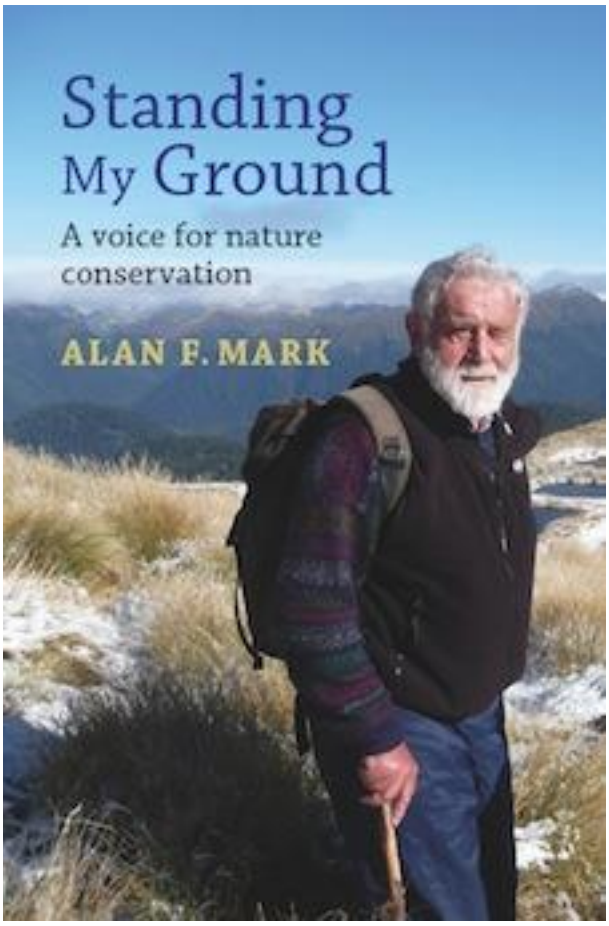
Lake Wainamu close to Te Henga (Bethells Beach) is a deep fresh water lake covering 14 hectares. The adjacent Te Henga wetland covers 140 Hectares and is home to 300 plant, 45 bird and 6 native fish species.

Waiatarua Reserve in Remuera is the largest constructed wetland in New Zealand and covers 40 hectares. Fortunately in the 1980's the Auckland Council decided to restore this wetland. Storm water in the catchment was controlled, sediment and contaminants removed, and the city gained an amenity for people and wildlife.

Little Shoal Bay and LeRoy's bush in Birkenhead are close to Fernglen .This North Shore coastal and freshwater wetland has a wonderful raupo crop at the start of the bush walk.

Little Shoal bay

4. Book Review: Standing My Ground A voice for nature conservation by Alan F Mark



Emeritus professor Alan Mark has been influential as one of New Zealand's foremost activists calling for the preservation of our natural heritage since the 1960's. Born in Dunedin and educated at Otago University, he studied for his PhD at Duke University in North Carolina. He returned to a post in the Botany Department at Otago in 1955 where he remained until semi-retirement in 1998.

One of his first struggles in the 1950's was to spearhead a campaign to fight for grassland tussock conservation in the South Island high country. Heavily stocked pastoral farms were regularly burning and degrading grasslands. His research into snow tussock demonstrated how the tussock was a crucial water-gatherer in the high county, literally changed the way that we viewed the uplands.

A powerful environmental battle ensued over the Manapouri dam project and Lake Te Anau, the nationwide petition collected a record 264,000 signatures. Alan's authority and effective advocacy ensured the victory of the protest and preserved the level of the lake. He subsequently was appointed a Guardian of Lakes Manapouri and Te Anau. Proving a formidable intellect in environmental issues Alan was then co-opted onto many QUANGO's (Quasi Non- Governmental Organisations). His reflections on the decision making and internal dynamics of these bodies makes fascinating reading.

Elected onto the national executive of the Royal Forest and Bird Society in 1979 he became president in 1986.One of his first acts as president was to sign the controversial West Coast Forest Accord Locally he has been committed to the Dunedin Forest and Bird control of Wilding Pines project.

Upon retirement and now in his 80's Alan has been devoted to the establishment of Wise Response Inc.- a broad based national risk assessment of economic, energy, climate, ecological, and environmental security. A daunting challenge for a remarkable man. His life's work has been superbly drawn in this publication.

5. The Natural Vegetation of Laos

Luang Prabang

The beautiful country of Laos is a stunning tropical botanical paradise. The scented frangipani is the national flower. The white, cream, pink, and red flowers are seen everywhere from small container plants to large trees growing in parks and gardens.

As with many countries there is a constant battle between economic development and conservation. High rainfall means that electricity can be exported from Laos to many neighbouring countries. The environmental impact of the construction of hydro-electric dams is apparent. Rapid population growth has resulted in extensive deforestation since the 1950's, particularly in the coastal and Mekong delta regions. The slash and burn mentality in rural agriculture has resulted in soil depletion. Native vegetation has been replaced with the cultivation of food crops such as rice.

The majority of the virgin forests are situated in the mountainous Vietnam/ Laos border region. The upper layer of very old tall canopy trees, including teak mahogany, banyan, *Paulownia*, and *Ficus* species are dripping with epiphytes and vines. Underneath the trees is a layer of large leafed shrubs of up to 4 metres. Then at ground level beautiful ferns and glossy ground covers such as *Monstera* and *Philodendron*.

Plain Of Jars

Laos has a tropical monsoon climate with a rainy season from May to October, cool dry season November to February, and hot dry season March- April. Some areas have an extended dry season. This is particularly noticeable around the Plain of Jars, a plateau of vast grasslands and thousands of Bronze Age funerary urns.The cities and large towns are characterised by an abundance of potted plants especially around public buildings. Colourful displays of bougainvillea, ginger, poinsettia, datura, croton, lantana, frangipani and orchid, growing in all sorts of containers from half coconuts to hanging baskets. The most stunning example of a city as a tropical garden, would have to be Luang Prabang .This UNESCO World Heritage site, with its preserved colonial French architecture and Buddhist temples, lies in a valley at the confluence of the Mekong and Nam Khan rivers. Laos is a highly recommended tourist destination.

Buddhist temple and frangipani

6. Collecting Native Seed

One of the joys of being passionate about native plants is being able to propagate from collected seed. 2016 has been a bumper year for seeds. Most native plants seeds ripen from February to April. Carrying plastic bags to collect fleshy seeds such as *Coprosma* and puriri, and paper bags for dry seeds like kowhai and *Olearia* is recommended.

Key points for seed collection:

1. Ensure the trees are healthy specimens
2. Check the seed is viable
3. Ensure species is growing in isolation if they are hybridised
4. Eco-sourcing guidelines recommend using seeds or plants from areas in the general locality where you intend planting, so that the plants are better suited to local conditions

On the next page is a calendar for seed collection or view as a table on the DOC website link

http://www.doc.govt.nz/get-involved/run-a-project/restoration-advice/native-plant-restoration/ecosource-seeds/collection-and-propagation-guide-trees/calendar-for-seed-collecting/

Kowhai seeds By Phil Bendle NZPCN

Botanical name	Common name	Colour of ripe fruit/seed case	Feb	Mar April	May June	July- Oct	Nov- Jan
Agathus australis	kauri	brown cone		Y			
Alectryon excelus	titoki	red-black fruit	y				y
Aristotelia serrata	makomako / wineberry	red-black fruit		Y			
Beilschmiedia taraire	taraire	purple drupe		Y			
Beilschmiedia tawa	tawa	purple drupe	y	Y			
Brachyglottis repanda	rangiora	dry brown seed					y
Carpodetus serratus	putaputaweta	red-black fruit			y		
Coprosma arborea	mamangi	white fruit	y	Y	y	y	y
Coprosma areolata		dark blue fruit		Y			
Coprosma grandifolia	kanono	red fruit	y	Y			
Coprosma lucida	shining karamu	red fruit		Y			
Coprosma propinqua	mingimingi	blue fruit		Y	y		
Coprosma rhamnoides		ruby red fruit		Y	y		
Coprosma rigida		yellow fruit		Y	y		
Coprosma robusta	karamu	orange fruit	y	Y	y		
Coprosma rotundifolia		red/two-lobed fruit	y				y
Coprosma spathulata		red / orange / black fruit		Y	y		
Coprosma tenuicaulis	swamp coprosma	black fruit		Y	y		
Cordyline australis	cabbage tree / ti kouka	cream fruit	y	Y			
Cordyline banksii	bush cabbage tree	cream-blue fruit	y	Y			
Dacrycarpus dacrydioides	kahikatea	orange-red fruit	y	Y			
Dacrydium cupressinum	rimu	red fruit	y	Y	y		
Dysoxylum spectabile	kohekohe	orange fruit			y		
Elaeocarpus dentatus	hinau	dark brown fruit		Y	y		
Elaeocarpus hookerianus	pokaka	purple-black drupe		Y			
Fuchsia excorticata	kotukutuku	red-purple fruit	y				y
Geniostema ligustrifolium	hangehange	dry brown capsule		Y			
Hebe stricta	koromiko	brown capsule		Y	y		
Hedycarya arborea	pigeonwood / porokaiwhiri	orange fruit					y
Hoheria sexstylosa	lacebark / hohere	dry brown		Y	y		
Knightia excelsa	rewarewa	brown capsule			y		
Kunzea species	kanuka	dry brown capsule		Y			
Laurelia novae zelandiae	pukatea	green capsule		Y	y		
Leptospermum scoparium	manuka	brown capsule	y	Y	y	y	y
Leucopogon fasciculatus	mingimingi	crimson fruit	y	Y			
Litsea calicaris	mangeo	blue-purple fruit		Y			
Melicope simplex	poataniwha	dry capsule	y	Y			
Melicytus ramiflorus	mahoe	white-purple fruit	y	Y			
Metrosideros excelsa	pohutukawa	dry brown seed	y	Y			
Myrsine australis	mapou / red matipo	black fruit		Y	y	y	
Olearia rani	heketara	fluffy white seed					y
Pennantia corymbosa	kaikomako	black fruit	y				
Piper excelsum	kawakawa	yellow-orange fruit	y				y
Phyllocladus trichomanoides	tanekaha	cone		Y	y		
Plagianths regius	ribbonwood / manatu	dry brown capsule	y	Y			
Podocarpus totara	totara	yellow-red fruit	y	Y			
Prumnopitys ferruginea	miro	red fruit		Y	y		
Prumnopitys taxifolia	matai	black fruit	y	Y			
Pseudopanax arboreus	five finger	black fruit		Y	y		
Pseudopanax crassifolius	lancewood / horoeka	black fruit				y	
Rhabdothamnus solandri	taurepo	dry capsule	y	Y	y		
Rhopalostylis sapida	nikau	red fruit		Y			
Schefflera digitata	pate / patete	white-purple fruit		Y	y		
Sophora microphylla	kowhai	dry brown pod	y	Y	y		
Streblus heterophyllus	turepo	red fruit	y				
Syzygium maire	swamp maire	red-black fruit	y				
Vitex lucens	puriri	pink or black fruit	y	Y			
Weinmannia racemosa	kamahi	capsule		Y			

7. Bens Ridge- 13 years of development

Originally designated as an area to grow large trees the plan for the Ben's Ridge area of Fernglen has evolved. It now displays our collections of divaricating shrubs, Chatham Island plants, native grasses, and a recently a *Coprosma* collection. Overall plants have thrived in this part of the garden although regular summer watering has been essential.

Particularly healthy tree specimens include *Agathus australis* Kauri, *Alectryon grandis* Three Kings titoki , *Elaeocarpus dentatus* hinau, *Hedycarya arborea* pigeonwood, *Myrsine salicina* toro, *Nestegis apetala* coastal maire, *Nothofagus menziesii* beech, *Planchonella costata* tawapou, and *Streblus bankseii* turepo.

The expanding *Coprosma* collection has thrived over two hot summers with regular rainfall. Some of the lesser known *Coprosma*: *Coprosma dodonaeifolia, Coprosma propinqua var latiscula, Coprosma chatamica* are now established and well worth visiting. Our aim is to have a comprehensive definitive *Coprosma* collection.

The grass collection has been challenging because some of the native grasses and sedges have a limited life span and require regular replanting. *Gahnias* grew enormous this summer, and in particular *Gahnia xanthocarpa*,which has had a dramatic display of large seed heads. New grasses will be planted this winter to expand the collection.

The divaricating plant collection at the top of Ben's Ridge has been a great success. *Muehlenbeckia astonii, Corokia cotoneaster and Melicytus obovatus* in particular have been outstanding. This is a particularly dry part of the garden so plant selection is critical.

It is a rewarding walk up to Ben's Ridge to view this expanding and developing corner of the collection.

Coprosma dodonaeifolia Ben's Ridge