



President's letter

Thank you for welcoming me as your President for the next two years. I am not a specialist botanist, but all things botanical are of major interest to me. I have recently completed a PhD, the main theme being the riparian ecology of urban wetlands. This year's programme has continued to provide stimulating presentations. The student presentations are very important in encouraging them into careers as botanists and ecologists.

- The Committee made a submission on WCC's Biodiversity Action Plan, defending BotSoc's principles regarding the value of biodiversity in our region, and the need to always consider ecological appropriateness in restoration programmes. The field trip to Centennial Reserve, Miramar, highlighted the ecological dilemmas associated with the invaluable contribution of volunteers in restoration, and the misconception that any "native plants" will be suitable for a particular site. We look forward to the restoration guidelines that DOC and WCC are developing.
- Another concern is the lack of biodiversity interest expressed in WCC's draft Long-term Plan—economic outcomes appear to have priority over biodiversity targets. Our green city, wooded hills, parks and reserves, play a major part in our economic success and must be given due emphasis.

Karen Palmer

New member

We welcome new member, Jon Terry.

*Lea Robertson
Treasurer*

Articles for web site

We welcome articles for consideration for inclusion on our web site:

www.wellingtonbotsoc.org.nz

Please send your article to:

Richard Herbert

e-mail herbert.r@xtra.co.nz

Writing for the Bulletin

Do you have a botanical observation, anecdote, or insight that you could share with others in BotSoc? If so, please consider contributing it to the Wellington Botanical Society Bulletin. There is still plenty of space in the next issue. For more details and assistance, contact Leon Perrie at leonp@tepapa.govt.nz or 381 7261.

Wellington Botanical Society

Address:	PO Box 10 412, Wellington 6143	
Web site:	www.wellingtonbotsoc.org.nz	
President:	Karen Palmer	499 1381
Vice-Presidents:	Eleanor Burton	479 0497
	Richard Herbert	232 6828
Secretary:	Barbara Clark	233 8202
		e-mail: bj_clark@xtra.co.nz
Treasurer:	Lea Robertson	473 8211
Auditor:	Rita Chin	802 5278
Submissions coordinator:	Bev Abbott	475 8468
Bulletin editor:	Dr Leon Perrie	381 7261 (w)
		Te Papa, PO Box 467, WN 6140
Newsletter editor:	Chris Horne	475 7025 475 7253 (fax)
		e-mail: jchorne@paradise.net.nz
		28 Kaihuia St, Northland, WN 6012
Annual subscription:	ordinary \$35; country \$30; student \$10; joint / group / family \$40.	
Send your subscription to Treasurer, WBS, Box 10 412, Wellington 6143.		
New subscribers: Please complete form at the back of this newsletter.		

Meetings

BotSoc meetings are usually held at 7.30 p.m. on the third Monday of each month at Victoria University, W'gton – Lecture Theatre MYLT101, ground floor, Murphy Building, west side of Kelburn Parade. Enter building about 20 m down Kelburn Pde from pedestrian overbridge. No meetings December and January.

Field trips

Day trips to locations in the Wellington region are usually held on the first Saturday of each month.

Extended excursions are usually held at New Year, at Easter and the first weekend in December.

DEADLINE FOR COPY FOR NEXT ISSUE – 20 September 2015

Articles may be edited for clarity and length

ATTENDING FIELD TRIPS AND MEETINGS

Ideas please

We welcome your ideas about:

- places to visit on field trips
- topics and speakers for evening meetings
- information or photographs for BocSoc web site

Please send ideas to our secretary, Barbara Clark, PO Box 10 412, Wellington 6143, ph 233 8202.

Field trips

If you intend to join a trip, PLEASE phone the leader at least TWO DAYS beforehand, so that he/she can tell you of any changes and/or particular requirements. If you cannot ring in advance, you are welcome to join on the day.

Clothing for field trips

Sun hat, balaclava¹ or hat¹, waterproof/windproof parka, long-sleeved cotton shirt, singlet¹, bushshirt¹, 1 or 2 jerseys¹, waterproof/windproof overtrousers, nylon shorts, longjohns¹, longs¹, underclothes, swimming togs, 4pr socks¹, hut shoes, boots, gaiters, mittens¹, handkerchief.

Day trip gear

First aid kit, compass², map², insect repellent, whistle, matches in waterproof container, water purification tablets, water bottle, thermos, pocket knife, camera², binoculars², hand lens², note book², pen and pencil², sunblock, sunglasses, large plastic survival bag to line pack.

Overnight trip gear and food

As well as the day trip gear listed above, bring torch, spare bulb and batteries, candle, mug, plate, knife, fork, spoon, small towel, soap, tooth brush, tent, fly, poles and pegs, groundsheet, sleeping mat, sleeping bag, liner and stuff bag. Bring bread, butter/margarine, biscuits, fresh fruit and scroggin. SCROGGIN = Sultanas, Chocolate or Carob, Raisins, Orange peel, Glucose³, Ginger, Including Nuts.

1 = wool, polypropylene or polarfleece as applicable.

2 Optional

3 Dried apricots are recommended instead of glucose but would spoil the acronym!!

BotSoc equipment

In addition to the gas stoves, billies, kitchen utensils, flies etc., used on long field trips, the following are also available:

- first aid kit. NOTE: anti-histamines NOT included, because of short shelf-life
- ten NZMS 260 Sheet R27, Pt.Q27 maps
- ten Silva Type 3 compasses

If you are leading a BotSoc trip, and would like to take these items, please ring Chris Horne ph 475 7025, or Barbara Mitcalfe ph 475 7149.

Health and safety

- You are responsible for your own first aid kit. If you have an allergy or medical condition, please carry your own anti-histamines and medications, tell the trip leader of any problems you may have and how to deal with them.
- You are responsible for keeping with the party. If you have any doubts about your ability to do this, you must check the trip conditions with the trip leader, who reserves the right to restrict attendance.

Fitness and experience

Our field trips vary considerably in the level of fitness and tramping experience required. Although our main focus is botanical, our programme sometimes offers trips which, in the pursuit of our botanical aims, are more strenuous than others. Although leaders take care to minimise risks, everyone participates at their own risk. If you have any questions about whether you are fit enough for a particular trip, please contact the leader well beforehand.

Transport reimbursement of drivers

- We encourage the pooling of cars for trips.
- **Passengers:** Please pay your share of the running costs to your driver. We suggest 10c/km/passenger.
 - If a trip on the inter-island ferry is involved, please pay your share of the ferry fare.
 - If you change cars mid-trip, leave a *written* note for your driver.
- **Drivers:** Please ensure that you know where you are going, and who is in your car;
 - Zero the odometer at the start, and agree on a return time;
 - Account for all your passengers before you come back;
 - Collect contributions towards transport costs.

Trip leaders

Please draft a trip report for the newsletter.

Meetings

Public transport to meetings

You may find the following bus services useful. They stop on Kelburn Parade, about 50 m from Lecture Theatre MYLT101 in the Murphy Building, Victoria University:

TO MEETINGS

No. 23 Mairangi: depart Houghton Bay 6.30 p.m., Hospital 6.42, Courtenay Place 6.49, opposite Supreme Court 7.00, University 7.05.

No. 23 Mairangi: depart Southgate 7.00 p.m., Hospital 7.17, Courtenay Place 7.22, opposite Supreme Court 7.34, University 7.39.

No. 22 Southgate: depart Mairangi 7.00 p.m., University 7.13.

No. 17 Railway Station: depart Karori Park 6.35 p.m., University 6.52.

Cable Car at 00, 10, 20, 30, 40, 50 min past each hour from Lambton Quay terminus. Alight at Salamanca Station.

FROM MEETINGS

No. 23 Southgate: 9.12 p.m. from University.

No. 23 Southgate: 10.10 p.m. from University.

Cable Car at approx. 01, 11, 21, 31, 41, 51 minutes past each hour from Salamanca Station.

Last service 10.01 p.m.

For further information ring Metlink, Greater Wellington's public transport network, 0800 801-700.

FIELD TRIPS AND EVENING MEETINGS: JUNE–SEPTEMBER 2015 & JANUARY 2016

The following programme IS SUBJECT TO CHANGE. If you wish to go on a field trip, PLEASE help with planning by giving the leader 2 days' notice before a day trip, MORE notice before weekend trips, and SEVERAL WEEKS' notice before the New Year's trip.

Non-members are welcome to come to our meetings and to join us on our field trips.

Saturday 6 June: Field trip:

Kohekohe Loop Track, Paekākāriki

Walk 500 m along Ames St, cross SH1 bridge over railway, 300 m along Paekākāriki Escarpment Track, then round Kohekohe Loop Track through Nga Uruora plantings, regenerating bush and original kohekohe bush. Great views of Kāpiti Island. Loop Track takes c. 1 hr to walk and botanise, climbing c. 40 m on graded paths. We'll prepare a plant list as we travel. See: weeds from Paekākāriki gardens; plantings; native forest. Meet 10 a.m., St Peter's Hall, Beach Rd, Paekākāriki (cnr. Beach Rd / Wellington Rd). Train: 9.14 a.m. Kāpiti line train from Wellington to Paekākāriki: Car: park in Wellington Rd opp. St Peter's Hall. Leader: Ken Fraser 04 905 3714 / 022 6417 658, or fraserjk@paradise.net.nz. Co-leader: Paul Callister 04 9058037 / 022 086 2405.

Saturday 13 June: Field trip

Te Mārua Bush workbee

In partnership with Greater Wellington, BotSoc has been committed since 1989 to do weed control and revegetation in this important matai/tōtara/maire remnant in Kaitoke Regional Park. Our biennial workbees must continue so that we keep ahead of re-invasion by weeds, particularly around the plantings, so please come to help with this important work. **This is a major planting session—we have 80 plants to plant, so please join us! Bring planting gear:** gloves, grubber, spade or trowel, kneeler. Meet at Te Marua Bush 9.30 a.m. (250 m north of Upper Hutt's Te Mārua Store and then left, off SH2 for 50 m, along the road to Te Mārua Lakes, Kaitoke Reg. Pk. 8.05 a.m. Hutt line train from Wellington—ring leaders to arrange to be met at Upper Hutt Station. Co-leaders: Glennis Sheppard 526 7450, Sue Millar 526 7440.

Monday 15 June: Evening meeting

Whareroa Farm Reserve

Speaker: Anne Evans. Anne will describe the reserve's ecological zones, and Whareroa Guardians' protection / restoration activities since 2007. Ten remnants of native forest, ranging up to c. 5 ha—stock excluded from most since 2007—and 14 km of streams, some fenced. Forest areas are mainly kohekohe / tawa / podocarp, plus many other plant species. BotSoc prepared a plant list on 3.11.2007. Pat Enright and Chris Hopkins have been botanising recently. The reserve is used extensively for recreation, including mountain biking. About half remains in grazing, so there are tensions in management. Anne will describe how a small voluntary group has developed a useful role in enhancing a reserve, and some of the challenges. In eight years c. 44,000 native plants have been planted. Feedback from those with more experience will be welcome.

Cliff vegetation assemblages on a remote oceanic island.

Student speaker: Amanda Taylor, PhD student, VUW, will describe the assemblage of cliff plant communities growing in harsh conditions on Lord Howe Island's southern mountains, how they are influenced by isolation, dispersal ability, and species interactions, and discuss the role of *Asplenium nidus*.

Saturday 4 July: Field trip

Northern Porirua Scenic Reserve

Last year's visit to this kohekohe-tawa hillside forest was so interesting that we're going back to explore a different area. We will see a good diversity of native forest plants, including some uncommon in the wider Wellington region. Meet: 9.30 a.m. near 80 Rangituhi Cres, Elsdon, Porirua. Map: BP31, Tracks.org.nz map. Leader: Leon Perrie, phone 381 7261 (wk), mobile 027 419 1378.

Monday 20 July: Evening meeting

Is the decline of bird populations threatening native plants, and can we fix it?

Speaker: Dave Kelly, University of Canterbury. Dave's research is mainly on plant-animal interactions including mutualisms, herbivory, biological control. NZ has had large reductions in the diversity and densities of native birds, which may be reducing services to plants, particularly pollination and seed dispersal. He will review work on both these mutualisms to see whether we retain enough birds to keep the systems running properly (answer: not always). Then he will discuss whether conservation action is able to fix any deficiencies (answer: not as easy as it looks), weed invasions, and modelling.

Saturday 1 August: Field trip

Taparanga Block, Baring Head

Botanise this private property on the northern boundary of East Harbour Regional Park's Baring Head section. Walk 15–20 minutes up from Coast Road, then up valley on farm tracks. It looks an exciting place—*Streblus banksii*, *Melicope ternata* and *M. simplex*, are part of a range of mature broadleaved and podocarp species, and

perhaps there will be some more interesting finds. It is lightly grazed by sheep and cattle. The gullies just north of the park boundary look the most interesting, but if you wish to go further, you may. Be as energetic, or not, as you feel.

Meet: 9.30 a.m. at carpark with large sign at park entrance on Coast Road, c. 16 km south of Wainuiomata. Ample parking, toilets. Catch 8.35 a.m. Hutt line train from Wellington to Waterloo Station, or no. 160 Wainuiomata bus 8.55 a.m. from Queensgate, and 9.02 a.m. from Waterloo, to Wainuiomata bus depot. Leader: Owen Spearpoint 027 285 8083. owen.spearpoint@gw.govt.nz. Contact Owen for transport from Wainui bus depot.

Monday 17 August: Evening meeting **Annual General Meeting;**
A P Druce Memorial Lecture: Complex interactions with friends and foes: How native plants manage the risks

Speaker: Bill Lee, Conservation ecologist, Landcare Research, Dunedin, Centre for Biodiversity and Biosecurity, University of Auckland, and Botany Department, University of Otago.

The world is green because plants keep one step ahead of the organisms, big and small, that want to eat them. This may result in intense interactions between plants, fungi, invertebrates and vertebrates, involving both co-operation and avoidance. The strength and value of these relations are often context-dependent, constrained by resource availability. Bill will present stories about NZ plants, and how they cope in a complex and often hostile world.

Saturday 5 September: Field trip **East Harbour Regional Park**

Botanise coastal broadleaf, mānuka and beech forest on Korohiwa (Bus Barn) Track and Kowhai St. Track. No. 83 Eastbourne bus 8.50 a.m. from Ct. Pl. to terminus. Meet: 9.30 a.m. at bus terminus, Muritai Rd. Map BQ32 Lower Hutt. Co-leaders: Mick Parsons 473 1142 / 027 249 9663; Gavin Dench 387 9955 / 027 405 2987.

Monday 21 September: Evening meeting **What are seaweeds? Macroalgal diversity in NZ.**

Speaker: Joe Zucarello, Associate Professor, School of Biological Sciences, VUW, and a practising phycologist. Seaweeds, a group of unrelated photosynthetic organisms, have received their photosynthetic capacity in different ways. The uncovering of the acquisition of photosynthesis in the algae, and its consequences, is one of the major breakthroughs in the last 25 years, and still a major area of research. Because they are unrelated, they differ in many characters, which makes identification complex. Joe will discuss the evolution and diversity of algae, and some of their diversity in NZ.

17–24 January 2016: Field trip **Western Waikato**

Leader: Mick Parsons. Accommodation: Te Kauri Lodge, SH3, Kawhia Rd, Te Awamutu. Te Kauri Lodge is in 1100 ha of well-tracked native bush, and close to karst landscapes, wetlands, Pirongia Forest Park, and Kawhia and Aotea harbours. Peter Buchanan, Landcare Research, is searching the area for the rare fungi *Ganoderma* sp. "Awaroa". We may be able to help.

The lodge is c. 7 hours drive from Wellington, so we may stay overnight in Ohakune en route. If you like this idea, tell Mick or someone on the committee. The lodge has two large bunkrooms (37 bunks each), and a few rooms for 3, 4 or 6 people. \$16 pp/night. Space for camping is limited as the lodge is surrounded by bush. More information and registration form in September newsletter.

AWARDS AND GRANTS

- *30 June. Allan Mere Award 2015.* Nominations to NZ Botanical Society, c/- Canterbury Museum, Rolleston Ave, CH 8013.
- *15 September. Tom Moss Student Award in Bryology.* Obtain information from Dr Patrick Brownsey, Te Papa, PO Box 467, WN. (Ph: 04 381 7135; e-mail: patb@tepapa.govt.nz). For further information, please refer to the article elsewhere in this newsletter.
- *30 September. Wellington Botanical Society Jubilee Award 2015.* Applications should be made in typescript to: Secretary, Wellington Botanical Society, PO Box 10 412, WN 6143, or by e-mail to bj_clark@xtra.co.nz. For further information, please refer to the article elsewhere in this newsletter.

**Help raise funds for BotSoc's Jubilee Award Fund –
bring named seedlings/cuttings for sale at each evening meeting**

EVENTS

- 29–30 August. **Environment & Conservation Organisations of NZ Inc – ECO.** AGM & conference. Addington Haven, near Christchurch CBD. eco@eco.org.nz.
- 8–13 October. **30th John Child Bryophyte & Lichen Workshop.** Gunn's Bush Christian Camp, near Waimate, South Canterbury. Open to anyone interested in NZ's mosses, liverworts & lichens. Field trips to reserves in Hunter Hills & Peel Forest. Contact: Betina Fleming; e-mail: fleming.betina@gmail.com, David Glenn; e-mail: glennyd@landcareresearch.co.nz. For information on the Tom Moss Student Award in Bryology, please refer to the article, and the Awards & Grants section, elsewhere in this newsletter.
- 28–30 October. **NZ Plant Conservation Network Conference.** Dunedin. 'Nurturing our conservation roots for generations to come'. jesse@biosis.co.nz. See www.nzpcn.org.nz

PUBLICATIONS

- 1a. **National Wilding Conifer Mgmt.** Strategy.2015-2030.
- 1b. **Kauri Dieback Mgmt.** Strategy.
 - Ministry of Primary Industries www.mpi.govt.nz
2. **Open Space.** 88 5/15: High Court reconfirms durability of covenants—they are 'indefeasible'; Mahu Whenua covenants—53,000 ha in high country near Queenstown; Wairarapa's Tinui covenant & walkway; flora & fauna along waterways; waterway restoration projects; controlling weeds along waterways; *Wardle's Native Trees of NZ & their story*. John Wardle; wasp-control trial; covenant registrations 1.7.14 – 20.4.15; 4000th covenant registered; etc.
 - QEII National Trust, Box 3341, WN 6140. www.openspace.org.nz
- 3a. **Getting riparian planting right in the Wellington region.** By Greater Wellington & Dairy NZ.
- 3b. **Regional Plan Review.** 9, 2/15. Draft Natural Resources Plan; Ruamāhanga Whaitua Cttee; Te Awarua o Porirua Harbour Whaitua Cttee; etc.
 - Greater Wellington Regional Council, Box 11 646, WN 6142. regional-plan@gw.govt.nz, www.gw.govt.nz/your-environment.
4. **NZ Plant Conservation Network.** 133 12/14: David Galloway 1942-2015; *Gaultheria depressa* var. *novae-zelandiae*; NZ's favourite plant = Bartlett's rātā / *Metrosideros bartlettii*; NZ's worst weed = veldt grass / *Ehrharta erecta*; *Leptinella rotundata*; new rhizobial species nodulate *Sophora*; etc. 134 1/15: putaputawētā / *Carpodetus serratus*; *Leptinella atrata* subsp. *luteola*; Kaitorete Spit; *Dracophyllum fiordense*; Kew visitor at NZ Indigenous Flora Seed Bank, and tetrazolium testing there; etc. 135 2/15: great white butterfly control; *Scandia rosifolia*; images sought for web site; NZPCN Conference, Dunedin 28-30/10; Manawatu Gorge info. sought for book; *Vascular plants of Ahipara, Kaitaia area & Karikari Peninsula*, by Mike Wilcox. \$25 from Auckland BotSoc; etc. 136 3/15: Conference 28-30/10; *Corokia macrocarpa*; great white butterfly threat; app to identify coprosmas; towards a Regional Threat Classification System for NZ; *Vanishing nature: facing NZ's biodiversity crisis*; Kew visitor at NZ Indigenous Flora Seed Bank; etc. 137 4/15: Prof Bastow Wilson 1944-2015; *Myosotis albosericea*; Antipodes Island flora & vegetation; seed-banking kākābeak; research on *Anogramma leptophylla* (= WN BotSoc's logo); kauri seed collection in Hunua Ra; training with germination specialist from Kew; Conference 28-30/10 to include botanical illustration workshop; etc.
 - NZPCN, Box 16102, WN 6242. events@nzpcn.org.nz.
5. **NZ Botanical Society.** 119 3/15: *Muehlenbeckia astonii*; nominations sought for Allan Mere Award 2015 –(see "Awards & Grants" section above); news from regional botsocs; *NZ Coprosma Key*—app for identifying *Coprosma*; fern treatments for eFloraNZ; botsocs on facebook; Te Papa's citizen science fern and spider projects; towards a Regional Threat Classification System for NZ; David Galloway 1942-2015; etc.
 - NZ BotSoc, c/- Canterbury Museum, Rolleston Ave, CH 8013.
6. **Auckland Botanical Society.** News-sheet. 2–3/15: AGM, Lord Howe Is talk 4/3; *Flora of NZ – Mosses*. J Beever. online; etc. 4/15: Auckland Council's Threatened Plant Conservation programme; survey to be done on burnt area; etc. 5/15: native blue wheat grass now *Anthosachne kingiana* subsp. *multiflora*; programme to 3/16.
 - ABS, Box 26391, Epsom, AK 1344.
7. **Botanical Society of Otago.** 73 10/14: cultivating wilderness; opinions on climate change; revision of *Kunzea*; etc.
 - BSO, Box 6214, DN 9059.
8. **Nelson Botanical Society.** 5/15. Shannel Courtney's year of conservation work for DOC Nelson/Marlborough; etc.
 - NBS, cathy.jones@xtra.co.nz
9. **Waikato Botanical Society.** 4/15: *Myriophyllum robustum*; NZ Tree Project; threatened native plant garden; etc.
 - WBS, Dept. of Biological Sciences, Univ. of Waikato, Hamilton.
10. **Otari-Wilton's Bush Trust.** News & Views. 3/15: Curator/Manager's report; Wellington region's Nature Connections project; Otari wins international Green Flag award; pest control update; photos of plants on Arapawa Is; 55-85 Curtis St update; *Samolus repens*; etc.
 - OWB Trust, 160 Wilton Rd, Wilton, WN 6012.
11. **Ecolink.** 12/14: NZ's disappearing kelp forests; IUCN World Congress on Protected Areas, Sydney, 11/14; impacts of sea level rise; climate change; implementing National Policy Statement for Freshwater Mgmt. 2014; beware "streamlining" the RMA—proposed deletions, additions & other changes; etc. 2-3/15: Auckland kauri tree & changed RMA; NZ's high per capita CO2 emissions; climate negotiations; impact of oil & gas on Taranaki; setting NZ's post-2020 greenhouse gas target(s); etc.
 - Environment & Conservation Organisations of NZ – ECO. Box 11057, WN. www.eco.org.nz.
12. **Forest & Bird.** 355 2/15: move to work on regional, national & international projects; Ruataniwha Dam proposal; pest control; classifying stewardship land; milling wind-blown trees on DOC land; fracking/drilling/mining; Hauraki Gulf planning; protecting bats; 'mission creep' in DOC; Hon Nick Smith seeks to alter RMA; return of loggers; NZ freshwater mussels; 1080; ecologist Tim Park & family; climate change & farming; native frogs; Ōrokonui Eco-sanctuary; etc.
 - Royal Forest & Bird Protection Society, Box 631, WN 6140. www.forestandbird.org.nz
13. **Friends of Wellington Botanic Garden.** 12/14: native forest area below Cable Car's Kelburn Terminus; Children's Garden; etc. 3/15: trial with Argentine leaf beetle to control *Tradescantia*; Children's Garden; etc.
 - FoWBG, Box 28 065, WN 6150.
14. **Friends of Baring Head.** 5/15: Fitzroy Bay wetland fenced; controlling coastal weeds; etc. See article in this newsletter.
 - FoBH Charitable Trust, 38076, Te Puni Mail Centre, Lower Hutt 5045. www.baringhead.org.nz/
15. **Wakatipu Reforestation Trust.** Brochure. Endangered plant species; etc. See also no. 16 below.
 - www.wrt.co.nz
16. **Go Native.** 3/15: plant nursery; kōwhai; etc. See also no. 15 above.
 - volunteer@wrtgt.org.nz
17. **Heritage.** 136 autumn 15: native plants restore traditional taonga; etc.
 - Heritage NZ, Box 2629, WN 6140. www.heritage.org.nz

18. **Federated Mountain Clubs bulletin.** 198, 11/14: 1080 & 'Battle for the Birds' campaign; Section 62 stewardship land; kea research - their crucial role in alpine ecosystems by dispersing the seeds of alpine plants; Tramping – A NZ history, S Barnett & C Maclean; etc. 199, 3/15: Conservation Management Strategies; windblown timber recovery; Predator-Free NZ project; wasp control trial; NZ's Wilderness Heritage, Les Mollo; etc.
- *FMC, Box 1604, WN 6140. www.fmc.org.nz*
19. **Eagle's Complete Trees & Shrubs of NZ – 2nd supplement, historical notes.** 2014. A4, spiral-bound, 46 pp.
- *D Lyttle or A. Knight, Botanical Society of Otago, Box 6214, DN 9059. Free download: www.otago.ac.nz/botany/bsol/.*
20. **Victorius.** 2, 14: climate change; Zealandia & VUW collaborate in research; etc.
- *Victoria University of Wellington; Box 600, WN. www.victoria.ac.nz*
21. **Vanishing Nature – facing NZ's biodiversity crisis.** M Brown, RTT Stephens, R Peart, B Fedder. The Law Foundation & Environmental Defence Society. 2015. \$45.
- *EDS, Box 91736, Victoria St West, AK 1142, manager@eds.nz 09 480 2565.*
22. **Field Guide to the Birds of NZ.** Barrie Heather & Hugh Robertson. Illustrated by Derek Onley. Revised 2015.
- *Bookshops.*
23. **Willdenowia.** We acknowledge receipt of 44.3 12/14, 45.1 4/15.
- *Freie Universitat Berlin, ZE Botanischer Garten und Botanisches Museum, Berlin-Dahlem.*
24. **NZ Post native seashells issue.** 5/15: 80c, \$1.40, \$2.00, \$2.50, \$3.00.
- *Postshops.*
25. **AP Druce Trip Book.** \$15 + \$5.50 p&p.
- *WN BotSoc, Box 10412, WN 6143*

SUBMISSIONS MADE

Every three years, Wellington City Council (WCC) and Greater Wellington Regional Council (GWRC) seek comments on their draft Long-term Plans. This year WCC also consulted on a draft Biodiversity Action Plan called *Our Natural Capital*, a draft Urban Growth Plan, their first draft 30-year infrastructure plan, and several place-based projects. Oral submissions, time limit 10 minutes, provide an opportunity to speak to councillors and answer their questions.

WCC draft Our Natural Capital (Biodiversity Action Plan)

This 80-page plan is sound, comprehensive and ambitious. We sought to make it even better by providing 20 pages of comments, new ideas and information to assist with its implementation. The following ten points illustrate the diversity of our input:

- expressed concern at the limited attention to plants—only four species mentioned in the overview of Wellington's biodiversity, all monocots
- *our top priority for action*—to review the Pest Management Strategy and Implementation Plan
- *our second priority*—better protection for biodiversity values at risk from subdivisions, by updating Chapter 18 of the District Plan (Conservation Sites), operational since June 2000. WCC has identified 517 ecologically significant sites - some may be at risk if the District Plan is not updated, because there is now no public consultation on subdivisions in the new Special

Housing Areas

- supported increasing the structural integrity and species diversity of damaged, regenerating and restoration forests through plantings
- supported an informal and educative approach to working with restoration groups, replacing a recommendation in BotSoc's submission on WCC's draft Suburban Reserves Management Plan recommending formal MOUs
- recommended establishing a teaching garden where volunteers and contractors can learn to distinguish between pairs of similar-looking plants, one a native, one a weed
- supported increased emphasis on biodiversity research
- recommended a review of WCC's eco-sourcing guidelines following wider discussions and reports about eco-sourcing practices in different contexts, e.g., purpose of planting, scale of planting, habitats, results achieved, etc.
- questioned the intention to capture "all biodiversity information, e.g., location and species data related to WCC in one location". We wondered if this a combined data-base for information held by herbaria, GWRC, DOC and different parts of WCC, including Otari recommended support for communities wanting to remove sycamores from road reserves.

WCC draft Long-term Plan (LTP) and draft Statement of Service Provision (SSP)

WCC's draft LTP is focused on its 'agenda for growth'. Biodiversity was barely mentioned until page 42 where readers were referred to *Our Natural Capital* to find out what Council was proposing to do. Our submission asked Council to announce increased funding to support implementation of *Our Natural Capital*, e.g., funding for post-doctoral fellowships to answer the research questions in *Our Natural Capital*.

The draft SSP contained some unpleasant surprises. Text describing WCC's roles in biodiversity management had been deleted. We asked WCC to put it back. We also suggested improvements to the performance measures, e.g., the number of hectares of open space under active weed management, and changes in the amount of open space in different parts of the city.

WCC draft Urban Growth Plan (UGP) and Implementation Plan

The draft UGP sets out how WCC intends to support a planned increase in the city's population from 200,000 to nearly 250,000 over the next 30 years, mostly in the northern suburbs and central city. There is only one natural environment project in the list of 21 flagship projects—the Watts Peninsula Reserve project, which is a long way from the growth areas. We've encouraged WCC to review its planning and funding for open space and indigenous plantings, particularly in the central city.

WCC draft Infrastructure Strategy

Thirty-year infrastructure strategies are a new requirement under amendments to the Local Government Act. We commented on only two sections. With one eye on Wellington's aging population, we asked for increased investment in tracks accessible to people with limited

mobility. We also called for earlier investment in improving the performance of Wellington's storm-water system, particularly water quality. Initiatives underway include the voluntary Water Sensitive Urban Design and Integrated Catchment Management plans. GWRC, however, is not planning to start the whitua process for Wellington Harbour, the Hutt River and other Wellington waterways until 2017/18. By then, GW may have been disestablished, and the responsibility passed to a new united council.

GWRC draft Long-term Plan

Our brief submission raised concerns about GWRC's proposal to reduce the number of high-value biodiversity sites under active management from 120 to 80 for the next three years. GWRC described this as "no significant change to current levels of service" as it is due to "a redirection of sites to only those fully resourced and operationally managed by GWRC". We are trying to find out what sites have been "dropped" and what will happen to them.

*Bev Abbott
Submissions Coordinator*

Letters to the editor

We would welcome your comments on any aspect of BotSoc's activities:

- places you would like to visit on field trips
- topics you would like to have covered in evening meetings
- topics you would like covered in BotSoc's Bulletin and Newsletter
- other matters of concern or interest to you.

If you would like to offer to lead a field trip, or be a deputy leader on a field trip, please contact our programme organiser, Sunita Singh, sunita@actrix.co.nz

*Thank you,
The committee*

Jubilee Award 2015 – Applications sought

Wellington Botanical Society invites applications for an Award of up to \$2,600 to encourage and assist applicants to increase knowledge of NZ's indigenous flora, and to commemorate the Society's Jubilee in 1989.

Purpose of the award

The Award is open to anyone working in NZ. It will be granted for: fieldwork; artistic endeavour; publication; research; propagation or cultivation of NZ native plants for educational purposes, and/or other studies which promote the better understanding of NZ's indigenous flora and vegetation. The interpretation of these conditions will be flexible, except that the main criterion will be the furtherance of knowledge, or promotion of the intrinsic value, of NZ's indigenous flora and vegetation. The Award may be used to defray costs such as travel, accommodation, materials or publication.

Applications for the Award

Applications should be made in typescript to: Secretary, Wellington Botanical Society, PO Box 10 412, WN 6143, or by e-mail to bj_clark@xtra.co.nz, by 30 September 2015.

There is no prescribed application form, but the following must be provided:

1. the applicant's name,
2. postal address, telephone number and e-mail address.
3. any relevant position held.
4. a summary statement of the applicant's accomplishments in the field of botany—no more than one page.
5. an outline and timetable for the proposed project for which the Award is sought.
6. a proposed budget for the project.

Selection

The Award will be made to one or more applicants selected by a subcommittee nominated by the committee of Wellington Botanical Society. Award(s) will be made, and applicants informed of the results in writing, by 30 November.

Successful applicants will be required to provide, at an agreed time, a short report on what they have achieved, and an account of their expenditure of Award funds. The names of the Award recipients, the value of the Award(s), and a synopsis of the project(s), will be published in the Annual Report of Wellington Botanical Society.

Tom Moss Student Award in Bryology—Applications sought

Tom Moss was an active member of Wellington Botanical Society for many years. In 1983, he attended the first John Child Bryophyte Workshop. To commemorate his name, his contribution to NZ botany, and his particular interest in bryology, a Trust Fund was established following discussion at the 2006 John Child Bryophyte Workshop. It is administered by the society. The *Tom Moss Student Award in Bryology* provides a small annual prize for the best student contribution to NZ bryology. The 2015 Award will be made at the John Child Bryophyte Workshop, 8–10 October 2015, near Waimate, South

DOC Wellington Visitor Centre

*Te Pae Manuhiri, Te Rohe
ō Te Whanganui ā Tara*

Conservation House,
18–32 Manners St

- Track, hut, conservation information
- Kapiti Island visitor permits
- Hut tickets, backcountry hut passes
- Hunting permits

Open: Mon–Fri 9 a.m. – 5.00 p.m.
Sat 10 a.m. – 3.30 p.m.

Tel: 04 384 7770 Fax: 04 384 7773

E-mail: wellingtonvc@doc.govt.nz

Web: www.doc.govt.nz

New Zealand Government

Department of
Conservation
Te Papa Atawhai

Canterbury. Contributions that would qualify for the Award include:

- A student presentation at the Workshop relating to NZ bryology.
- A paper relating to NZ bryology.

Only one application per student will be accepted, i.e., either a presentation or a publication. The paper can be published, or accepted for publication, or a significant unpublished report. This should be published or written in the twelve months before the Workshop. It is not necessary to attend the workshop where a paper is submitted for consideration. Contributions are invited, and will be considered from any student enrolled for a BSc, MSc, PhD, or equivalent degree in the twelve months before the Workshop. Students may be enrolled in a NZ or overseas university, and may include work on overseas bryophytes, as long as the work relates in some significant way to NZ bryology. An Award of \$400 will be made by a panel of three judges attending the Workshop and appointed by Wellington BotSoc. The panel may reserve the right to make no award if there are no suitable contributions.

Publications for consideration should be submitted, with a covering letter, by 15 September to: Tom Moss Student Award, Wellington Botanical Society, PO Box 10 412, WN 6143. Students intending to make a qualifying presentation at the workshop should indicate this when they enrol for it. For further information, contact Dr Patrick Brownsey, Te Papa, PO Box 467, WN (Ph: 04 381 7135; e-mail: patb@tepapa.govt.nz).

DOC starts reviewing Wellington CMS

The review of the Wellington Conservation Management Strategy 1996-2005 has begun. Pre-draft consultation will end this month—BotSoc will be represented at a public meeting this month. The draft CMS will be publicly notified, possibly by November 2015, and submissions called for.

You can, however, have some influence now. A short survey on DOC's web site seeks public feedback on places you visit regularly, what you do at those sites, what you value about them, and what you want them to be like in 10 years' time. I used the survey form as an individual to remind DOC that sites such as "The Puffer" track in Tararua Forest Park are more than just places you pass through en route to somewhere else. I mentioned the enjoyable day BotSoc spent botanising there in 2011. My aspirations for 10 years' hence included not seeing any sign of *Pinus radiata* or *P. contorta*; not fearing being run into by out-of-control mountain-bikers, hoping that all the indigenous species on the plant list are still there, especially the orchids, and hoping there were no new adventives. There's also a space to talk about regional issues.

Action: DOC may want to hear only about places people visit regularly, but perhaps there are other places you'd like them to hear about.

Bev Abbott

Otari-Wilton's Bush news

Tena koutou BotSoc. Work has begun on our lower collection areas to realign paths as our 2010 Landscape Development Plan recommended. Gavin Dench and Simon Fern are doing the initial landscaping. Their excellent eye for design and detail will produce a dry-stone wall in keeping with the area, and help to level a site so we can develop a garden to interpret plant adaptations. This will replace the *Pittosporum* border, a collection we have struggled with to be representative of the genus.

In our nursery, we have sown *Mida salicifolia* seed from Khandallah Park. This hemi-parasitic tree grows to 6 m tall. It is uncommon around Wellington. We want to see if we can grow some in the gardens at Otari. Known hosts are rimu, kauri and tanekaha. We've sown some with no treatment, some scarified, and some in pots with the known hosts. If you have any experience with germinating *Mida salicifolia*, please tell us: otari@wcc.govt.nz.

Finn and I recently returned from Canterbury on a seed-collecting trip for Otari and the NZ Indigenous Flora Seed Bank. We visited Arthur's Pass National Park and the Craigieburn Range, collecting several species for Otari, and seed of four species for the NZ Seed Bank. I hadn't appreciated the role that Leonard Cockayne had played in the formation of the national park; the DOC visitor centre has a lovely area set aside dedicated to him and his involvement with the park. We had considerable pleasure ascending Mt Cockayne (never before had we spent a day high on Cockayne) in the Craigieburn Range, and spotted the yellow-flowered *Euphrasia cockayneana* in the Otira Valley.

Matariki is approaching. We are planning an event on the weekend of 20-21 June—a celebration of the use of NZ plants, centred on harakeke (NZ flax). Enjoy demonstrations by local harakeke weavers, and Curator-led walks through Otari. You will be able to try harakeke weaving, and hear stories about other useful plants of Aotearoa. This event is for the whole family. The Otari-Wilton's Bush Trust will lead walks looking at traditional uses of NZ plants.

Rewi Elliot, Manager, Otari-Wilton's Bush, 021 227 8169,
otari@wcc.govt.nz

Percy Scenic Reserve news

Many plants in the reserve struggled with the drought, as I expect happened around NZ. The heat has not helped the alpine collection, with many plants struggling. Their plight was added to by the change of alpine potting mix in recent years to a proprietary brand, with an overly coarse chip, and extra long-term fertiliser added. Analysis showed it to be extremely high in most areas, with nitrates being in the high 200s, where a reading of 20 to 30 would be ideal.

Hutt City Council seeks to provide guidelines for the upkeep of the collections by producing a manual for running the reserve and alpine collection. I hope this will allow for an easier transition for future collection managers, prevent problems such as we have with the potting mix, and the problems with finding information which I have faced. I have been on my own again, or working with temps, since Des left early this year. Staff changes are a less than ideal situation.

Cliff Keilty

Ambassador brings new focus to threatened species

NZ's vulnerable native species will gain another strong voice for their protection, with the announcement of the country's first Threatened Species Ambassador. Conservation Minister Maggie Barry says the high-profile new role will be pivotal in educating people and raising awareness of our threatened species. "We all need to know about the unique birds, animals and plants which are our taonga, and understand the efforts needed to conserve them," Ms Barry says.

The role of the Ambassador, to be based in DOC, will be supported by Air New Zealand for two years, an expansion of its current partnership arrangement with DOC. The Ambassador will work with iwi, conservation groups, regional and local government, schools and businesses, to help raise awareness, and reduce the risk of threatened species becoming extinct. Ms Barry notes that our native animals, plants and special landscapes are important from a biodiversity point of view, and they benefit the economy, attracting millions of dollars in tourism spending each year. Ms Barry says "Conservation isn't just an issue for one government department. Protecting NZ's unique nature lies in all our hands, and the new Ambassador will play a key role in making this happen." Recruitment for the position will begin soon.

*Source: news release by Hon Maggie Barry,
Minister of Conservation*

NZ Birds Online

We have passed the milestone of 8000 images contributed to NZ Birds Online—an increase of more than 1400 since the web site was launched 22 months ago.

For more information, including the 8000th image, see: <http://blog.tepapa.govt.nz/2015/03/31/8000-images-on-new-zealand-birds-online/>

*Colin Miskelly, Curator Terrestrial Vertebrates
Museum of NZ Te Papa Tongarewa
Email colin.miskelly@tepapa.govt.nz*

NZ Tree Project

I have brought together a team of scientists, artists (photo and video), and tree climbers, with the grand aim of combining some highly technical climbing skills with some cutting-edge photographic techniques to create a state-of-the-art exhibition about..... **A TREE!** The project is in Pureora Forest. We are designing and constructing a specialised rigging system to capture images of a Pureora rimu from a level viewpoint and without distortion. The exhibition will showcase the tree through a larger-than-life, 3D experience, and will be a celebration of NZ's fabulous forests.

To follow their exciting progress on the web site and facebook, etc., see the message and links below:

<http://ngm.nationalgeographic.com/redwoods/gatefold-image>

For more details: www.nztreeproject.com

See www.facebook.com/NZTreeProject; Instagram. com/nztreeproject; twitter.com/nztreeproject

This is a truly exciting project which we hope will

inspire and educate a broad audience about the beauty and importance of NZ's forests, while motivating them to protect and restore these wondrous places.

*Catherine Kirby, Research Support Officer,
Environmental Research Institute
07 838 4466 ext. 6517, University of Waikato,
PBag 3105, Hamilton 3240*

Te Mārua Bush

Our submission on Greater Wellington Regional Council's draft Key Native Ecosystem (KNE) Plan for Kaitoke Regional Park focussed on BotSoc's involvement with GWRC in the management of Te Mārua Bush, Upper Hutt. GWRC does an excellent job of responding to points made by submitters. One particular point to note is that GWRC's Parks Department will seek to establish a Memorandum of Understanding (MOU) with BotSoc regarding the two parties' relationship and responsibilities in the management of this part of the park.

Bev Abbott

Neill Simpson QSM

BotSoc congratulates Neill, who was awarded a Queen's Service Medal in the New Year's Honours, for services to conservation.

Neill and wife Barbara have spent almost two decades since Neill "retired", organising the propagation and planting of native plants, and contributing to conservation education in the Queenstown community. Typical of this pair—having got Pigeon Island in Lake Wakatipu planted up and thriving, they then helped form the Wakatipu Reforestation Trust. Neill is chairman and Barb organises the volunteer groups propagating native plants in a nursery with specially built shade houses.



Neill and Barbara have been coming out with BotSoc since 1967. Older BotSocers will remember the Simpson family from when Neill worked for the Dept. of Lands and Survey (and its reincarnations). Where ever they were based, Wellington BotSoc would sooner or later have a camp nearby. Each time we took advantage of Neill's knowledge of the geography and the botany - Whanganui River, Maruia Springs, and Queenstown on the banks of the Shotover come to mind.

We congratulate Neill on the award of the QSM. It is a fitting recognition of his, or should it be their, services to conservation. This adds, among other recognitions, to the 2014 Inland Otago Conservation Award, the Queenstown Lakes Civic Award, the Allan Mere Award, and a nomination for the New Zealander of the Year.

Rodney Lewington and Darea Sherratt

Baring Head

Our first progress report on the implementation of Baring Head's Biodiversity Action Plan has been sent to DOC staff who administer the Community Conservation Partnership Fund.

The new fence will protect the river, oxbows on the river flat, and the river escarpment from stock, and enable us to do some riparian plantings for erosion control, and to enhance lizard "hotspots" on the escarpment, and inanga habitat. We'd welcome your help with planting soon to begin.

Eco-sourced plants have been ordered from commercial and community nurseries. Gary James, who manages Wellington Forest & Bird's nursery, will supply most requirements. Seed has been collected over summer and autumn, and given to nurseries to grow for 2016 plantings. Several oxbows will be sprayed, to be ready for planting with appropriate native species.

We are pleased with fledging success at the banded dotterel colony under intensive management. Another spotted skink has been found in one of our lizard "hotspots". Horned poppy / *Glaucium flavum*, has effectively been removed from the peninsula's Fitzroy Bay side, because a recent final sweep found very few remaining. We will now focus on the southern beach. An intrepid abseiler has been removing karo / *Pittosporum crassifolium* from the cliffs below the lighthouse.

Pest control continues, with many stoats and weasels trapped. Bait stations will control possums and rodents. Mice numbers are high now, because we are killing apex predators, which are taking bait from many traps, although I did catch four baby mice in one DOC200! We have received funding from the Infinity Foundation to install and service a trap line along the Orongorongo Station boundary, as another line of defence for the banded dotterels.

As always, we seek volunteers to help with several projects. If you are interested, please contact Paula Warren: Pwarren@doc.govt.nz.

Colin Ryder, Treasurer, Friends of Baring Head

Watts Peninsula

The planning advisory group has finished its workshops. Officials are now drafting a Cabinet paper to outline the area's values, and suggest several management/governance options for Ministers to consider. I have been pushing hard for meaningful community involvement in whatever structure is approved.

I was out of town during the session on conservation and recreational values, so I put forward my ideas. In summary, these were:

1. Subject to an ecological assessment of the whole property, the only areas with existing high conservation values are those already identified by DOC. Given this, the protection and enhancement of the site's other values (landscape, historical, cultural, and recreational) should have priority where these are important, outside the identified conservation zones. However, there may be large areas where ecological restoration would not impact on those other values, and might even enhance them.
2. The site would provide a great opportunity to restore and interpret what would have been a typical Wellington coastal forest, similar to what is happening on Mana Island.
3. Based on my experience, including with Mana Island, and what I have seen happening around Wellington (e.g., Makara Peak), I am confident that the community can undertake most of the work necessary, mainly weeding and planting.
4. Watts Peninsula would provide an ideal core area for a pest-free Miramar Peninsula (apart from cats), thus providing a relatively safe haven for many native bird species.
5. Penguins nest on the property, so could provide a focus for community involvement (e.g., enrichment planting; installing nesting boxes). Their survival rates would rise if the road from Shelly Bay to Scorching Bay were closed from dusk to dawn. This would have the additional benefit of improving security over the site, by restricting access during the periods of greatest risk.
6. Opportunities should be taken to improve ecological connectivity.

Colin Ryder, Convenor, Watts Peninsula Coalition

Wellington's South-west Peninsula: Goat control

Since 2011, c. 5,000 goats have been shot here in the programme WCC runs to protect 4,180 ha, including large tracts with high ecological values. Goats have also been mustered from surrounding areas and shot by landowners on their own properties. With browser pressure now at low levels, there is a marked improvement in the area's native vegetation cover, including on this Trust's property (Long Gully Bush Reserve), where fencing and shooting have led to significant reductions in browsing impacts on indigenous biodiversity. We now plan to investigate the costs and logistics of expanding the existing programme to a further 7,000 ha.

The long-term objective is to eradicate this pest from the peninsula. Several landowners, including this Trust, already control other pests, e.g., pigs, possums rodents and mustelids, at their own expense. Additional support is required to extend and intensify this effort. Removal of browser pressure has led to weed species proliferating, e.g., Darwin's barberry, blackberry and broom, so these must be controlled urgently, because they hinder wider pest control efforts and regeneration.

The Wellington Natural Heritage Trust applied to the

Taputeranga Marine Reserve
If you see any conservation-related illegal activity, call
DOC HOTline
0800 362 468
For Search & Rescue—call 111
All other enquiries to your local DOC office or visit our website www.govt.nz
Department of Conservation
Te Papa Atawhai
New Zealand Government

Community Conservation Partnership Fund on behalf of several major stakeholders. The funding sought will enable us entrench past successes and to build on these, to make this project sustainable. This could include extending the area under control, and the range of pests being targeted. Stakeholders need to have information on what pest control/eradication on the peninsula can be practically and cost-effectively achieved and defended, given the level of community support and participation involved. They will also need to know how each can contribute, and what methods could be used. At this stage, the funding required to complete the project will be more clearly defined. Funding and resourcing options to implement the planned project could be explored as a part of the work.

Colin Ryder, Chair, Wellington Natural Heritage Trust

QEII National Trust registers 4000th covenant!

Keith and Margaret Ormsby have two covenants on their 250 ha dairy farm at Otorohanga. Their second covenant, registered in February, is the 4000th registered with the National Trust. The farm is near where the first covenant

was registered in 1979 by the National Trust's key founder, Gordon Stephenson, and his wife, Celia.

The Ormsbys have fenced all their waterways and bush areas. They have permanently protected c. 15ha with National Trust covenants and hope to protect more. Their covenants protect forest remnants and critically under-protected wetland areas. Their rich forest remnants contain many species, e.g., tawa, tōtara, rewarewa, pukatea, mangeao, pigeonwood, kahikatea, rimu, māhoe, kāmahi, miro and mamaku. Birdlife includes kererū, kingfisher/kōtare, NZ falcon/kārearea, tomtit/miromiro, fantail/pīwakawaka, bellbird/korimako and tūi. Keith and Margaret have planted c. 27,000 natives and plan to plant thousands more to restore and enhance their covenants and other natural areas on the farm.

James Guild, National Trust Chair, says this significant milestone signals that the covenanting model continues to work well for landowners. About 180,000 ha is protected in covenants (an area similar to Stewart Island/Rakiura). Past and current covenantors can be very proud of this. 'It is an achievement that the rest of NZ needs to celebrate,' he says.

*Anne McLean, Senior Communications Advisor,
QEII National Trust*

Books for auction

Quilters Bookshop kindly donated some books to Botsoc, after the shop closed recently. We thank John Quilter for his generosity. The books will be auctioned, one box at each evening meeting this year, in the order shown below.

Author	Title	No. of copies
BOX 1		
Morris Rod/ Smith H	Wild South	2
Ballinger, Ralph	Vegetable Gardening in NZ	
Carman, K	Portrait of a Garden	
Prendergast, Patricia V	All My Own Work	
Sharell, Richard	The Tuatara Lizards and Frogs of NZ	
Heath, Eric / Dell, R K	Seashore life of NZ	
Bellamy, David	Moa's Ark	
Clark, R H	NZ from the Road- landforms of the North Island	
Poole, A L /photos Johns, J H	Wild Animals in NZ	
Forster and Forster	Small Land Animals of NZ	
Gillham, Mary	A Naturalist in NZ	2
Morton / Ogden / Hughes	To save a forest/ Whirinaki	
Williams, Gordon R (ed)	The Natural History of NZ	
Fleet, Harriet	The Concise Natural History of NZ	
Cotton, C A	Geomorphology—an introduction to the study of landforms 1968	
McCaskill, L W	Hold This Land	
Poole and Adams	Trees and Shrubs of NZ 1963	
Philipson, W R / Hearn, D	Rock Garden Plants	
NZ Alpine Club	NZ Alpine Journal 1983	
Dept Lands and Survey	The Restless Land	3
Bishop, Graeme	The Mount Aspiring Region	
Pascoe, John	The Haast	
BOX 2		
Heywood, V H (ed)	Flowering Plants of the World	
Healy, A J. Edgar, G	Flora of NZ Vol III Monocots	2
Galloway, David	Flora of NZ Lichens	
Cockayne, L / Turner, E, Phillips	The Trees of NZ (1943)	
Salmon, J T	Field Guide to the Alpine Plants of NZ	
Croasdale, H / Flint, E A	Flora of NZ Desmids (fresh-water unicellular plants)	2

Author	Title	No. of copies
Cook, Elma	The Small World of the Road-side	
Scanlan, A B	Egmont National Park	
Johnson, Peter	Pick of the Bunch – NZ Wild Flowers	
Matthews, Lewis/ Carter, Zoe	Proteaceae	2
Johnson, Peter	Wild Flowers of Central Otago	2
Adams, Nancy M	Wild Flowers of NZ	2
BOX 3		
Brooker, S G / Cambie, R C / Cooper, R C	N Z Medicinal Plants	
Gage, A T / Stearn, W T	A Bicentenary History of the Linnean Society of London	
Newhook, Frank- paintings, Power, Elaine	Our Trees – a NZ guide	
Johns, J H / Chavasse, C G R	The Forest World of NZ	2
Anderson, Grant A (ed)	The Land Our Future – land use and conservation in NZ	
Cockayne, L/ Turner, E Phillips	NZ Plants and their Story 1967	
Metcalf, L J	The Cultivation of NZ Trees and Shrubs	
Allan, H H	NZ Trees and Shrubs and how to identify them	
Moore, Lucy B	Plants of the NZ Coast	
Stephenson, Gordon	Wetlands	
Ashdown, Michael / Lucas, Diane	Tussock Grasslands – landscape values and vulnerability	
Hooper, Peter	Our Forests Ourselves	
NZ Royal Society	Transactions: Earth Sciences Vol 7, numbers 1–13	
Allan, H H	Naturalised Flora of NZ – a handbook. Bulletin 83	2
Ministry of Works	National Resources Survey Part 1. West Coast Region	
Firth, Susan / Firth, Martyn / Firth, Elizabeth	Ferns of NZ	
NZ Forest and Bird	Forests, Fiords and Glaciers	
Stevenson, Greta	A Book of Ferns	
The Folio Society, London	A Narrative of the Voyage of <i>HMS Beagle</i>	
Conly, Geoff and Maurice	NZ Pōhutukawa	2
Adams, J.G Eane	Kauri, a King amongst Kings	
Sale, E V	Quest for the Kauri	
Reed, A H	The Story of the Kauri	
Stockley, George	Tree Farms and the NZ Landscape	
Peat, Neville	Kiwi: NZ's Remarkable Bird	
Adams, Nancy M	Mountain Flowers of NZ	

TRIP REPORTS

7–13.1.2015: Nelson Lakes National Park & vicinity

For a wonderful field trip in every way, we thank: Mick (leader), Graeme and Gael for providing plant lists, Shannel for guiding us on Beebys Knob and Red Hills, vehicle drivers, Robyn (quiz organiser), Richard and Yvonne, owners of Travers Sabine Lodge, our ideal base, Bev (lunch & breakfast foods), Fiona & Mikayla Borlase and Lyn Baigent, chefs of wonderful dinners, the owners of land on the approaches to Beebys Knob, Red Hills and Rainbow Skifield, DOC staff for advice and keys, Canterbury BotSoccers for joining us for a day, and 'Hughie' for providing ideal weather for 39 happy BotSoccers.

8.1.15: Lower Porika shrubland

Early morning low cloud and a cool wind led to us to explore the Porika Stream valley and along Howard Valley Rd, an area with a complex variety of small-leaved shrubs. We saw ten coprosmas, three pittosporums, *Aristotelia fruticosa*, three gaultherias, *Corokia cotoneaster*, *Raukaua simplex*, *Melicytus flexuosus* and three hebes. Most discussed were *Pittosporum anomalum*, *P. divaricatum* and *P. rigidum*.

Favourite plants or experiences of the day, other than the fascinating array of small-leaved shrubs, were

“putputawētā in full flower”, “learning to recognise mature *Raukaua simplex*”, “*Myositis forsteri* in flower”.

Our lichenologists found species associated with pastoral and shrubland sites. Others commented on the intertwined diversity of the plant community. We made 20-30 additions to the existing list.

Sheelagh Leary

9.1.15: Beebys Knob (1,317 m)

Beebys Knob, our first experience of the region's alpine flora, was our only taste of bad weather. We donned warm jackets, balaclavas and mittens as we left the 4WDs at the bush line.

By lunch time, the cloud had cleared, the sun emerged, and we were rewarded with views of Lake Rotoiti, St Arnaud Range, Mt Robert, Wairau Valley and the Raglan Range.

At ground level, carpet grass (*Chionochloa australis*) and *C. pallens* formed a mosaic with dense patches of *Celmisia sessiliflora*, almost impenetrable by other plants. Delights in flower included gentians, a craspedia, two euphrasias, and a brachyglottis. We found *Montia calycina* and *Raoulia grandiflora* on bare areas fractured by frost-heave or track construction. Shrubs near the bushline included bog pine / *Halocarpus bidwillii* and a confusion of coprosmas, e.g., *C. fowerakeri*, *C. cheesemanii* and *C. depressa*.

We learned again the benefits of binoculars for long-distance botany. Shannel spotted from afar what looked like aciphyllas quite near our vehicles. An old female spike enabled us to identify them as *A. aurea*. With signs of pig-rooting nearby, it was good to see many young plants nearby.

More energetic members tramped up from the Korere – Tophouse Road before continuing along the 4WD track to Beebys Knob Hut.

Bev Abbott

10.1.15: Red Hills

The day dawned fine and stayed that way for a full day trip above the bush line. Shannel described the geology that made this area botanically unique. He explained how the meeting of the Pacific and Australian tectonic plates resulted in the heavier sea-floor rock being exposed in this area. The high iron content, and other minerals, e.g., chromium, nickel and cobalt, provide a substrate that is toxic to many species, but suits a few plants found only in mineralised ‘ultramafic’ geological formations.

In the beech forest below Red Hill Hut, we saw the sudden change from (relatively) smooth greywacke to the bumpy road over serpentine rock. Equally striking were the well-grown red and silver beech on the greywacke, differing from the stunted mountain beech, mountain cedar and shrubs on the ultramafic substrate. Later, lunching on a stack of greywacke forming an island in the serpentine-based tussock, we noticed that it was mountain beech

providing shade for us, and for shrubs and herbs that were not found in the surrounding ‘ultramafic sea’.

At Red Hills Hut, Shannel worked through the plant list to identify the 24 “mineral favouring” plants, endemic to the ultramafic substrate. Then it was a botanising-paced walk up the ridge behind the hut through tussock and shrubland. The dominant shrub, mānuka, was in flower. Soon we came to the mineral-loving plants:

The short tussock, *Chionochloa defracta*, filled spaces between the shrubs, and higher up, formed an almost pure tussock land. We found *Coprosma “rimicola”*, with its banana-shaped leaves, hiding in rock crevices. Shannel introduced us to the thick-leaved *Hebe carnosula*, and left us arguing over the variable shape of the sinus. (“Pin hole, long shield, oval, short cathedral”, were some of the descriptions bandied about).

Pimelea suteri was rather shy, and although we did find some, we saw it in flower only beyond the first ridge line. After seeing the russet-coloured, *Carex devia*, with its single upright seed-head, topped by a small male inflorescence, we found several as we climbed further.

Two mineral-favouring colobanthus, *C. “serpentine”* and *C. “Red Hills”* baffled us with the difference between them. We could identify *Astelia “serpentine”*, with rather wider leaves than the related *A. graminea*, and with more red colouring.

It was the flowering *Notothlaspi australe* and *Craspedia “serpentine”* that caught the photographers’ eye. However these plants could not compete with the patches of deep-blue-flowered *Thelymitra cyanea*, and the tiny *Montia racemosa*, when it came to being photographed.



Montia racemosa



Thelymitra cyanea

We had started the day with a plant list based on Tony Druce’s 1993 list. The only plants we could add were a tiny uncinia, *U. involuta*, *Myosotis laeta*, *Thelymitra hatchii* and *Coprosma fowerakeri*. This is a reflection on Tony’s thorough botanical surveying, rather any failure to look on our part.

Barbara Hammonds, Rodney Lewington

11.1.2015: Parachute Rock Track & beyond

Some went to Parachute Rock, just beyond the treeline—a long, hard, climb up a zigzag in seemingly endless beech forest—and some went beyond, to the St Arnaud Range crest, and over the other side to some tarns.

In the forest we were stopped in our tracks by a patch of bright yellow slime-mould. It had small projections from the surface, visible through a hand lens. On the descent, four hours later, it was deflated, looking distinctly past its best.

A trip down a ‘closed’ track revealed a wet area in the otherwise dry forest, with masses of flowering *Ourisia macrophylla* subsp. *lactea*, new to some of us. This spot had a sign ‘Fragile Area’—perhaps people had trampled the plants to access the water?



Ourisia macrophylla subsp. *lactea*

We saw the delicate orchid, *Adenochilus gracilis*, flowering in small patches along track edges it caught the fancy of a passing tramper. This was an addition to the list, as was *Simpliglottis cornuta* and *Viola filicaulis*, also along track edges.

There are great views of Lake Rotoiti and St Arnaud from Parachute Rock, but some of us were keen to see what lay over the ridge, so continued up the steep path to the ridge through the tussock. We saw small, soft, spaniard, *Aciphylla monroi*, among the grass, and penwipers / *Notothlaspi australe* in magnificent flower on a scree slope.



Notothlaspi australe

On the ridge top we saw the first vegetable sheep on the trip, *Raoulia bryoides*. They received obligatory raps with knuckles to hear their hollow, woody, sound. They are of course listed with the trees and shrubs, not the daisy-like herbs - takes time for some of us to remember that!



Raoulia bryoides

Down to the tarns, via tussock slopes, then scree - with *Parahebe cheesemanii* also seen for the first time, then very stable talus, whose rocks were covered with a geography of crustose lichens, and then more tussock grading into damp swards around seepages and the tarn edges.

The swards contained rich assemblages of plants, e.g., *Montia angustifolia*, *Galium perpusillum* and *Drosera arcturi*, all in flower, an *Abrotanella* and *Ranunculus gracilipes*.

Birds seen or heard in the forest included: kākā, kākāriki, riflemen and whitehead.

Barbara Hammonds

11.1.2015: Black Valley – St Arnaud Range Track – Loop Track

South Island toetoe / *Austroderia richardii* and *Chionochloa conspicua* mark the start of this pleasant walk from Travers–Sabine Lodge along Black Stream to Kerr Bay, Lake Rotoiti. Trackside en route we noted that every planted seedling of *Pittosporum patulum* had been protected by a rabbit-proof enclosure, further evidence of the work that the Friends of the Rotoiti Nature Recovery Project do in addition to maintaining many trap stations. Bellbirds / korimako were vociferous, courtesy of the Friends' sustained pest control. In the forest, a fallen leaf had us puzzled. Later Graeme agreed that it had to be from one of the mistletoes up in a beech tree, too high to identify,

At Kerr Bay, a weka called, and on the vast lawn, black-billed gulls squalled. Here we saw a giant Douglas fir, a weed species which invades indigenous plant communities. We wondered that it has been left to naturalise in this relatively indigenous setting. An excellent information panel describes DOC's wide-ranging *Battle for our Birds* campaign, here an integral part of the Rotoiti Nature Recovery Project which began in 1997. It involves using 1080 to kill rodents, mustelids and hedgehogs. 2015 is a beech 'mast' year, so using 1080 to kill pest animals is essential, otherwise predation will drastically reduce beech seed germination, and native fauna populations.

On the St Arnaud Range Track, we were impressed by the tall cedars – *Libocedrus bidwillii*, compared Hall's tōtara and needle-leaved tōtara, and checked the wrap-around stipules on *Coprosma linariifolia*. Despite the menacing buzz of wasps stealing honey-dew from beech trees, none of us got stung. The weed, *Juncus effusus*, infested the sides of track. On this track, and on the Loop Track, we saw four species of beech: black, red, silver and mountain, *Blechnum montanum* / mountain kiokio, *Cyathea colensoi* / mountain tree fern, *Raukaua simplex* / haumakaroa,

Lagenophora pinnatifida, and *Gentianella bellidifolia* / small snow gentian.

Barbara M, Margaret H, Chris H.

12.1.15: Rainbow Ski Area



Photo: Ian Goodwin.

It was a clear, hot, sunny day for the drive up the ski field road. We had paid a key fee, so were grateful for the altitude gained so easily. Small groups scattered from the car park to seek their favourite type of terrain. Allison Knight, Bill and Nancy Malcolm drove higher up, and in the rocky area on the true left of the ski-field, found many interesting lichens. Lara and Leon climbed to the heights on the true right, sidling around the top of the basin, to later meet the lichenologists. Their botanical highlights were *Myosotis traversii* and *Haastia pulvinaris*, a vegetable sheep. Another group climbed to the ridge, then went south along it over Mt McRae. They found a Canada goose and goslings on a tarn, and Dale swam in a goose-free tarn beyond. They enjoyed seeing the penwiper, *Notothlaspi rosulatum*.



Notothlaspi rosulatum.

Illustration: Eleanor Burton.

The main group meandered across the disturbed land at the bottom of the ski-field, finding tiny *Montia calycina* in flower. We clambered up a rich alpine stream, admiring *Dolichoglottis lyallii* with its bright-yellow flowers, *Craspedia uniflora*, giant buttercups,

Viola cunninghamii, vegetable sheep / *Raoulia eximia*, an *Aciphylla* c. 2 cm high with leaves 3 cm long, and other sub-alpine flowering plants, ferns and shrubs.

We circled a rocky tarn, saw blue-green cushions of *Chionohebe pulvinaris*, with tiny leaves and whiskery hairs, and had lunch #1 by a large rock above a tarn. The tiny, very hairy *Coprosma atropurpurea*, with a fringe of male flowers, waved its stamens. Across a scree basin we saw *Notothlaspi rosulatum*, tiny, purple *Parahebe cheesemanii* in flower, *Chionohebe pulvinaris*, *Haastia sinclairii*, and the very firm, dense, *Hebe epacridea*.

On the skyline, we enjoyed wide and distant views to Lake Rotoiti and St Arnaud, and the ranges all around. Dramatic, threatening, dark clouds came to nothing. We had lunch #2 in a sheltered spot just below the ridge, looked at more sub-alpines, then descended to the cars.

On the drive down, the last car made an unplanned stop at a pretty waterfall and a green bank of densely flowering *Ourisia*, and nearly got locked in for the night!

At camp we had an after-dinner quiz, seven teams and 20 questions. The winners were Table 3: Barbara C, Lara S and Mick P.

Ian & Jill Goodwin

13.1.15: Upper Wairau Valley

For this, our final foray, we had to fit most of us into 4WD vehicles needed to ford Six Mile Creek, just past the Rainbow Skifield turnoff. However, Tony Aldridge showed remarkable skill in negotiating the ford with his 2WD ute, which gave us the capacity to take 18 members comfortably for the next 41 km. We aimed to reach Island Pass at the headwaters of both the Wairau and Clarence Rivers.

First stop: a heavily grazed outwash fan with patches of *Coprosma propinqua*, shapely *C. tayloriae*, and very grey *Ozothamnus vauvilliersii*. Among the pasture sward that included sheep's burnet / *Sanguisorba minor*, were *C. atropurpurea*, the more hairy *C. petriei*, and *Gaultheria macrostigma*. Herbs included *Acaena novae-zelandiae*, *Chaerophyllum colensoi* and *Anisotome aromatica*.

Second stop: a dry, shaded, bank, with *Aristotelia fruticosa*, with its rounder leaves perhaps indicating it

was a hybrid, and the ferns *Asplenium flabellatum* and *A. richardii*. On the edges of a wetter area nearby were large *Polystichum vestitum*.

Third stop: Past the old Rainbow Homestead, and just beyond Wairau Gorge, is an old riverbed with what appeared to be mainly yarrow / *Achillea millefolium*, and some low, grey, scrub. On second take, it was the unusual *Helichrysum depressum*, with its 'dry stick' appearance. Also scattered about was *Epilobium melanocaulon*, and a hebe with black stems and red leaf edges that we couldn't name. Other notable plants included *Gaultheria depressa* among much large, red-flowered, *Trifolium pratense*.

We saw trout (a.k.a. possums-of-the-waterways), in the river, as we passed dusty avenues of ragwort / *Jacobaea vulgaris*, and viper's bugloss / *Echium vulgare*, interspersed with foxglove / *Digitalis purpurea*, until the countryside opened out before reaching Sedgemere gate, the entrance to Molesworth Station.

Fourth stop: Here we paused in the heat, and among the rocks saw *Raoulia subericea* and *R. hookeri*, with its obvious ray floret, and a *Prasophyllum colensoi* among the scattered bristle tussock / *Rytidosperma setifolium*, *Dracophyllum rosmarinifolium* and *Acrothamnus colensoi*. On a rocky outcrop and scree face just above the river, there was a penwiper, *Notothlaspi rosulatum*. Among the rocks we saw *Hebe brachysiphon*, *H. traversii*, amid bushes of *H. parviflora*, *Discaria toumatou*, *Helichrysum coralloides*, *Melicytus alpinus*, *Bulbinella hookeri*, and some small *Aciphylla aurea*.



Helichrysum coralloides. Photo: © Leon Perrie CC BY-NC. <http://naturewatch.org.nz/observations/1188785>

Fifth stop: Island Saddle. By the time we got here we were more familiar with the names of the alpine flora previously unfamiliar to most of us. Up on the scree, we found *Leptinella atrata*, *Stellaria roughii*, *Epilobium pycnostachyum*, and numerous penwipers. Led to the ridge-top by Barbara Mitcalfe, we found among outcrops of dry moss, *Lignocarpa carnosula*, the woolly *Pimelea sericeovillosa* agg., *Acaena glabra* and *Anisotome filifolia*.



Stellaria roughii. Photo: © Leon Perrie CC BY-NC. <http://naturewatch.org.nz/observations/1190882>



Lignocarpa carnosula. Photo: © Leon Perrie CC BY-NC. <http://naturewatch.org.nz/observations/1190902>

It was now time to return, to pack up, and to enjoy dinner! It was a fitting way to end the trip for which Graeme Jane had expertly chosen the spots from which we would learn most, in settings unfamiliar to most of us.

Mick Parsons

Participants: Bev Abbott, Tony Aldridge, Robyn Bridges, Eleanor Burton, Barbara Clark, Shannel Courtney, Gavin Dench, Michele Dickson, Gael Donaghy, Dale Every, Ken Fraser, Ian & Jill Goodwin, Alyth Grant, Bryan & Robin Halliday, Barbara Hammonds, Margaret & Richard Herbert, Chris Horne, Sheena & Stuart Hudson, Graeme Jane, Brenda Johnston, Allison Knight, Sheelagh Leary, Rodney Lewington, Bill & Nancy Malcolm, Barbara Mitcalfe, Syd Moore, Mick Parsons (leader), Leon Perrie, Lara Shepherd, Darea Sherratt, Barbara Simmons, Sunita Singh, Val Smith, Julia Stace.

14 February 2015: Centennial Reserve, Miramar

In the late Dr Geoff Park's *Inventory of the Surviving Traces of the Primary Forests of Wellington City*, 1999, he stated that kiekie is "a sound indicator of the survival of a primary forest element in the Wellington landscape ...". Kiekie / *Freycinetia banksii* is flourishing in the main valley in Centennial Reserve, at the north end of Darlington Rd. In 2004, after implementing intensive possum control on the entire Miramar Peninsula, Greater Wellington declared it to be possum-free. Maybe one day, the absence of possums, and the continuing control of rodents and mustelids in this 24.9-ha reserve, will enable the kiekie there to produce flowers and fruit.

Sara Free, a WCC councillor, joined our group gathered at the entrance. She had heard our personal submission on council's draft *Suburban Reserves Management Plan*, at a Council hearing on 12 February, and had expressed an interest in coming. We pushed through the 'amenity' plantings, tripping over masses of potato vine / *Solanum jasminoides* and greater bindweed / *Calystegia silvatica*. At the Tasmanian blackwoods, we left the track and crossed the tiny creek, passing luxuriant kiekie sprawling nearby, much of it reaching the canopy. Soon we reached the pre-1911 dam, and the silted-up wetland behind it which contains a mass of weeds, but also a healthy population of five (planted) carex species, and *Schoenoplectus tabernaemontani* (= *S. validus*) / kapungawha / lake club rush. We have

yet to find out whether this sedge is naturally-occurring, or was planted there. Its stout, unbranched culms reach to 2 m. and are topped by side-mounted inflorescences. Among the 31 native species we added to the draft list of 74 was Gavin's discovery of *Rubus squarrosus* / yellow-prickled lawyer. We added 5 adventive species, including old man's beard and English ivy, to the draft list of 21. Upstream of the dam, the valley narrows into a small gorge with a waterfall, a lovely, wild place, with a bluff, some large tree fuchsia, a big cabbage tree, and a huge māpou / *Myrsine australis*.



Schoenoplectus tabernaemontani.
Photo: Lynne Pomare.

The reserve contains at least 22 *planted* native species, several not recorded by botanist John Buchanan in 1872, during his survey of the indigenous and adventive vascular plant species of the entire Miramar Peninsula. We feel uneasy about these plantings. A community group, the Miramar Track Project, supported by WCC, has planted c. 2000 native plants, 500 from Berhampore Nursery, many from F&B's Highbury nursery, and at least one commercial nursery. We wonder how these plantings will affect the ecological

integrity of the reserve in the long-term, when they start to produce viable seed, and disturb the natural process of forest recovery. How will ecologists, botanists, and the managers of the land, deal with this situation?

In the 'amenity' planting, contiguous with the reserve, we found several inappropriate non-Wellington native species, e.g., pūriri, which before long will invade this primary forest remnant, through bird action. *Coprosma linariifolia*, also not naturally occurring in Wellington Ecological District 39.01, was planted here. This kind of unwise juxtaposition, i.e., plants selected for amenity-related reasons being planted on WCC road reserve immediately beside significant indigenous reserves / ecosystems, is all too common, threatening their ecological / botanical integrity. Wellington City's remaining indigenous ecosystems are so few, so small, and so precious, that surely they should be considered as a 'special-needs biodiversity' category, meriting 'special treatment'. We welcome WCC's Restoration Technical Advisor, Anita Benbrook's agreement to request that the Miramar Track Project remove inappropriate species from the reserve.

Participants: Bev Abbott, Sam Buckley, Gavin Dench, Michele Dickson, Sarah Free, Ian & Jill Goodwin, Jack Grasse, Richard Grasse, Mick Parsons, Lynne Pomare, Nick Saville, Sunita Singh, Val Smith, Sophie Williams, Barbara Mitcalfe & Chris Horne (co-leaders / scribes).

7 March 2015: Hawkins Hill area

The ridge south of the Brooklyn turbine is spectacular in good weather. I particularly like the far-reaching views over the rugged surrounding hillsides to Cook Strait and the South Island beyond. There are interesting plants to be seen too, but we did not get good weather, despite it being early autumn. The hardy eleven who braved the forecast for deteriorating conditions spent the first twenty minutes sheltering in their cars at the turbine's carpark as a heavy shower swept through.

Although the northerly was robust, a dual walking/cycling track

through regenerating vegetation on the east side of the ridge offered respite. Here we were kept busy, using a species list for a neighbouring area to assemble a new list for our route. We alternated between low forest and open scrub, with the 'usual suspects' for Wellington vegetation. However, it was pleasing to see kāmahi and large mānuka. Distinguishing tree ferns was one of the issues that kept us engaged. Amongst the hairy tree ferns, the short, green, stipes of *Dicksonia fibrosa* (whekī-ponga) separated it from *D. squarrosa* (whekī), which has long dark-brown

stipes. In the scaly tree ferns, the thin stipes of *Cyathea cunninghamii* (gully tree fern) separated it from *C. medullaris* (mamaku), but we still had the issue of distinguishing juvenile *C. cunninghamii* and *C. smithii* (kātote). The co-occurring pairs of *Blechnum procerum* and *B. novae-zelandiae*, *Polystichum neozelandicum* and *P. oculatum*, and *Asplenium gracillimum* and *A. hookerianum* also made for useful fern revision.

After about three hours, the rain looked ready to return, so we left the track for the road along the top of the ridge and walked back to the carpark.



Cyathea cunninghamii (gully tree fern) was uncommon. This is a 'juvenile' plant, retaining some of its frond stipes in a messy skirt. The closely related *C. smithii* (katote) would have a tidier skirt at this height. Photo © Leon Perrie CC BY-NC. <http://naturewatch.org.nz/observations/1275932>



Nertera depressa spread over some trackside banks. Photo © Leon Perrie CC BY-NC. <http://naturewatch.org.nz/observations/1275952>

Our list totalled 151 species of native and weedy vascular plants; this has been submitted to the NZPCN for possible addition to their database of species lists.

Photos of some of what we saw are available from: <http://naturewatch.org.nz/observations?utf8=%E2%9C%93&q=WellingtonBotanicalSociety%2C+March2015>

We made it only about half way to our target of Hawkins Hill. Exploring its roadside cuttings for interesting herbs will be a task for another time, hopefully with the sun out and the winds light.

Participants: Bev Abbott, Eleanor Burton, Gavin Dench, Michelle Dickson, Jenny Dolton, Ian & Jill Goodwin, Leon Perrie (co-leader / scribe), Lara Shepherd (co-leader), Sunita Singh, Julia White.

Easter, 3–5 April 2015: Horowhenua

3.4.15 (a.m.): Forest Lakes Road

The day started out in ominous fashion with four of us being sent to an incorrect rendezvous, and the rest of us being the subject of a police call-out for trespassing at the assigned rendezvous. Quickly resolved, we were generously hosted by Barry O'Connor at his Forest Lakes Rd swampy bush remnant. A home-stay cottage overlooks the bush at the head of a gully that drains into a large swamp in the lower Waitohu Stream catchment. Barry has recently been asked by the regional council to restrict stock access to the area. No cattle are now on the property, the gully is fenced off, and the fringes of the swamp now boast a laxly sheep-grazed sward of exotic grasses and *Microlaena stipoides*, with many native species, previously listed as uncommon, now emerging within the remnant.

The first call was a lone maire tawake / *Syzygium maire*, amid the swampy ground on the edge of what is now a quite impenetrable understorey beneath a low canopy of tītoki, tawa, pukatea and hinau with scattered kāmahi around the edges. Thankfully, the recent dry meant that we could press on into the interior where, in light gaps, thrived blackberry, *Rubus fruticosus* agg., bracken / *Pteridium esculentum*,

and *Muehlenbeckia australis*. A surprise was a lone *Nestegis montana* (dbh 27 cm) to add to Pat Enright's comprehensive list. Previously listed as uncommon were *Carex maorica*, *Machaerina tenax*, big mingimingi and hen and chicken fern. These were now all increasing in number, because Barry has excluded cattle. Around the fringes of the forest it was not hard to find seedlings of tītoki and the ferns *Asplenium hookerianum*, *Blechnum chambersii*, *B. discolor* and *Pellaea rotundifolia*, also previously recorded as uncommon.



Carex maorica inflorescence. Photo: Jeremy Rolfe.

Unfortunately barberry is now enclosing some areas and, within the swamp, seedlings and mature old man's beard are beginning to take over. There was also the disappointment of karo, *Pittosporum crassifolium* seedlings that have spread from distant hedgerows. These weeds present a real threat when stock is excluded. If the gully were

to be retired from all livestock, weed control will take more effort for some years to come. Barry shared with us what a vexed issue this is. Regional council assistance with planting as to extend the bush fringe, and weed control of this unique remnant, would further enhance the already attractive cottage outlook.

3.4.15 (p.m.): Lake Waitawa

We lunched on the edge of Lake Waitawa, gathered mushrooms for dinner, then entered the nearby bush, c. 2 ha. It is overrun by human recreational activity from the nearby Christian camp. The entrance has a smattering of stinking iris. Some of the bush is dominated by large karaka. *Hoheria sexstylosa* is overshadowed by plantings of the out-of-place *Hoheria populnea* on the bush fringes. In the understorey we saw the small-leaved shrubs *Melicope simplex* and *Streblus heterophyllus*. Larger ferns, e.g., *Pteris tremula*, *Hypolepis distans*, *H. rufobarbata* and *Diplazium australe* are among many others typical of such disturbed areas. It also has a good canopy of tōtara, extensive rewarewa, the odd rimu and, in a lower area near the swamp, a large (female) kahikatea with many seedlings beneath it and, with what appeared to be roots that lifted above the water when the water level was once 2 m higher than it is now. The

swampy area was dominated by wild parsnip, *Pastinaca sativa* and *Carex geminata* overgrown with field cornbind, *Calystegia silvatica*.

We then moved to the mānuka-dominated area west of the lake and botanised along its edge. There are several constructed piers with two tench and perch anglers who keenly explained the cultural origins of the pastime. Here there were swathes of *Isachne globosa* / swamp millet, splendid with its fine seed heads hanging over the water. Further from shore is a tangled understory of *Gleichenia dicarpa* and much *Blechnum minus*. Out into the open area, and into the open swampy area, there is a lone *Olearia virgata*. Unfortunately this area was subject to heavy grazing by cattle, so the prospects of further improvement look bleak.

The day was closing so we had no time to look at further native areas surrounding the lake; most of which, from a distance, appeared to be extremely impoverished, grazed and overrun with exotic species planted around the camp's convention centre. We thank the Forest Lakes management for access to their area.

Most native bush remnants and swamps have disappeared from the area we visited at Easter. It is wonderful to find land stewards, such as the Keelings and Barry O'Connor, who while managing a viable farming enterprise, are looking for answers to what they can do to preserve these special areas.

Mick Parsons

4.4.15 (a.m.): Kimberley Scenic Reserve

Notes on the species list described this reserve as "a patchwork of various vegetation types and ecosystems". We explored three patches; one beside the access road, one behind the toilet block, and a short section of river bed.

The length of the species list reflected the diversity of ecosystems: five pages of indigenous plants and five pages of adventives. Maggy Wassilieff prepared the first list in the 1980s. Pat Enright and Olaf John added to it during 15 trips 2002–2004. Our additions included *Nestegis lanceolata*, *Carex flagellifera*, *Pittosporum tenuifolium* (planted), and, regrettably, the weed *Selaginella kraussiana*.

The highlight was *Mida salicifolia* with its confusion of leaf shapes. Rhys Gardner (1997) reports that it is common north of 38°, but then almost absent until the Wellington region. The species is hemiparasitic; its roots attach to those of other plants.

4.4.15 (p.m.): Keeling's Farm

We thank farmers Dave and Mike Keeling for allowing us access to their property. The three forest remnants here provided different botanical experiences. We started with a one-page list labelled 'Lake Kopureherehe', and finished the day with long lists for two remnants.

Remnant between the house and the lake

Canopy species—magnificent matai, kahikatea, tawa, northern rātā, karaka and two magnolias. Lower tiers—a variety of small indigenous trees, (e.g., *Streblus heterophyllus*), shrubs, lianes and ferns. *Metrosideros fulgens* was in flower. Weed infestations—many karaka seedlings, climbing asparagus. Small lakeside finds, e.g., *Glossostigma elatinoides*.

Remnant past the old shearing shed

In better condition botanically. The main canopy species—kahikatea. Kohekohe and nikau gave some sections a tropical appearance. Many dead *Dicksonia squarrosa* fronds covered much of the forest floor. Nobby roots on an old kahikatea hinted that the water-table had dropped at least 1 m during its lifetime. Filmy ferns put in a brief appearance—*Hymenophyllum demissum*, *H. flabellatum* and *Polyphlebium venosum* (*Trichomanes*).



Hymenophyllum flabellatum.
Photo: Jeremy Rolfe.

Third remnant

Dominated by kohekohe and karaka. We added *Blechnum parrisiae*, formerly *Doodia media*. The new name acknowledges Barbara S. Parris,

a NZ-born pteridologist who has specialised in the worldwide revision of *Grammitis* and *Doodia*.

5.4.2015: Lake Papaitonga

Eight of us spent three hours on the well-formed track advertised as taking 10-20 minutes. It starts in forest on a dry terrace, before descending to a boardwalk meandering through a wetland, which is open to the sky. The track then climbs to a lookout with tantalising views over the main lake. The track then traverses coastal forest with extensive nikau and kohekohe under tawa, pukatea and kahikatea. A second wetland, mostly dark and gloomy under a closed canopy, was relieved by a bright patch of *Elastostema rugosum* near a stream.



Elastostema rugosum. Photo: Jeremy Rolfe.

We found a good age-range among the nikau, including seedlings with three or four short leaves, plants about to produce trunks, and mature specimens with many rings, and fronds 3 m or longer. Nikau rings aren't produced annually, so age estimates weren't possible, but John Dawson reports that nikau do not start to form trunks for 40-50 years. (Dawson and Lucas, 2011, *NZ's Native Trees*).

Back at the car park, we did a quick comparison of our three-hour 'snapshot' with Maggy Wassilieff's and DJ Clark's 1984 list. That's 31 years ago. Graeme Jane's list arrived by e-mail two days later. He used the multi-site spreadsheet system we'd used at St Arnaud to record the lists for 1984 and 2015 alphabetically, i.e. ×× for both, ×_ for 1984 only, and _× for 2015 only. Thanks Graeme. It worked well. Some of the results are shown in table 1.

We added many new adventives to the original list of 64 species, including *Bidens frondosa*, *Cyperus eragrostis*, a *Pseudopanax crassifolius* / *P. lessonii* hybrid, and the fern *Pteris cretica*.

Table 1: Comparison of plants recorded during this field trip with Wassilieff & Clark 1984.

Indigenous plants	Wassilieff &	BotSoc	Comment
	Clark 1984	April 2015	
Podocarps	5	3	We didn't find tōtara or miro
Monocot trees	2	2	Nikau and cabbage tree both present
Dicot trees and shrubs	61	33	We found 2 species not on the 1984 list: <i>Coriaria arborea</i> , <i>Myrsine australis</i> . We didn't see mānuka, kānuka, swamp maire, 3 <i>Coprosma</i> , 3 <i>Nestegis</i> & some other species
Dicot lianes	12	12	We didn't see <i>Fuchsia perscandens</i> or <i>Rubus schmidelioides</i> , but did find <i>Clematis foetida</i> and <i>Calystegia tuguriorum</i>
Ferns	56	29	<i>Cyathea medullaris</i> was a surprising addition, but <i>C. cunninghamii</i> and <i>Dicksonia fibrosa</i> eluded us. We saw none of the 3 <i>Hypolepis</i> species found in 1984, and only 2 of the 7 <i>Hymenophyllum</i> .

So, what does the comparison tell us about changes over the last 30 years? Possibly not much. More extensive searching would be necessary to establish which of the species we didn't find are still present, which have gone, and what other species have arrived in the last 30 years. Is it worth compiling separate lists where visits are decades apart, instead of just recording additions? I think so. Some patterns may emerge, and it may inspire and provide a focus for future visits.

DOC's website notes that "The wetland forest associations of kahikatea / pukatea, tawa and pukatea-tawa-swamp maire are now rare." Swamp maire (*Syzygium maire*) was recorded in 1984, but we didn't see it. DOC also mentions that *Korthalsella salicornioides*, the rare leafless mistletoe, is found on mānuka, so that is another species to look for.

Bev Abbott

5.4.15: Hokio Beach Dunes

After lunch, six of us drove from Papaitonga SR to Hokio's coastal sand dunes. From the 1967 plant list, I had expected that there would be podocarp/tawa forest to the south of Hokio Stream. A long-term local explained that he had not seen such

forest on this coastal strip, and would not expect to, as there was no clay soil, just sand. In the 1970s, pines were planted on the dunes. From the map it seems that any forest was c. 4 km south of Hokio. We did not propose to go so far.

We did walk c. 1 km south, along the track where the river once flowed into lagoons. It now flows directly to the sea, leaving a solid band of sedges, rushes and *Typha orientalis* in the old river bed, and a weedy dune area on the inland side.

Exploring north along the beach side of the old river, there was one pleasant surprise. Gael found it and Graeme identified it—the minute *Limosella lineata* that we had seen at Foxton Beach three years earlier, where Leon Perrie photographed it.

Wading up to our ankles to cross to the north side of Hokio Stream, Graeme finally discovered the *Pimelea villosa* subsp. *arenaria* that he had expected to find. This subspecies was reported by Colin Burrows¹ on the coast from Whanganui south, round to the east coast of the North Island, to about as far north there as it is on the

1. Burrows, C. J. 2009: Genus *Pimelea* (Thymelaeaceae) in New Zealand 3. The taxonomic treatment of six endemic hairy-leaved species. *New Zealand journal of Botany* 47: 325–354.

west coast. At Hokio, it is growing on a dune bank with *Coprosma acerosa* and *Ozothamnus leptophyllus*.



Limosella lineata.



Coprosma acerosa. Photo: Jeremy Rolfe.

The 2015 plant list for Hokio Beach will be shorter than the "Hokio-Ohau River Mouth along the coast" list we started with.

Rodney Lewington

Participants: Bev Abbott, Sam Buckley, Gael Donaghy, Sheena & Stuart Hudson, Graeme Jane, Brenda Johnston, Rodney Lewington, Pat McLean, Chris Moore, Mick Parsons (leader), Leon Perrie, Lara Shepherd, Darea Sherratt.

2 May 2015: Airways Corporation land & Rangitatau Reserve, Strathmore, Wellington

The approach to the reserve is on Airways Corporation land, along a WW2 road, which leads south from the end of Ahuriri St, Strathmore, before it turns at a WWII radar station, to run north. We spent considerable time botanising along and near the road on this land, before we reached Rangitatau Reserve proper.

BotSoc last visited this area on 5 October 2002, on a weeding trip led by Julia White. Our 2 May trip we prepared a plant list from scratch, a good exercise for all of us. Walking south, we saw some *Asplenium appendiculatum* subsp. *maritimum* hanging over the road cutting, then several *Melicytus crassifolius* / thick-leaved māhoe, and as we continued north, many more of them. This Airways Corporation site is indeed a stronghold of this species, whose national Conservation Status is 'Declining'.



Melicytus crassifolius. Photo: Jeremy Rolfe.

Above the road cutting are numerous *Cotyledon orbiculata* / pig's ear, listed in the National Pest Plant Accord. The next native plants of great interest were on a knob east of the road: several matagouri / *Discaria toumatou*, on the only known site in Wellington city, amongst NZ daphne / *Pimelea prostrata*, up to 70 cm tall, some in flower, and a lone pātōtara / *Leucopogon fraseri*. Hunkered down in the wind-swept vegetation, we sheltered from the breeze, enjoying all-round views and morning tea, before returning to the old road.

Beyond Birkhall Grove, and Bowes Crescent, we rejoined the old road and entered Rangitatau Reserve, with a fine view over the largely indigenous coastal forest down the valley of 'Te Poti Stream' to Tarakena Bay. Before continuing down valley, we lunched on a grassy slope, then scoured the bush edge for plants to add to our list. We hope that the sole, large pine will be removed before its progeny begin to establish in the bush.

A highly informative panel pictured and described the site of Rangitatau, an historic, palisaded Ngai Tara pā, on the western headland of Tarakena Bay, later occupied by Ngati Ira, and destroyed by raiders from the north in 1819–20, along with the associated, stockaded village, Poito, in the lower valley.

The ascent of the 'sand track' led us through coastal forest, including huge, gnarled, twisted, old taupata trees. We also found planted pōhutukawa, (including a hybrid), *Piper excelsum* subsp. *peltatum*, makamaka / *Ackama rosifolia*, a Far North endemic, and *Corokia cheesemanii*. During the day, we recorded 73 indigenous species, 19 of which were planted, including some species which do not occur naturally in Cook Strait Ecological District 39.02, and 86 adventive species. Just as with Centennial Reserve reported on earlier in this newsletter, we wonder how these plantings will affect the ecological integrity of the reserve in the long-term, when they start to produce viable seed, and disturb the natural process of forest recovery. How will ecologists, botanists and the managers of the land, deal with this situation?

Participants: Sam Buckley, Eleanor Burton, Gavin Dench, Michele Dickson, Jane Humble, Rodney Lewington, Winifred Maindonald, Ann Mitcalfe, Chris Moore, Leon Perrie, Darea Sherratt, Sunita Singh, co-leaders / scribes: Chris Horne and Barbara Mitcalfe.



Membership application

(For new members, **NOT** for renewal of existing membership)

I wish to join the Society

My name Mr/Mrs/Ms/Dr Phone (.....) (h)

My address Phone (.....) (w)

..... Fax (.....)

I would like to receive my newsletters by e-mail as a PDF: YES / NO (Delete as appropriate)

My/our e-mail address@.....

Signature Date:..... / /

The membership year is from 1 July to 30 June. Dues received after 1 May will be credited to the following year.

Membership fees for the year ended 30 June 2014 are:

Type of membership: Ordinary \$35; Country \$30; Student \$10; Group / family \$40.

We welcome donations to support research into NZ native plants and to the Jubilee Award Fund.

Please make your cheque payable to Wellington Botanical Society Inc, and send it with this form to:

Wellington Botanical Society Inc., PO Box 10 412, Wellington 6143

My cheque is enclosed for Ordinary membership \$.....

Country membership \$.....

Student membership \$.....

Group / family membership \$.....

Donation \$.....

TOTAL \$.....

Alternatively you may pay direct to the Society's bank account 020536 0017812 00

and e-mail this completed form to the Treasurer at harlea@actrix.co.nz

Authority to release your name, address and phone number to other members of the Society.

The Society holds the names and addresses of all members to use for post-outs of newsletters etc.

The committee sees benefit in circulating the membership list to all members. This is done by many societies to enhance social interaction as well as being of practical value.

Under the Privacy Act the circulation of names on such lists requires the approval of the individual members.

If you are agreeable to your name and address being on the circulated list, please sign the authorisation below and return it with this membership application.

I agree to my name, address and telephone number being on the membership list to be circulated to members of the Wellington Botanical Society. I understand that this list is to be used only by members, and that the circulated list will include the caveat that the list is for social and society use and is not to be used for any other purpose. Specifically the list is not to be used for marketing, soliciting or political purposes.

Name..... Signed..... Date / /

Name..... Signed..... Date / /

If you do not agree, it would assist processing if you could please put a line through paragraphs above and return the form unsigned.