Waikato Botanical Society Inc.

Newsletter No. 21, November 2005

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KARANGAHAKE GORGE FIELDTRIP 2ND OCTOBER 2005

On Sunday 2 October 2005 a bright wee bunch set off, armed with a list for the Gorge track provided by John Smith-Dodsworth, to walk the loop from Karangahake up the Level 7 track to the Dubbo track and back down via the Waitewheta gorge.

Initially we said we would move rapidly up the Level 7 track because it was rather uninteresting scrub. But it was a rather late lunchtime when we arrived at the first junction because the first section, in spite of being scrubby and weedy proved tremendously interesting. Places such as these often provide a variety of disturbed habitats rich in species and this proved to be the case.

The first few hundred metres contained probably all the common pests and weeds including gorse, broom, wild onion, wandering jew, honeysuckle, crocosmia and wide range of grasses. The canopy consisted of scattered *Pinus radiata* over kanuka, mahoe, mamaku and small trees of rimu, the last named hopefully to displace the weeds in the future. Where the native plants dominated the canopy, quite rich islands of native plants were present, including ferny gullies and the odd wet area with plants such as *Gleichenia microphylla* and *G. dicarpa, Schoenus tendo,* and the orchid *Orthoceras novae-zelandiae*. These spots slowed progress as the treasures were noted and discussed.

After the route branched from mine road, the vegetation became less weedy but younger and alongside the track, old mine adits frequently appeared. These were often damper places and provide rocky habitats for unusual plants such as *Rhabdothamnus solandri* (in flower) and *Peperomia urvilleana*. In more open rocky areas akeake (*Dodonaea viscosa*) was an other surprise along with *Pomaderris phylicifolia* (or is it aff. *phyllicifolia*?) and *Helichrysum lanceolatum* which through a quirk of taxonomy certainly is not lanceolate-leaved.

Just before we reached the lunch spot tall tree ferns, especially *Cyathea medullaris* provided the typical local habitat for orchids such as the grand *Pterostylis banksii* which was abundant and in flower.

After lunch we descended along the Dubbo track and it wasn't long before orchids were abundant along the track. They included abundant *P. banksii*, swathes of *Corybas trilobus* (*Nematoceras triloba*), *C. acuminatus* (in flower)*, C. oblongu*s and *Acianthus sinclairii.* The canopy was now mature forest with a canopy of tawa, kohekohe and the odd puriri and emergent old rimu, miro and rewarewa. Here debate began about C*oprosma spathulata* and *C. arborea* differences but we failed to see more *C. spathulata* to end it!. The ferns here were richer than earlier and included a good range of filmy ferns including *Hymenophyllum dilatatum, H. demissum* and kidney fern (*Cardiomanes reniforme*). At the tricky creek crossing *Trichomanes elongatum* was common in shady parts of the bank and the velvety *H. ferrugineum* hung from the tree fern bases. On the ascent out of the creek *Pterostylis alobula* was abundant on the dry ridge,

Finally at the main river we paused under a grove of ricker kauri and accompanying *Streblus heterophylla, Pterostylis trullifolia* and *Hebe macrocarpa* for a late afternoon tea. From here we hastened back down river noting many interesting plants and vowing to return to do the botanising properly on another day. Highlights of this part of the trip included, *Melicope simplex, Pomaderris kumeraho* (in full flower) and *Pimelea longifolia*. The latter recorded as we scrambled past a locked gate closing the track somewhere further down for a rockfall (and still an hour from the vehicles and perhaps with 3 hours back the way we had come, much of it uphill; time 4 pm).

From there downstream *Leionema nuda* (formerly *Phebalium nudum*) was in abundant flower and on the steep banks filmy ferns were often abundant, especially *Hymenophyllum multifidum* and *H. sanguinolentum*. Finally near the end of the track at the easily negotiated rockfall debate over a small filmy fern in rock crevices ensued - was it *Hymenophyllum cupressiforme* or *H. multifidum* (debate continues!). Finally the slog back up to the cars again through vegetation that deserved more attention than it got at this late hour. A great day!

Species list for Level 7 and Dubbo tracks - Karangahake

* adventive

Acianthus sinclairii
Adiantum cunninghamii
Agathis australis
* *Agrostis capillaris*
* *Allium triquetrum*
Alseuosmia macrophylla
Anarthropteris lanceolata
* *Anthoxanthum odoratum*
Aristotelia serrata
Asplenium appendiculatum (A. terrestre)
Asplenium bulbiferum
Asplenium flaccidum ss
Asplenium oblongifolium (A. lucidum)
Asplenium polyodon (A. falcatum)
Astelia solandri
Astelia trinervia
* *Axonopus fissifolius*
Beilschmiedia tawa
Blechnum chambersii
Blechnum filiforme
Blechnum fraseri
Blechnum novae-zelandiae
Brachyglottis kirkii var. kirkii
Brachyglottis repanda
* *Callitriche stagnalis*
* *Cardamine hirsuta*
Cardiomanes reniforme
Carex breviculmis
Carex dissita
* *Carex divulsa*
Carex solandri
Carpodetus serratus
* *Cirsium arvense*
* *Cirsium vulgare*
Clematis paniculata
Collospermum hastatum
Collospermum microspermum
* *Conyza albida*
Coprosma grandifolia
Coprosma lucida
Coprosma rhamnoides
Coprosma robusta
Coprosma spathulata ssp*. spathulata*
Cordyline australis
Cordyline banksii
Cordyline pumilio
* *Cortaderia selloana*
Corybas acuminatus
Corybas oblongus
Corybas trilobus
* *Crepis capillaris*
* *Crocosmia crocosmiiflora X*

Cyathea dealbata
Cyathea medullaris
Cyathea smithii
Cyathodes juniperina
* *Cyperus eragrostis*
Cyperus ustulatus
Dacrycarpus dacrydioides
Dacrydium cupressinum
Deyeuxia avenoides
Dianella nigra
Dicksonia fibrosa
Dicksonia squarrosa
* *Digitalis purpurea*
Dodonaea viscosa
Doodia australis
Drosera peltata ssp*. auriculata*
Dysoxylum spectabile
Earina mucronata
Elaeocarpus dentatus
Elatostema rugosum
* *Eleusine indica*
* *Eragrostis brownii*
* *Erica arborea*
* *Erigeron karvinskianus (*
Freycinetia banksii
Fuchsia excorticata
Gahnia lacera
Gahnia pauciflora
Gahnia setifolia
* *Gamochaeta purpurea*
Gamochaeta spicata
Geniostoma rupestre var*. ligustrifolium*
* *Geranium robertianum*
Gleichenia dicarpa
Gleichenia microphylla
Gonocarpus incanus
Grammitis ciliata
Griselinia lucida
* *Hakea salicifolia*
Haloragis erecta ssp*. erecta*
Hebe macrocarpa
Hebe stricta
* *Hedera helix*
Hedycarya arborea
Helichrysum lanceolatum agg (H. aggregatum; H. glomeratum var.)
Histiopteris incisa
* *Holcus lanatus*
Hydrocotyle dissecta
Hydrocotyle heteromeria
Hydrocotyle microphylla
Hymenophyllum demissum
Hymenophyllum ferrugineum
Hymenophyllum flabellatum
Hymenophyllum rarum
Hymenophyllum revolutum
* *Hypericum androsaemum*
* *Hypochoeris radicata*
* *Juncus articulatus*
* *Juncus effusus*
Juncus planifolius
* *Juncus tenuis*
Knightia excelsa
Lastreopsis glabella
Lastreopsis hispida
Lastreopsis microsora
Laurelia novae-zelandiae
Lepidosperma laterale
Leptopteris hymenophylloides
* *Leucanthemum vulgare*
Leucopogon fasciculatus
Leucopogon fraseri
* *Ligustrum lucidum*
* *Ligustrum sinense*
* *Lilium tigrinum*
Litsea calicaris
Lobelia anceps
* *Lonicera japonica*
* *Lotus pedunculatus*
Lycopodiella cernua
Lycopodium deuterodensum
Lycopodium volubile
Lygodium articulatum
Macropiper excelsum ssp*. excelsum*
Melicytus ramiflorus
Metrosideros diffusa
Metrosideros fulgens
Metrosideros perforata
Metrosideros robusta
Microlaena avenacea
Microlaena stipoides
Microsorum pustulatum
Microsorum scandens
Microtis unifolia
Mida salicifolia
* *Miscanthus nepalensis*
Morelotia affinis
Muehlenbeckia axillaris
Myrsine australis
Nertera dichondrifolia
* *Oenanthe pimpinelloides*
Olearia rani
Oplismenus hirtellus ssp*. imbecillis*
Orthoceras novae-zeelandiae
* *Oxalis incarnata*
Paesia scaberula
* *Paraserianthes lophantha*
* *Paspalum dilatatum*
Passiflora tetrandra
Pennantia corymbosa
Peperomia urvilleana
Phormium cookianum
Phyllocladus trichomanoides
* *Pinus pinaster*
* *Pinus radiata*
Pittosporum tenuifolium
* *Plantago lanceolata*
* *Plantago major*
Pneumatopteris pennigera
Poa anceps ssp*. anceps*
* *Poa annua*

Podocarpus hallii
Podocarpus totara
Polystichum wawranum (P. richardii pp.)
Pomaderris kumeraho
Pomaderris phylicifolia
Prumnopitys taxifolia
* *Prunella vulgaris*
Pseudopanax arboreus
Pseudopanax crassifolius
Pseudowintera axillaris
Pteridium esculentum
Pteris macilenta
Pterostylis alobula
Pterostylis banksii
Pterostylis trullifolia
Pyrrosia eleagnifolia
* *Ranunculus flammula*
* *Ranunculus repens*
Rhabdothamnus solandri
Rhopalostylis sapida
Ripogonum scandens
Rubus cissoides
* *Rubus fruticosus*
Rumohra adiantiformis
Rytidosperma clavatum
Rytidosperma gracile
* *Rytidosperma penicillatum*
* *Schedonorus phoenix*
Schefflera digitata
Schoenus maschalinus
Schoenus tendo
* *Selaginella kraussiana*
* *Senecio bipinnatisectus*
Senecio hispidulus
* *Senecio jacobaea*
Senecio minimus
* *Senecio vulgaris*
Solanum americanum
* *Solanum nigrum*
* *Solanum pseudocapsicum*
* *Sonchus arvensis*
* *Sonchus oleraceus*
* *Sporobolus africanus*
Stachypitys ferrugineus (Podocarpus, Prumnopitys)
Sticherus flabellatus
Streblus heterophyllus
* *Taraxacum officinale*
* *Teline monspessulana*
Tmesipteris elongata
Tmesipteris lanceolata
Tmesipteris tannensis
* *Tradescantia fluminensis*
* *Ulex europaeus*
Uncinia banksii
Uncinia distans
Uncinia uncinata
* *Verbena bonariensis*
* *Vicia sativa*
* *Vinca major*
Vitex lucens
Wahlenbergia violacea
Weinmannia silvicola
**Zantedeschia*

G. T. Jane & G. D. Donaghy

SUBMISSION TO THE ENVIRONMENT CENTRE

In June the committee made a submission, on behalf of the Society, to the Environment Centre for the Hamilton Communities Outcomes project.

- Horseshoe Lake – the WBS supports the project.
- Gully Restoration – the WBS supports the project and would like to see more resources provided to those property owners/occupiers that are restoring their gullies (e.g. assistance in removing/maintaining problem pest plants).
- Maori garden at the Hamilton Gardens – the WBS supports this project. We advocate for the development of a threatened plants garden on a similar scale.
- Cycleways – the WBS supports the further development of cycleways throughout the city.
- Waikato River bank – the WBS recommends a management plan is developed to address pest plant issues, restoration and the planting of appropriate species.
- Open spaces/parks/subdivisions – These all require plans. The WBS would like to see the opportunities to connect fragments utilised in these aspects of city planning. This would include planting appropriate species and ensuring that land is not developed that has existing values for biodiversity.
- Significant remnants – The WBS advocates for the identification of significant vegetation remnants that occur in the city. Once identified, these sites should then be protected via a QEII type covenant. These sites would then be protected from any city works such as

walk/cycle ways, storm–water drains, cables, pipelines etc. It could be equivalent to the notable trees register – i.e. a notable ecosystem register.

- The use of environmental weeds in traffic islands/roadside plantings to be halted (e.g. agapanthus and ivy). There are many suitable plant species that could be used as alternatives. The WBS would like to see the council use the alternatives used in new planting s and the gradual replacement of inappropriate species over time. The alternatives may not be as easily maintained, however the additional cost will be offset by the reduction in damage to the environment.

2005 PRIZE WINNERS

We would like to congratulate the inaugural winners of our Waikato Botanical Society Waikato University undergraduate and graduate student prizes.

These were the top students in two botanically focussed papers-
Kemble Pudney for the Plant Ecology paper at Masters level
Mike Dodd for the Flora of the Pacific summer course

Both winners received a cash prize of $250 and a years subscription to the Society. We will be offering these prizes annually with monies invested from book sales and hope to encourage students undertaking botanical studies.

WHANGAMARINO
NOVEMBER 20TH 2005

Whangamarino Wetland is one of New Zealand's six Ramsar sites. Our field trip, led by Shannon Fergie and Andrea Brandon from DoC, focussed on the complex management issues facing Whangamarino. Covering an area of over 7000 hectares, the issues of drainage, nutrient runoff and its role in flood control were apparent before we even reached the wetland proper.

Our first stop was the Fall's Road carpark. Here we walked a few hundred metres along the Whangamarino River, where there were a number of coarse anglers fishing for species such as catfish, rudd and koi carp. Although rudd is classed as a sport fish, catfish and koi carp are pest species, feeding on the bottom of waterways. Koi carp, which can reach up to 500mm in length, are indiscrimate feeders, eating insects, eggs, young fish and plants. The feeding activity of both species disturbs the vegetation and also the sediment, and this muddying of the water has further impacts on aquatic vegetation by decreasing the light essential for growth.

Andrea and Shannon had set two fyke nets the previous day hoping to catch a few representatives of some of the pest species. Upon retrieving the nets we discovered 60-70 catfish! It certainly illustrated the enormity of the problem. We also caught several Gambusia (also known as mosquito fish), another serious pest in Waikato waterways. Happily, the nets also yielded several native smelt and a number of eels, all of which were carefully liberated.

As we were leaving this site, yet more anglers arrived and another angle of this management issue became apparent. Under the Biosecurity Act koi carp and catfish cannot be kept live in New Zealand and making sure anglers "dispose" of their catch promptly (and don't throw back small ones!) is important. Additionally, many of the people who enjoy this pass time are new arrivals in New Zealand and ensuring they understand the regulations can be difficult.

At our next stop, traps had been set overnight in an attempt to catch the threatened native black mudfish whose habitat in swampy areas has been highly modified and reduced. And by incredible luck, the last trap retrieved contained just such a thing! Mudfish are quiet incredible in that they are able to survive periods of drought by burrowing into the mud when the water dries up.

Throughout the day, the problem of pest plants was apparent, particularly grey willow. Introduced grasses such as *Phalaris* and *Glyceria maxima* are other problem species. Budgeting for weed control, and the logistics of carrying this out – often by helicopter – are more of the management issues at Whangamarino. In one area which has been sprayed, native sedges are now establishing. A further issue is fire, which can occur naturally during lightning storms. Obviously this can cause extensive damage. However, a number of rare wetland plants require fire to establish, raising the conundrum of whether naturally occurring fires should be controlled. Clipping of vegetation is being trialled to simulate fire.

After a brief stop at the confluence of the Whangamarino and Maramarua Rivers we then continued downstream to the rock weir, built by DoC following concern about the impacts of falling water levels on the condition of the peat and the habitats within the wetland. Its purpose is to increase summer water levels and the residence time of water within Whangamarino. This has in turn raised concerns from farmers adjacent to the wetland about the potential effects of increased groundwater levels on pasture quality. All around the wetland is pasture and cropped land and dealing with interactions in either direction is yet another aspect in managing Whangamarino. Whether it is the impacts of spraying or water levels in the wetland on agriculture, or the impact on the wetland of drainage or nutrient runoff from farms. The inflow of nutrients is a serious concern for low nutrient systems such wetlands. Establishing good relationships and co-operation from landowners is very important.

On the animal front, the bird life in Whangamarino is one of the main reasons for its Ramsar status. Part of the wetland is owned by Fish & Game, for whom populations of game birds such as ducks, swans and Canada geese are obviously important. Threatened native species found in Whangamarino include the Australasian bittern, spotless crake and North Island fernbird. Fire in the wetland is a direct threat to birds but also causes damage to their habitat. We were fortunate to hear the Australasian bittern, and Shannon explained the difficulties of monitoring their population. This done by observing their calls and judging compass direction and distance of calls is difficult enough, let alone distinguishing different birds through variations in direction and distance. Perhaps the biggest challenge is ensuring that all the monitors are doing the job the same!

Red deer are the main mammalian pest in Whangamarino, but as in many places feral cats are present at the margins, though fortunately are probably prevented from accessing the majority of the wetland by its very nature.

We'd like to give a huge thanks to Shannon and Andrea for a great day, especially the effort that went in beforehand to set the nets and traps. We all came away with a better appreciation of the modification of Whangamarino and the work involved in managing such a huge area, with difficult access and a vast range of complex issues.

Shirley Nichols

THREATENED PLANTS GARDEN

Planning is coming along well for garden. Next years programme has several working bees for landscaping, weeding, planting etc. At this stage we are in the process of gathering seed and planning the initial landscaping. There are several parts of the garden where retaining walls are necessary. In the interests of cost saving the committee would love to hear from anyone who owns or has access to a farm or property with a supply of rocks that would be suitable, contacts with earthworking companies that may remove rocks, etc. Anywhere you may think of that could be a good source! Alternatively, any contacts with landscaping or similar companies that could sponsor retaining wall supplies – appropriately acknowledged of course! If you can help please let us know at bot_soc@waikato.ac.nz or contact any committee member.

FINAL EVENT OF THE YEAR!

Sunday 4th December
End of year picnic and games

(Note: change of contact person from that previously advertised)

Joint event with Rotorua Botanical Society. Seeing as we didn't find any mistletoe in 2004, we'll head back to the Gudex Memorial Reserve for a spot of botanising and a picnic in the sun.

We will meet again at the Gudex Memorial Reserve on Sanatorium Hill (Pukemako). Our mission will include a search for the elusive mistletoeTrilepidia adamsii and you may be offered a botanical quiz... (with prizes of course!). This will be a potluck picnic so bring something yummy to share, a picnic rug and the family if you wish.

Contact: Andrea Brandon - ph (07) 848 2447 a/h or abrandon@doc.govt.nz
Meet: at the Landcare carpark, Gate 10 Silverdale Rd, Hamilton at 10.30am or at the Gudex Memorial obelisk at the reserve at 11am.

CHEESEMAN SYMPOSIUM

Cheeseman Symposium November 2006 – a symposium to celebrate the centenary of the first edition of Cheeseman's *Manual of the New Zealand Flora* (1906)

FIRST CIRCULAR

The Cheeseman symposium will celebrate the centenary of Thomas F. Cheeseman's *Manual of the New Zealand Flora* (1906). This symposium has arisen from Dr Henry Connor's suggestion at the 2001 AGM of the New Zealand Botanical Society that we should celebrate in 2006 Cheeseman's life and times, his taxonomic work, his flora writing, and the centenary of the 1906 publication of the first full treatment of the New Zealand flora by a resident botanist.

Cheeseman (1845-1923) was the Auckland Institute and Museum botanist and sole curator for 50 years (1874-1923). He was one of New Zealand's greatest botanists, and the first with a New Zealand education. During his career, Cheeseman described over 130 species and three plant genera. Sixteen plant species from New Zealand and Rarotonga are also named after him. He published the *Manual of the New Zealand Flora* (1906, 2nd ed. 1925) and *Illustrations of the New Zealand Flora* (1914), as well as countless scientific articles, primarily on botany, but also including zoology and ethnology. Cheeseman's herbarium numbered some 10,000 specimens. He was elected fellow of the Linnean Society of London and received their prestigious gold medal in 1923. He was president of the New Zealand Institute in 1911 and later became a fellow; in 1918 he was awarded the Hector Memorial Medal and Prize.

When: 20-22 November 2006 (2 days for the conference, 1 day for field trips)
Where: Conference Centre, University of Auckland

Session headings
Early botanists
New Zealand and Pacific Floras
Biodiversity informatics
Plant systematics, plant phylogeny and biogeography
Plant morphology, cytology and function
Pollination and reproductive biology
Science, conservation and conservation management

The New Zealand Plant Conservation Network will also offer a few concurrent sessions and presentations on the implementation of the Global Plant Strategy, Plant Propagation and *ex-situ* conservation.

No financial commitment is needed at this stage. If you are interested in receiving the second circular please post your contact details (where possible please supply an email contact) to:

Cheeseman Symposium 2006
c/- Mei Nee Lee
Botany Department
Auckland Museum
PB 92018
Auckland

or put "Cheeseman Symposium" in the subject line and email your contact details to:
mnlee@aucklandmuseum.com

Organising committee: Ilse Breitwieser, Ewen Cameron, Peter Heenan, Peter de Lange, Mei Nee Lee, Brian Murray, John Sawyer, and Mike Wilcox.

Organised by: Auckland Museum in collaboration with Auckland Botanical Society, Landcare Research, New Zealand Botanical Society, New Zealand Plant Conservation Network and University of Auckland.

CHRISTMAS IS COMING....DON'T FORGET "BOTANY OF THE WAIKATO" WHEN THINKING OF PRESENTS!
PLEASE CONTACT US IF YOU REQUIRE AN ORDER FORM.

FINANCIAL REPORT PRESENTED AT 2005 AGM

Waikato Botanical Society Financial Records Feb 28th 2004 - Feb 28th 2005

Bank Balances as @ 28th Feb 2004		
Cheque	$4,388.14	
Savings	$0.00	
Total funds 28th Feb 2004		$4,388.14

Income			
Subs	$700.00		
Interest (chq acct)	$25.00		
Donations	$0.00		
Book sales (120 incl. 2 donated)	$2,102.00		
Postage&handling	$0.00		
Term deposit	$ -		
Total		$2,827.00	
Expenses			
Advertising	$45.26		
General	$576.05		
Finances Audit	$ -		
Stationary & stamps	$109.67		
Catering costs	$44.32		
Prizes/ memberships/ donations	$141.25		
Total		$916.55	
Profit			$1,910.45
Total funds available 28th Feb 2005			$6,298.59

Bank Balances as @ 28th Feb 2005		
Cheque	$6,298.59	
Savings	$0.00	
Term deposit	$6,000.00	
Total funds 28th Feb 2005		$12,298.59

End of year reconcillation

Expenses owing

		$0.00

Expected income (invoices)

2 Books + postage Germany	$65.00	
		$65.00

Difference	$65.00
Bank Balance	$12,298.59
Adjust Balance as @ 28th Feb 2005	$12,363.59

Assests

		Value (based on cost)
Books in Stock 28/02/04	1218	$19,414.92
Books in Stock 28/02/05	1098	$17,502.12

Waikato Botanical Society net worth 28 Feb 2005	$29,865.71

WAIKATO BOTANICAL SOCIETY
PROGRAM 2006

In the event of bad weather, please contact the trip leader on the morning of field trips if you are unsure if they will go ahead and don't want a wasted trip to the meeting point. It is always helpful to notify the trip leader of your intention to attend a trip in case you are late to the meeting point or for last minute changes of plan. Please be prepared on all trips with your own lunch, drink, sturdy footwear, and clothes for all seasons. We encourage carpooling for longer distances and suggest a contribution is made toward those ever increasing petrol costs for the driver.

Saturday/Sunday 21 & 22nd January
Droseras to Peraxillas
Waitaanga Forest and NG Tucker Reserve
Ever wondered about the big swampy plateau land between Ohura and SH3 in the southern King Country? Take this opportunity to investigate some of this fascinating area for two days with Barry Hartley, renowned New Plymouth naturalist, to guide us.
It is an area renowned for rain so wet weather gear may be essential and R18, 1:50,000 is the Topo map for here.
Accommodation is available at $10pp/night. Cooking facility: an oven with 3 elements, toaster, electric kettle. There is some cutlery, crockery, pots and pans. One shower and one bath, two toilets. Trip limited to 10, one room sleeps 3, rest 2's. You will need sleeping bags, pillows, towels and all food, absolutely no shops available.
Contact: Jane Hart ph. 06 752 3688 or jane.hart@xtra.co.nz please RSVP for accommodation arrangements and location details.
Meet: Friday night 20 Jan, at the farmhouse accommodation on SH40, Waitaanga

March - Saturday/Sunday dates to be advised
Kawhia Harbour, Te Maika
Maori traditional plant uses and threatened plants
Contact: Cilla McAllum ph. or mcallump@waikato.ac.nz
Meet: to be advised

Sunday 12th March
Dave and Ann Lee's Restored Hamilton Gully
& Botanical Society Native Threatened Plant Collection working bee #1
Dave and Ann lee invite us to their urban gully restoration where they have transformed a willow, blackberry and gorse ridden gully into native vegetation over the last 30 years. Many interesting plants have been brought into or propagated at the site including *Loxoma cunninghamii*, *Streblus banksii*, *Teucridium parvifolium* and *Pittosporum turneri*.
This will be followed after lunch by the first working bee to establish some landscaping and garden beds at the new Botanical Society threatened plant collection site. Bring your old gardening clothes.
Contact: Liz Grove ph. 07 846 0965 (hm) or eg3@waikato.ac.nz
Meet: 9.30am University of Waikato Gate 9. From here we will proceed to Dave and Ann Lee's property, returning to the threatened plant garden site in the glasshouse compound at the University at 1pm.

Wednesday 5th April
Annual General Meeting
& talk by Catherine Beard: 'Alpine Flora'
Catherine will be telling us about her recent botanical excursion over the "Iceman Trail"; an ancient, high-alpine trail in the central Austrian Alps that has been used by people for over 5000 years, and the place where Ötzi (the famous ice-mummy) was found recently. You will hear about the Iceman and be treated to some colourful photographs of the sub-alpine and alpine flora of the Alps, as well as a look at the limestone flora and vegetation of the Dolomites in Southern Tyrol (northern Italy).
Contact: Shirley Nichols ph. 07 855 5061 (hm) or shirley.nichols@agresearch.co.nz
Meet: 7pm, McMeekan Centre, AgResearch, Ruakura.

Sunday 30th April
Clarkson's gully garden
& Botanical Society Native Threatened Plant Collection working bee #2
Starting with an inspirational trip to the Clarkson's gully garden in Chedworth, Hamilton (7 Lynwood Place) we will look at the variety of threatened and other native plants they have been successful in growing at their gully site.
After lunch a further working bee at the Society threatened plant collection to weed, plant and propagate more material. Bring your old gardening clothes.
Contact: Liz Grove ph. 07 846 0965 (hm) or eg3@waikato.ac.nz or Bruce Clarkson ph.855 9534 (hm).
Meet: 9.30am University of Waikato Gate 9. From here we can proceed to the Clarkson's and return to the new threatened plant collection site in the glasshouse compound at the University at 1pm.

Sunday 4th June
Hakarimata Kauri Grove and Northern lookout
A $1^1/_2$ hour loop track takes us through a kauri grove with several large remaining trees which survived logging in the area, *Alseuosmia quercifolia* is common here also. For those feeling energetic we will continue up towards the northern lookout to see some large kohekohe trees in full flower following recent possum control.
Contact: Liz Grove ph. 07 846 0965 (hm) or eg3@waikato.ac.nz to carpool from Hamilton
Meet: 10am, the walking track carpark at Parker Road end, Northern Hakarimata Range (follow the road on western side of the Waikato River up from Ngaruawahia)

Wednesday 5th July
Evening talk and slides by Bruce Clarkson: Botany of some European mountains: Pyrennes (Spain), Gran Sasso (Italy), Vesuvius (Italy) & Mont Blanc (France)
An illustrated talk featuring some of the highlights of a recent visit to Europe focussing mainly on mountain plants and landscapes ranging from recent volcanics to karst country but with a little bit of culture and history also included.
Contact: Shirley Nichols ph. 07 855 5061 (hm) or shirley.nichols@agresearch.co.nz
Meet: 7pm, McMeekan Centre, AgResearch, Ruakura.

Sunday 6th August
Protected significant trees of Hamilton City
& Botanical Society Native Threatened Plant Collection working bee #3
Have you hugged a significant tree lately? A guided visit to see some of the protected native and exotic trees along the Waikato River in Hamilton's city centre. Helen Bailey from the Hamilton City Council will talk about the significant trees register and how the assessment process is carried out to include trees valued for their ecological, botanical and amenity contribution to the community.
After lunch a further working bee to weed, plant and propagate in the Society threatened plant collection. Bring your old gardening clothes.
Contact: Liz Grove ph. 07 846 0965 (hm) or eg3@waikato.ac.nz
Meet: 9.30am University of Waikato Gate 9, from here we will proceed to the River walk near the central city returning to the threatened plant garden site in the glasshouse compound at the University at 1pm.

Sunday 3rd September
Tairua and Sailors Grave, Whenuakite, Coromandel.
Starting with Red Bridge walk to find *Brachyglottis myrianthos* and to see typical Coromandel regrowth, with abundant *Pseudopanax discolor* and *Alseuosmia macrophylla*. Then relocate to The Sailors Grave Historic Reserve from where we can walk along the coast and on into the Whenuakite Block of the Coromandel Forest Park. Threatened species to look out for include *Picris burbidgei, Pimelea tomentosa* and *Sicyos australis.*
Contact: Doug Ashby dj.ashby@xtra.co.nz, or to carpool from Hamilton Andrea Brandon ph. 07 858 1018 (wk) or abrandon@doc.govt.nz
Meet: 10am at the Tairua Community Hall , Main Road , on right , just before the bridge into town (opposite Pepe Road).

Sunday 1st October
Peter Morris' gully restoration
& Botanical Society Native Threatened Plant Collection working bee #4
A visit to the 20 year old gully restoration project of Peter Morris in Mangaharakeke gully, on the edge of Hamilton at Newstead/Matangi. The six acres of restoration contains a wide variety of site types - from dry bank top areas to very wet backswamp so there is a large range of species to see.
After lunch we return to another working bee to weed the collection, plant out and propagate. Bring your old gardening clothes.
Contact: Liz Grove ph. 07 846 0965 (hm) or eg3@waikato.ac.nz
Meet: 9.30am University of Waikato Gate 9, from here we will proceed to Peter Morris, returning to the threatened plant garden site in the glasshouse compound at the University at 1pm.

Sunday 5th November
Ferns on Mt Te Aroha
A challenging climb, about 3-4 hours up, but well worth the effort to look at ferns in particular with guru John Smith-Dodsworth. A good selection of filmy ferns can be found towards the top of the track, but no doubt there will be plenty of others` to catch our breath over on the way up too.
Contact: Liz Grove ph. 07 846 0965 (hm) or eg3@waikato.ac.nz to carpool from Hamilton
Meet: 9am at the entrance to Te Aroha hotpools carpark.

Sunday 3rd December
Te Waihou Walkway and Wairere Falls
Combined Christmas trip with Rotorua Botanical Society
We will walk the Te Waihou walkway near Tirau and look at aquatic vegetation in the Blue Spring with Paul Champion from NIWA. Those who are interested will then travel over to the Wairere Falls where a 1hr boardwalk takes you up to the base of the falls, a further 45min walk uphill leads to a lagoon at the top of the falls.
Contact: Andrea Brandon ph. 07 858 1018 (wk) or abrandon@doc.govt.nz to carpool from Hamilton
Meet: 9 am at Landcare Research carpark, Gate 10 Silverdale Rd, to carpool from Hamilton or 10 am at the Leslie Road carpark (Leslie Rd is off Whites Rd which is SH 28).