

Wellington Botanical Society

Te Rōpū Manāki i Ngā Tamariki a Tāne,
o Te Whanganui a Tara



NEWSLETTER

September 2016

Previous issue: May 2016

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From the President

Thank you for electing me President of Wellington Botanical Society. For those of you who don't know me, I'm a research scientist at Te Papa, with a long interest in all things botanical. I look forward to meeting those of you I don't yet know – please feel free to introduce yourself to me at the next meeting or field trip.

I would like to thank:

- Karen Palmer, our outgoing President, for the excellent leadership she has provided over the past year.
- Rita Chin for her work as our auditor for the past two years.

The committee seeks an additional member, so please tell us if you would like to volunteer.

At our AGM last month we were treated to a fascinating A P Druce Memorial Lecture by Landcare's Matt McGlone. Matt started with a photographic trip down memory lane, featuring many of NZ's prominent botanists, including Tony Druce. He then discussed plant distributions in NZ, focusing on why some plants are missing from regions in which they might be predicted to occur. Our September meeting will provide an introduction to identifying lichens, mosses, liverworts and hornworts. This will be followed in October by a field trip to put your new knowledge into practice. I've attended several bryophyte workshops, so I can recommend taking the time to learn more about the often-overlooked non-vascular plants.

There are limited places available for the upcoming summer camp to north-west Nelson, so please register promptly, using the registration form in this newsletter. Given the remoteness of the area, early confirmation of numbers is important for the organising committee's planning.

Lara Shepherd, President

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 Eleanor Burton at troggs@paradise.net.nz or 479 0497.

Wellington Botanical Society

Address:	PO Box 10 412, Wellington 6143
Web site:	www.wellingtonbotsoc.org.nz
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Annual subscription:	ordinary \$35; country \$30; student \$10; joint / group / family \$40.
Send your subscription to Treasurer, WBS, Box 10 412, Wellington 6143 or to our bank account 020536 0017812 00.	
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 November 2016

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, and potential leaders of those field trips.
- topics and speakers for evening meetings

Please send your ideas to Barbara Clark, PO Box 10 412, Wellington 6143, ph 233 8202, bj_clark@xtra.co.nz.

Field trips—single day

A field trip, usually lasting 4-5 hours, is an opportunity to learn how to identify native plants and adventive plants (weeds). During the trip, experienced participants assist newcomers and record the species seen. After it, a new or updated plant list will be produced for the site. This list will be published on the NZ Plant Conservation Network web site, and copies sent to trip participants, landowners and managers.

If you intend to join a field trip, PLEASE phone or e-mail 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 or e-mail in advance, you are welcome to join on the day. If you e-mail your intention, the leader will send you a copy of the draft plant list, so that you can print it out to bring with you. If you do not have a printer, tell the leader. At the meeting place, the trip leader will ask you to write on the registration form your name, e-mail address (so that you can receive the updated plant list), and a phone number for the leader to ring your next-of-kin in an emergency.

What bring—clothing

Choose from the following items, according to the weather forecast, and your personal needs: sun hat, woollen or polyprop beanie or balaclava, waterproof / windproof raincoat (parka) and over-trousers, long-sleeved cotton shirt*, singlet*, thermal or woollen top, woollen jersey or fleece jacket, nylon shorts or trousers*, polyprop long-johns, underclothes, thick socks, boots or walking shoes, gloves / mittens.

*Note: In wet, cold weather, do not wear cotton shirts, singlets, t-shirts and trousers.

What to bring – gear and food

Day pack with lunch, biscuits or scroggin, hot or cold drink, spare clothing, personal first-aid kit, note-book, pen, pencil, cell-phone, wallet. Optional: walking pole, clipboard, map or park brochure, camera, binoculars, hand-lens, sun-block, sun-glasses, insect repellent, whistle, toilet paper.

Field trips – overnight

Field trips usually last two days; at Easter, three days. We may be based at a camp-ground with or without cabins, or a rented house, or a private bach. The field trip may last 4-7 hours each day.

Overnight trip gear and food

Add to the day-trip gear, food and drink listed above: breakfast, fresh fruit, torch, spare bulb and batteries, candle, mug, plate, knife, fork, spoon, small towel, soap,

tooth brush. If accommodation is not provided for, bring tent, fly, poles and pegs, groundsheet, sleeping mat, sleeping bag, sleeping-bag liner and stuff bag. Optional: matches in waterproof container, water purification tablets, pocket knife, large plastic survival bag to line pack, gaiters. Note: dinners may be 'pot-luck'—ask the leader to suggest what your contribution might be.

Summer camps

These field trips last 7–10 days. Full details will appear in the newsletter.

Health and safety

The leader will bring BotSoc's comprehensive first-aid kit, a topographic map, a cell-phone, and give a health and safety briefing.

The leader will describe the route, and approximate times for lunch, tea breaks and the end of the trip.

Bring your own first-aid kit. If you have an allergy or medical condition, bring your own anti-histamines and medications, tell the leader of any problems you may have, and how to deal with them.

Before the trip, if you have any doubts about your ability to keep up with the party, discuss this with the trip leader, who has the right to restrict attendance.

If you decide to leave a trip early, you must tell the leader, and be confident that you know your way back to the start. Enter your name on the 'register' under a wind-screen wiper on the leader's car, or other agreed place, to record your safe return.

Fitness and experience

Our field trips are mostly on established tracks, and at a leisurely pace, but 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, you participate at your own risk.

Transport

When the use of public transport is practical, details will appear in the newsletter.

We encourage the pooling of cars for trips. If you need a lift, tell the trip leader.

Passengers: Pay your driver your share of the running costs. We suggest 10c per km / passenger. If a trip uses the inter-island ferry, pay your share of the ferry fare. If you change cars mid-trip, leave a written note for your driver, under a wind-screen wiper on her or his car, and check that your new driver adds you to her or his list.

Drivers: Ensure that you know the route to the start of the trip, and that you have a written list of your passengers. Zero the odometer at the start, and agree on a return time. Check from your list that all your passengers are in the car. Collect contributions towards transport costs.

Trip leaders

Draft a trip report for the newsletter, including a list of participants, and send it to the editor.

Other matters

After your first BotSoc field trip, tell the leader if you think there is information newcomers would appreciate seeing about future trips, in the newsletter, on the web site, or on Wellington Glean Report.

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

Meetings

Public transport to meetings

The following bus services stop on Kelburn Parade, about 50 m up it from Victoria University's Murphy Building Lecture Theatre MYLT101:

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, 0800 801-700.

NEW MEMBERS

We welcome the following:

Katherine de Silva, Carolyn Dimattina, Catriona Gower, Richard Grasse, Richard Parfitt, Ianto Stevens, Peter Cooper, Tony Payne and Helen Baggaley.

Lea Robertson, Treasurer

FIELD TRIPS AND EVENING MEETINGS: SEPTEMBER–DECEMBER 2016 & JANUARY 2017

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.

Monday 19 September: Evening meeting Can't tell a moss from a liverwort, don't know a lichen?

Rodney Lewington, Carol West & Peter Beveridge will make three 20-minute presentations—on lichens, on mosses, and on liverworts and hornworts. Each will assume you know nothing, followed by time to answer any questions you may have. The talks will cover the structure & life-cycle of each phylum/division. The idea is to allow you to distinguish between them in the field, & make a start on identifying them at home.

Saturday 1 October: Field trip

Can't tell a moss from a liverwort, don't know a lichen? Learning by doing

Continuing our enquiry into lichens, mosses, liverworts & hornworts, we will visit Otari-Wilton's Bush to go on an exploratory walk for c. 2 hours, collecting some of them, & getting a feel for their various habitats. The rest of the morning will be spent in the Leonard Cockayne Centre with microscopes, learning to identify our collections to genus & even species level. Depending on the weather, we may take another walk in Otari, or continue until c. 3 p.m. on identification. Bring a hand lens, note book, pen & your lunch. Tea & coffee provided. Leaders & helpers: Rodney Lewington, Carol West & Peter Beveridge. Meet 9.30 a.m. at Otari-Wilton's Bush Information Centre / Te Marae o Tane, 160 Wilton Rd, Wilton. No. 14 Wilton bus, Kilbirnie 8.30, Ct Pl 8.47, Molesworth St, 8.54; alight at stop in Warwick St.

Monday 17 October: Evening meeting

Otari-Wilton's Bush – Part 2: The Forest – Stan Reid – Call for a National Botanic Garden

Speaker: Barbara Hampton. A look at the forest on the north-west side of the stream, managed by Lands & Survey from 1905 to 1918, when it passed to WCC. Stan Reid's 1934 thesis became the blueprint for future studies—his observations in 1982 & 1992 are interesting. The call for a national botanic garden—known as 'The Movement'—was seen in 1902 & repeated over the years without success. *Note:* This talk follows Barbara's talk on 21 March 2015 about the creators of Otari-Wilton's Bush, the plant collectors, & the three long-term curators.

Parasitic red algae from New Zealand

Speaker: Maren Preuss, VUW research student. Red algal parasites are parasitic algae that grow on other red algae. Knowledge of those parasites is still limited. My PhD investigates species diversity, host dependence, spore development & parasite-host relationships in NZ.

Saturday 5 November: Field trip

Rimutaka Forest Park

Botanise the Nature Walk near the park's Catchpool Valley access road. Enter the park from Coast Road, c. 15 minutes south of Wainuiomata. Meet at the car park at the start of the Orongorongo Track at 10:00 a.m. We will shuttle some cars to the other end of the Nature Walk for the return. The bush has a wide variety of native trees & ferns. NZTopo50 map BQ32 Lower Hutt. Leaders: Ian & Jill Goodwin. Please phone 475 7248, or 021 519 461, with your e-mail address so they can send you a plant list. Ring them if you would like a lift.

Monday 21 November: Evening meeting

The natural history of Abel Tasman National Park: Project Janszoon

Speaker: Dr Philip Simpson, author, ecologist. The geology, landforms, climate and serendipitous events together formed the park's habitats. The predominant granite landscape creates a unique range of forest, wetland and coastal ecosystems, with both common & rare plant species, & a distinctive fauna, especially in the streams. Lowland & upland forests contrast, the former with especially well-developed rātā forest, the latter with unusual acid-tolerant pākihi associations. The human hand has been extreme - regenerating kākara & tree-fern forests are characteristic. Orchids are a particular feature. Philip will describe the natural history as part of Project Janszoon, & a proposed book. He will welcome advice and information about the park.

Saturday 3 – Sunday 4 December: Field trip

Palliser Bay, South Wairarapa

Day 1: Meet 9.30 a.m. at Dorset Square, Featherston, corner of Moore St & SH2.

Botanise Manganui Valley (private land) containing several swamps with interesting floras, e.g., *Gratiola sexdentata*, *Gunnera prorepens*, *Ranunculus amphitrichus*, *R. glabrifolius*, and a wide variety of rushes & sedges; over 60 fern species, e.g., *Botrychium biforme*, *Hymenophyllum cupressiforme* and *H. minimum*. See dwarf mistletoe / *Korthalsella salicornioides* on large kākara, and *Drymoanthus adversus* on several different host trees. The hillsides support mature black beech & hard beech forest, with an interesting flora of orchids & other sub-canopy species.

Day 2: Botanise side-valley of Mukamuka Stream.

Accommodation: At Sunita's bach, Ocean Beach, near Corner Creek, 2 tent sites, 4 bunks, plus DOC campsite 300m away. Alternatives: Featherston Motels & Camping, 4 Fitzherbert St, Featherston. Ph 06 308 9852; camping \$00 / room \$35. Race Track Ranch, SH2, Tauherenikau, Camping \$15 / room \$20. Ph 06 308 9026 / 021 271 0364. Pot-luck dinner Saturday night. Co-leaders: Pat Enright / Chris Hopkins ph 04 528 5195, e-mail hopkinschris@xtra.co.nz so he can e-mail you a species list. Sunita Singh 387 9955, 027 405 2987, sunita@actrix.co.nz Maps: BQ33 Lake Wairarapa, BQ32 Lower Hutt.

11–18 January 2017: Field trip

North-west Nelson

Base camp: "The Outpost", Mangarakau. Sleeps 28 indoors; plenty of tent sites. Located in DOC reserve between Kahurangi National Park & Tai Tapu Marine Reserve. Near NZ Native Forest Restoration Trust's Mangarakau Swamp - largest remaining wetland in Nelson / Marlborough region. Fascinating native plants & wildlife. About 5-hr drive from Picton, & 1 hr west of Collingwood. Full details & booking form in this newsletter. <http://theoutpost.kiwi>. Maps: BN23 Patarau River (the most useful), BM24ptBN24 Cape Farewell, BN22 Kahurangi Point, BN24 Collingwood, available at Bivouac Outdoor, 39 Mercer St & Map Shop, 121 Thorndon Quay. (Parkmap 274-13 *Kahurangi* 1:150 000 is out of print). Brochure: *Farewell Spit & Puponga Farm Park*. \$2, DOC Visitor Centre, 13-27 Manners St, WN (note new location).

AWARDS AND GRANTS

- 20 September 2016. **Wellington Botanical Society Jubilee Award 2016**. NOTE—DEADLINE EXTENDED!
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 see the article in this newsletter.
- 20 September 2016. **Wellington Botanical Society - Grant to Graduate Students**. NOTE—DEADLINE EXTENDED!
Application should be made initially through your supervisor

to Prof. Kevin Gould. For further information, please see the article in this newsletter.

- 25 October 2016. **Tom Moss Student Award in Bryology**. Publications for consideration should be submitted, with a covering letter, to: Tom Moss Student Award, Wellington Botanical Society, PO Box 10 412, WN 6143.
Further information about the Award may be obtained from Dr Patrick Brownsey, Te Papa, PO Box 467, WN. Ph: 04 381 7135; e-mail: patb@tepapa.govt.nz.

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

EVENTS

- **First Saturday each month. Otari-Wilton's Bush Trust plant-care workbees.** Meet 9 a.m., Information Centre, 160 Wilton Rd, Wilton.
Leader: Wilbur Dovey 499 1044.
- **Monthly. Baring Head workbees.** Friends of Baring Head Trust. Weeding, pest-control & monitoring, planting, litter collection, etc.
Colin Ryder, 478 4301 or rydercj@xtra.co.nz.
- **10–18 September. Conservation Week.** Theme: 'Healthy Nature – healthy people.'
- **To end of 2016. Augustus Hamilton and the gold-spangled butterfly.** Our national museum's second director was an ethnologist with broad interests in natural sciences. Te Papa turned 150 years old on 8.12.2015. To celebrate 150 years since the opening of the Colonial Museum in Wellington, the exhibition named "You called me WHAT?!" is on Level 3, Te Papa.
- **24 September, 10 a.m. Otari-Wilton's Bush Open Day.** Plant sales, books, cards & food sales, talks, guided walks. Open science lab 10 a.m. – 2 p.m. in Te Marae o Tane Information Centre.
OWB, 160 Wilton Rd, Wilton WN.
- **24 September – 8 January 2017. FERNZ: An exploration of Pteridophyta & the Kiwi icon.**
Waikato Museum, 1 Grantham St., Hamilton.
- **October. Plant identification course.** NMIT, Nelson. 2-day free course, developed in conjunction with NZ Plant Conservation Network, covers native & exotic plants found in NZ. It is designed for people interested in plant conservation or weed control. It covers: botanical terminology & technical jargon; use of plant-identification keys; observing & accurately describing a plant (including the community of plants it grows amongst & its location), and taking samples and/or photos, so that it can be positively identified later; who to contact for information, including good web sites. Source: Nelson Botanical Society April newsletter.
<http://www.doc.govt.nz/get-involved/training/field-based-courses/plant-identification/>
- **11–12 October. Climate Change & Business Conference.** Rendezvous Hotel, Auckland.
Fiona@climateandbusiness.com
- **17–19 November. The NZ polymath – Colenso & his contemporaries.** Wellington.
Deborah.Levy@vuw.ac.nz
- **19–23 November. Ecological Restoration Australasia conference.** Theme: 'Restoring Resilience across all environments.' Claudelands, Hamilton. Joint conference of Society for Ecological Restoration Australasia (SERA), and NZ Ecological Society (NZES).
<http://www.era2016.com/>
- **2–7 December. John Child Bryophyte & Lichen Workshop.** Coroglen, Coromandel Peninsula. Interested in mosses, liverworts and lichens? Contact:
Fleming.Betina@gmail.com
- **17–27 January 2017. University of Canterbury summer course.** Practical Field Botany (BIOL305). Intensive course in the collection, preparation, & identification of botanical specimens. Venue: Cass Mountain Research Area, Canterbury. Enrolment starts 6 October.
Dr. Pieter Pelsler (pieter.pelsler@canterbury.ac.nz; 03-364-2987 ext 45605).

PUBLICATIONS

1. **The state of NZ's environment.** Commentary by the Parliamentary Commissioner for the Environment on *Environment Aotearoa 2015*. 6/16. 51 p.
 - www.pce.parliament.nz
2. **DOC web site & blog 8/16.** Predator-Free NZ; Battle for our Birds 2016; tradescantia removed from Stephens Island; etc.
3. **Caring for your covenant – A quick guide for landowners & land managers.** Brochure.
 - *QEII National Trust, Box 3341, WN 6140.*
www.openspace.org.nz
4. **Trilepidea.** 149 4/16: *Lepidium banksii*; *Carex litorosa*; NZ Indigenous Flora Seed Bank (NZIFSB) report; introduced *Nephrolepis*; etc. 150 5/16: *Pittosporum serpentinum*; *Lepidium banksii*; NZIFSB collections on Mt Climie, Bushy Park & Rimutaka Summit; Plantwise Blog <https://blog.plantwise.org/2016/05/17/>; *Trees* for Survival programme www.tfsnz.org.nz; assessment of the conservation status of indigenous vascular plants; etc. 151 6/16: NZIFSB to test cryopreservation of desiccation-sensitive seeds; *Lobelia physaloides*; etc. 152 7/16: a study of Thomas Kirk's 'herbarium' and historical *Simplicia* collections; *Connorochloa tenuis*; NZIFSB seed cleaning at Otari; *Hebe armstrongii* research; ecological importance of *Muehlenbeckia australis*; etc.
 - *NZ Plant Conservation Network, Box 16102, WN 6242.*
info@nzpcn.org.nz
5. **NZ Botanical Society.** 124 6/16: *Euchiton audax*; news from regional botsocs; the special copies of Kirk's *Forest Flora*; NZ adventive *Nephrolepis* spp.—a ladder fern; James Murray (1923–1961)—lichenologist; etc.
 - *NZBS, c/- Canterbury Museum, Rolleston Ave, CH 8013*
www.nzbotanicalsociety.org.nz
- 6a. **Auckland Botanical Society.** News-sheet 5/16: *Dryopteris filix-mas*, *Melaleuca quinquenerva*, *Pittosporum undulatum*, *Solanum torvum*, *Tropaeolum speciosum*; etc. 6/16: riparian planner tool for farmers; velvet leaf / *Abutilon theophrasti*; *Fuchsia excorticata*; 7/16: *Pterostylis brumalis*; "Flora of the Cook Islands" by Bill Sykes. 2016. \$160.00. Landcare Research; etc.
- 6b. **ABS Journal.** Vol 70(2) 12/15: Nectaries of *Xeronema* and *Phormium*; *Coprosma parviflora* var. *dumosa*; myrtle rust now in Australia; etc. Vol 71(1) 6/16: *Austrostipa stipoides* & *Anemanthele lessoniana* & introduced species of needlegrasses; etc.
 - *ABS, Box 26391, Epsom, AK.* <https://sites.google.com/site/aucklandbotanicalsociety/>
7. **Canterbury Botanical Society.** 9/16: eFlora –see article in this newsletter; etc.
 - *CBS, Box 8212, Riccarton, CH 8440,*
www.canterburybotanicalsociety.org.nz/
8. **Nelson Botanical Society.** 8/16: "Our Native Cresses—Plants on the Edge" - talk given by Shannel Courtney; Labour Weekend field trip, Seddonville; etc.
 - DavidGrinsted@gmail.com
9. **Wellington Botanical Society.** Bulletin no. 56 5/16: Bird-plant mutualisms: are they broken & can we fix them?; Significant trees at the Aro St bus terminus; Sydney Parkinson, Botanical Artist on the *Endeavour* voyage 1768–1771; Eco-sourcing of plants – what, why, where & how; Wellington BotSoc overnight field trips: an evolving phenomenon; Visit to Arapawa Island, February 2015. \$11 incl. p&p, to members & other individuals, & \$21 incl. p&p, to organisations, posted within NZ. Payment options: see article in this newsletter on back-issues of the bulletin for sale.
Wellington Botanical Society, Box 10 412, WN 6143.

10. **Otari-Wilton's Bush Trust.** 6/16: new wetland garden; BotSoccer Chris Moore's award for guiding work; all previous newsletters see library@wrhpc.org.nz; *Brachyglottis greyii*: etc.
- *OWB Trust, 160 Wilton Rd., Wilton, WN 6012.*
www.otariwiltonsbush.org.nz
11. **Forest & Bird.** 359 Autumn 16: climate disruption; RMA reforms; 'mast' season; bats; testing water quality in streams; Lake Ellesmere / Te Waihora; pests & climate change threaten north Auckland forests; New Plymouth District Council required to include over 300 Significant Natural Areas in District Plan; Hauraki Gulf; tussock grasslands; *Dysphania pusilla* / pygmy goosefoot; NZ Indigenous Flora Seed Bank; pests destroying our biggest carbon sink—native forests; kawakawa looper; etc. [360 winter 16](#): defending Nature; Vote Conservation; pest control in Far North; aerial 1080 drops essential; pest-control traps; Nature reclaiming the land in parts of Wellington; zero invasive predator trial in Queen Charlotte Sound; native plants for healing; etc.
- *Forest & Bird Protection Society, Box 631, WN 6014*
office@forestandbird.org.nz
12. **Rāhui.** Winter 16: Alexander von Humboldt – father of ecology; law on biodiversity & offsets; annual report; native plant restoration group; Chartwell Bush; Tanera Gully; etc.
- *Wellington Branch F&B, Box 4183, WN.*
13. **Fensham Reserve, Carterton.** Brochure.
- Wairarapa.Branch@forestandbird.org.nz
14. **Ecolink.** 4-5/16: OECD review of NZ's environmental performance; Resource Legislation Bill amends several acts; biosecurity needs; etc. [6-7/16](#): ECO conference; open government; Conservation & Environment Science Roadmap; environmental successes 25 years on; predator-free funding; biodiversity strategy 'refresh'; Biosecurity 2025 document; etc.
- *Environment & Conservation Organisations of NZ Inc., Box 11057, WN.* www.eco.org.nz eco@eco.org.nz
15. **Friends of Wellington Botanic Garden.** 6/16: VUW biology students visit to study plant diversity; Children's Garden progress; bush management plans to be prepared for Botanic Garden & Otari; Conservation & Science Advisor appointed; etc.
- FoWBG, Box 28 065, Kelburn, WN 6150.* www.friendswbg.org.nz
16. **Nga Uruora Kāpiti Project.** Brochure.
- *NUKP, Box 1, Paekākāriki 5258.* Kapitibush@gmail.com
17. **Whareroa Farm Reserve, Kāpiti.** Brochure.
- *Whareroa Guardians Community Trust.* Whareroa.Guardians@gmail.com
18. **Kāpiti-Mana Forest & Bird.** 6/16: global warming; pest control; Kāpiti Coast 'mainland island'; Kōtukutuku Ecological Restoration Project on private land; Waikanae Estuary Scientific Reserve; etc.
- KapitiMana.branch@forestandbird.org.nz
19. **Pipipi.** 43 5/16: impacts of drought; Purple Peak Curry Reserve opened; controlling sycamore, macrocarpa, western yellow pine, radiata pine, Chilean flame creeper, deer and possums; fungi—edible or not?; *Cystopteris tasmanica*; etc.
- *Hinewai Reserve, RD3 Akaroa 7583. Donations welcome to Maurice White Native Forest Trust BNZ 02 0832 0044225 00.*
20. **NZ Geographic.** 1-2/16: 'Island in the sky'; re nest epiphytes—pp 42-61; 'Treasured Island' re pest elimination on Great Mercury Island—pp 62-77.
21. **Mana.** 6-7/16: Ferns for healing. p 76.
- www.mana.co.nz
22. **Glean Report.** Upcoming science & knowledge events in Wellington.
- report@GleanReport.com
23. **Nga Uru Ora Kāpiti Project.** 6/16: planting; pest control including hedgehogs; Community Environment Grant-\$294,000; etc.
- *NUKP, Box 1, Paekākāriki 5258.*
- 24a. **Whareroa Farm.** Whareroa Tracks. July 2016. A4.pdf.
- 24b. **Whareroa Nature Trails.**map.v2.pdf.
- Whareroa.Guardians@gmail.com
25. **Biodiversity News.** 2 8/16 v2.pdf: rare plants; seed balls; pest control; lizards; birds; wētā; stream restoration; etc.
- *Friends of Queen Elizabeth Park.*
26. **Federated Mountain Clubs.** 203 3/16: Te Urewera; proposed Ruahine land swap; 'stewardship land'; Battle for the Birds; etc. [204 6/16](#): climate change; etc.
- *FMC, Box 1604, WN 6140.* www.fmc.org.nz
27. **The story of the Hauraki Gulf.** Raewyn Peart, Policy Director, Environmental Defence Society. Illustrated coffee-table book. 2016. David Bateman Ltd.
28. **Weed Biocontrol.** 72 5/15: tradescantia; green thistle; pampas; Darwin's barberry; etc. [73 8/15](#): lesser calamint; Chinese privet & tree privet; Japanese honeysuckle; green thistle; boneseed; broom; lantana; ragwort; tradescantia; etc.
- *Landcare Research* www.landcareresearch.co.nz
29. **Muelleria.** Vol. 34 15/16. Plant, Algal & Fungal Taxonomy & Systematics. Available on loan from BotSoc.
- *Royal Botanic Gardens Victoria.* muelleria@rbg.vic.gov.au
30. **Willdenowia.** Annals of the Botanic Garden & Botanical Museum Berlin-Dahlem. Vol 45-3 12/15; Vol 46-1 4/16. Available on loan from BotSoc.
- <http://www.bgbm.org/willdenowia>

SUBMISSIONS CALLED FOR

- 21 October. **Westland Tai Poutini National Park management plan review.**
westlandnp@doc.govt.nz
- 28 October. **Intention to review Aoraki/Mt Cook National Park Management Plan.**
www.doc.govt.nz/aoraki-mt-cook-plan-review
aorakinp@doc.govt.nz

SUBMISSIONS MADE

Draft Open Space Access Plan

Mountain-bikers responded enthusiastically to Wellington City Council's (WCC) recent invitation to comment on its Draft Open Space Access Plan. WCC has proposed that most tracks will be shared use, i.e., for bikers and walkers / runners. But mountain bikers wanted more; particularly new, highly-technical routes to provide more opportunities for local riders to develop their skills to higher levels. They anticipate associated benefits for tourism. About twenty walks will remain closed to cyclists and mountain-bikers.

WCC also sought views on opening up nine tracks for users of electric-bikes—'e-bikes'. We opposed this as very little information is available about the impacts of e-bikes on track surfaces, and it isn't clear how WCC will manage compliance if e-bikes up to 300 watts will be allowed, but not more powerful models.

Positives in the plan included new assessment criteria for planning new tracks. WCC has recognised the importance of protecting significant ecological sites and trees from the negative impacts of the track construction and use. We argued for closer supervision of track development, whether the work is being done by volunteers or contractors. Chris Horne and I attended a useful workshop with mountain-bike representatives that WCC staff had organised to further develop the assessment criteria.

We were pleased to see that WCC had recognised unlawful/informal track-building as a threat to the network,

but as yet, it's not clear what WCC intends to do about this.

We supported developing the Rural Coastal Connection, a 2-day walk between Owhiro Bay and Makara Beach. If access over some private land can be negotiated, this track will make it easier for more people to see the interesting indigenous plant communities that Chris Horne and Barbara Mitcalfe saw when they walked and botanised the route in the early 1990s.

Conservation and Environment Science Roadmap

In July, Government released a Discussion Paper, the next step towards identifying the areas of scientific knowledge that governments will need as they face up to complex policy trade-offs between environmental protection and economic development over the next twenty years. A separate roadmap is being prepared for primary-sector science.

The twelve themes in the Discussion Document include climate change, biosecurity, and Mātauranga Māori. Each theme includes enduring and specific research questions. Theme 7, Populations and Species, is probably the most relevant to BotSoc, given that 918 species of vascular plants are threatened or at risk of extinction. The Theme 7 enduring question asks:

Are there smarter, more innovative and cost-effective ways of managing and protecting our indigenous biodiversity in the face of multiple and increased cumulative challenges?

One of the related specific research questions asks:

Can overlapping climate change and species tolerance models and maps be developed to identify range effects and ongoing conservation needs so we can more proactively manage species and populations, particularly in light of the very slow ability many species have to evolve to climate change?

We'll be lodging a submission on this thought-provoking Discussion Paper.

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

President's Report to the 77th Annual General Meeting of the Wellington Botanical Society

"Botany is not just an excuse to tramp slowly—it is also the reason."—*John Sawyer (1968–2015)*.

2016 has been a most interesting year for the Society. WBS has now passed the three-quarters of a century mark. An achievement if ever there was one. The highlights included the summer camp based at Te Kauri Lodge, West Waikato, and the A.P. Druce Memorial Lecture 2015 given by Bill Lee, Conservation Ecologist, Landcare Research, Dunedin, who addressed the complex interactions between organisms large and small in ensuring successful succession of native plants. A lowlight was the death of John Sawyer in Scotland last November. He was a major force in DOC, raising the profile of our indigenous plants, a leader of BotSoc trips and Bulletin Editor, and writer of a substantial academic botanic portfolio. His obituary can be found in the 'News Snippets' on the web site.

It is perhaps timely to remind members that there is a large amount of information about people and plants on the web site, as well as historical information dating from 2012 in the 'News Snippets'.

Membership 2015/16

There was a slight decrease in membership recorded over the year. It now comprises 115 Ordinary Members, 34 Country Members, 57 Group Members, 32 Life Members, and 1 Student Member. The total membership figure stands at 239, down from 242 last year. We have more members resident in Wellington, but a drop in the number of student members, and of members residing outside the Wellington region. Nine new members were welcomed over the course of the year, and a few people resigned for various reasons. We wish them well. We acknowledge the passing of two long-standing Life Members. Dr Grace Suckling and Helen Anne Cook, who both joined the Society in the 1960s, died after long, well-lived lives, in July 2015 and March 2016 respectively.

Trips

The main field trip this year was the summer camp based at Te Kauri Lodge, Te Western Waikato, set in 1100 ha of well-tracked native bush, and close to karst landscapes, wetlands, Pirongia Forest Park, and Kawhia and Aotea

DOC Wellington Visitor Centre

Te Pae Manuhiri, Te Rohe
ō Te Whanganui ā Tara

Note change of address:

Nokia House, 13–27 Manners St
(opposite Conservation House)

- 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

harbours. It was led by Mick Parsons with thirty-five members attending. The field trips included Te Kauri Scenic Reserve with its orchids and lichens; king ferns in Walter Scott Scenic Reserve, (a Forest and Bird reserve); the forests of the Mahaukura Track, Mt Pirongia; kauri on the Kauri Grove Track in Te Kauri Scenic Reserve. The day-five trip through Upper Tawarau Gorge, regarded by Ogle and Druce (1987), as the largest continuous tract of native forest on limestone topography in the North Island, provided a new set of plants, large and small. The morning of the last day was to Marokopa Natural Tunnel Scenic Reserve. A walk through the tunnel included the very uncommon small fern, *Asplenium cimmeriorum*. The afternoon trip was to Rakanui Scenic Reserve, on the edge of Kawhia Harbour, with its limestone outcrops amongst the forest and birdlife.

Thanks to Mick Parsons, Bev Abbott, committee members, land-owners and guides who gave their time and expertise for the various trips. The full trip report appears in the WBS Newsletter, May 2016.

There were twelve field trips around the greater Wellington area, including an Easter overnight trip to Northern Wairarapa. Species lists were made available for all trips and updated lists were lodged with private owners and the NZ Plant Conservation Network. Two workbees were held at Te Mārua Bush. Detailed reports of the trips appeared in the WBS newsletters and are on the web site.

Thank you to all the trip leaders and the various land owners who allowed us access. The list of trips undertaken can be found at the end of this report.

Meetings

Ten meetings were held on the third Monday of each month at VUW, Murphy Lecture Theatre MYLT101. The average attendance was 39.3 members. The best attendance was to hear the 2015 A.P. Druce Memorial lecture by Bill Lee – “Complex interactions with friends and foes – how native plants manage risks”, and the lowest attendance was a most interesting Members’ Evening with only twenty-five present. One Plant of the Month talk was presented by Carol West (*Hebe stricta* var. *atkinsonii*). A detailed list of the meetings is at the end of this report.

Communications

Newsletter

Three newsletters were produced during the last year—September 2015, December 2015 and May 2016. Thanks to Chris Horne for their preparation, and to Jeremy Rolfe for their formatting and production. The newsletter is available on the web site, and is posted to members with no e-mail access, and to non-member related organisations.

Web site

The web site at www.wellingtonbotsoc.org.nz is managed by Richard Herbert. It provides information about all WBS activities and offers the public face of the Society. Our thanks to Julia White for dealing with enquiries.

Bulletin

Bulletin no. 56 was published in June 2016. Our thanks to all the contributors, to Bulletin Editor, Leon Perrie, to proof-readers Eleanor Burton and Jill Goodwin, and to Jeremy Rolfe for the formatting.

Community Outreach

WBS provided a prize and judges for the 2015 NIWA Science and Technology Fair. See Awards section below.

The programme section of the newsletter is distributed to libraries, Citizen Advice Bureaux and to Wellington Civic Square i-Site.

Field trips, open to the public, are advertised in the *Wellington Glean Report*. We provide assistance at Otari-Wilton’s Bush Open Day.

Submissions

During 2015–16, the Society presented submissions to a Parliamentary Select Committee, Greater Wellington Regional Council and Territorial Local Authorities. Bev Abbott was again co-opted on to the Committee as Submissions Coordinator. She has spent a large amount of time researching and preparing the submissions and representing BotSoc at hearings. Thank you Bev for all this work. Summaries of submissions are published in our newsletters. The submissions made this year were to:

- Parliament’s Local Government and Environment Committee on the Draft Wellington Town Belt Bill.
- DOC on its proposal to classify Whangaparoa Springs Reserve as a Scientific Reserve.
- Greater Wellington Regional Council on its proposed classification of Taupō Swamp, Plimmerton.
- Porirua City Council on its Draft Development Plan for Porirua Scenic Reserve.
- Wellington City Council on its Draft Annual Plan 2016–17, its District Plan Change 80, and its Draft Open Space Access Plan 2016.

Awards

- The Jubilee Award 2015 was awarded to Kiri Cutting who is studying abiotic factors in forest restoration.
- The Arnold and Ruth Dench New Zealand Botanical Award is no longer available.
- The VUW School of Biological Sciences – Student Field Grant was awarded to Maren Preuss who studied the taxonomy and systematics of red algal parasites.
- The Tom Moss Student Award in Bryology – no applicants for 2015.
- The 2015 NIWA Science Fair Award winner was Olivia Healey, Upper Hutt College. Topic: ‘How ecosystems affect native plants.’ Olivia spoke about her study at our meeting on 16 November 2015.

The Committee

The Committee met monthly both at people’s homes and latterly at the Cockayne Centre, Otari. My special thanks to Barbara Clark, Secretary, and Frances Forsyth, Minutes Secretary, for keeping us up-to-date with correspondence and minutes. Thanks also to our treasurer, Lea Robertson, who also has membership responsibilities; Sunita Singh who continues to organise an amazing selection of speakers and field trip programmes, Chris Horne whose knowledge of the botanical scene of Wellington is unsurpassed,

Newsletter by e-mail?

If you would like to help us to reduce our postage costs by receiving your newsletter by pdf, please advise Lea Robertson: harlea@actrix.co.nz

Eleanor Burton, Richard Herbert, Vice-Presidents Owen Spearpoint and Lara Shepherd. Their contributions to Wellington Botanical Society are legend. Thank you all.

Other thanks and acknowledgements

- Jeremy Rolfe for formatting the Newsletter and Bulletin.
- Barbara and Kevin Clark who host the barbecue at the February committee meeting each year—great food at a fabulous venue.
- Mick Parsons and his team for their work preparing and organising the Summer Camp.
- Leon Perrie, Bulletin Editor, Jill Goodwin and Eleanor Burton, proof-readers.
- Mail-outs of Newsletters and Bulletin: Barbara Mitcalfe (provides the venue), Sunita Singh, Jill Goodwin, Trudi Bruhlmann, Lea and Hugh Robertson, and Chris Horne.
- All the guest speakers and members who contributed to the programmes.
- The owners of the private properties botanised on the field trips.
- Members who assisted with raising money for the Jubilee Award.

It has been a great experience to be your President. Thank you all.

Karen Palmer, President.

FIELD TRIPS

Date	Location	Attendance
5.9.15	East Harbour Regional Park	15
31.10.15	Te Mārua Bush workbee	17
7.11.15	Hawkins Hill	20
28–29.11.15	Featherston area Cancelled – poor forecast – 29.11	0
17-24.1.16	Western Waikato	35
13.2.16	Plant propagation, Otari-Wilton's Bush	15
5.3.16	Baring Head – Tupoki Takarangi Trust	16
25-27.3.16	North Wairarapa	13
7.5.16	QEII Covenant, South Makara	33
4.6.16	Huntleigh Reserve, Crofton Downs	29
2.7.16	Orongorongo & Old Five-Mile tracks	28
23.7.16	Te Mārua Bush workbee	13
6.8.16	Silversky Track, Crofton Downs Cancelled—rain	0
TOTAL		234
AVERAGE		19.5

EVENING MEETINGS

Date	Subject	Attendance
17.8.15	1. Annual General Meeting 2. Druce Memorial Lecture: Complex interactions with friends & foes – how native plants manage the risks	51
21.9.15	What are seaweeds? Macroalgal diversity in NZ	42
19.10.15	1. Zero Invasive Predators (ZIP) – who we are and what we're doing 2. Ocean-atmosphere interactions from south-west NZ, over the last half a million years	37
16.11.15	1. Botany of the Waikato 2. How ecosystems affect native plants.	40
22.2.16	1. NZ Indigenous Flora Seed Bank: a national project 2. The pūriri moth's incredible quest: finding a tree in a forest	31
21.3.16	1. Otari-Wilton's Bush 2. The functional role of betalains in <i>Dysphyma australe</i> under salinity stress	33
18.4.16	Camping in Guadalcanal's jungle & other tales of Pacific fern exploration	42
16.5.16	Members' evening	25
20.6.16	Mangere Island: Amazing people, landscapes, flora, fauna & adventures	45
18.7.16	Seeds versus safe sites: what limits recruitment of <i>Muehlenbeckia astonii</i> ?	48
TOTAL		394
AVERAGE		39.4

PLANT OF THE MONTH

A presentation was made before the main speaker at the following meeting:

Date	Presenter	Subject
19.10.15	Carol West	<i>Hebe stricta</i> var. <i>atkinsonii</i>

2016/17 committee

At the 77th Annual General Meeting, held on 15 August 2016, the following were elected:		Committee	Eleanor Burton	479 0497
			Frances Forsyth	384 8891
President	Lara Shepherd	384 7147	Richard Herbert	232 6828
Vice-presidents	Owen Spearpoint	562 8780	Chris Horne	475 7025
	2nd position vacant		Sunita Singh	387 9955
Secretary	Barbara Clark	233 8202	Submissions coordinator	Bev Abbott 475 8468
Treasurer	Lea Robertson	473 8211	Bulletin editor	Eleanor Burton 479 0497
Auditor	Jane Humble	971 6970		troggs@paradise.net.nz

Annual Report from the Treasurer

New reporting standards came into effect on 1 April 2015, and registered charities, such as the Society, need to prepare financial statements in line with the new standards. The new format spreads the financial information over several pages. As in the past, accounts are viewable on the Charities Services website when they are submitted, which in our case is before the end of the 2016 calendar year. As a Public Benefit Entity (PBE) with annual operating payments under \$125,000, we use the Tier 4 not-for-profit reporting standard, and both a Performance Report containing both

financial and non-financial information, and an Annual Return form will be submitted.

For the year ended 30 June 2016, the table below presents the 2015/2016 accounts in a format which differs from the way in which previous years' accounts were presented. For comparison with previous years, and for the audit, a Statement of Income and Expenditure and a Balance Sheet with commentary follow. Next year the accounts in the new standard format will show the previous year's figures allowing for direct comparison.

Wellington Botanical Society Incorporated Statement of Receipts and Payments For the year ended: 30 June 2016

Operating Receipts – general account

as at 30 June 2016

Subscriptions	5214
Interest from bank deposits	2640
Total Operating Receipts (general account) :	<u>7,854</u>

Operating Payments

Printing and stationery—includes ink	254
Newsletter print runs	915
Administration—includes PO Box fee, Charities A/R filing fee	277
Postage—includes address labels, envelopes, stamps	330
Website costs	205
Meeting and speakers' expenses	462
Subscriptions to related organisations (NZPCN, ECO)	190
Transfer to Student Award Fund	960
Transfer to Bulletin Account	4000
Total Operating Payments (general account) :	<u>7593</u>
Operating Surplus or (Deficit) (general account) :	261

Operating Receipts – Jubilee Award Fund

as at 30 June 2016

Donations from members	1226
Book, plant and card sales	195
Interest from bank deposits	3,945
Total Operating Receipts (Jubilee Award Fund) :	<u>5,366</u>

Operating Payments – Jubilee Award Fund

NIWA Science Fair Award	150
Jubilee Award	2600
Total Operating Payments (Jubilee Award Fund) :	<u>2750</u>

Operating Surplus or (Deficit) (Jubilee Award Fund) : 2,616

Operating Receipts – Student Award Fund (Victoria University) as at 30 June 2016

Transfer from General Account	960
Interest from bank deposits	454

Total Operating Receipts (Student Award Fund) : 1414

Operating Payments – Student Award Fund (Victoria University)

Grant to student	500
Total Operating Payments (Student Award Fund) :	<u>500</u>

Operating Surplus or (Deficit) (Student Award Fund) : 914

Operating Receipts – Provision for Bulletin as at 30 June 2016

Transfer from General Account	4,000
Sale of Bulletins (members)	32
Sales of Bulletins (non-members)	20
Total Operating Receipts (provision for Bulletin) :	<u>4052</u>

Operating Payments – Provision for Bulletin

Printing Bulletin #56	1747
Distribution of Bulletin #56	346
Total Operating Payments (provision for Bulletin) :	<u>2093</u>

Operating Surplus or (Deficit) (provision for Bulletin) : 1959

Increase/ (Decrease) in Bank Accounts and Cash*⁴ 6,307

Bank accounts at the beginning of the FY	137,693
Bank accounts at the end of the financial year	<u>144,000</u>

Represented by: *

BNZ Current account	181
BNZ Business on call account	1361
Term deposits with Westpac	43007
Term deposits with BNZ	99441
Cash float	10

Total Bank Accounts and Cash at the End of the Financial Year 144,000

Notes

1. The Wellington Botanical Society is not registered for GST and the statements are prepared on a GST-inclusive basis.
2. The Tier 4 Standard is a cash-based standard, therefore assets are not depreciated.
The Society has a fax machine (\$20), display unit (\$50), projector(\$30), camping equipment (\$24), stock of Tony Druce trip books (\$59), stock of Bulletins (\$16), stock of prepaid envelopes (\$1,055), and stock of stamps (\$654)
3. The Tom Moss Student Award Trust Fund is administered by the Society, as is the John Child Bryophyte and Lichen Workshop (JCBLW) Contingency Fund. A Memorandum of Understanding between the representatives of JCBLW and the Society requires that the investment earnings of the Contingency Fund will be identified as a separate item in the records and accounts of the WBS. We follow this practice for both bryology Funds with operating receipts given below.
4. The increase in bank accounts includes increases belonging to the bryology Funds. An increase in Funds is in line with Society financial policy (Committee 2004) to maintain 'the real value of assets by reinvesting enough interest to cover losses caused by inflation.'

Operating Receipts – Tom Moss Award in Bryology as at 30 June 2016

Interest from bank deposits	559
Total Operating Receipts (and Tom Moss Award surplus) :	559

Total Tom Moss Award fund now \$10,256

Operating Receipts – John Child Bryophyte & Lichen Workshop Contingency Fund

Interest from bank deposits	278
Total Operating Receipts (and JCBLWC surplus) :	278

Total JCBLW Contingency Fund now \$5,101

Comment on the following Statement of Income and Expenditure and Balance Sheet for the year ending 30 June 2016 (historic format)

The accounts for the financial year ended 30 June 2016 show a small surplus of \$261 on the normal operations of the Society recorded in the General Account.

Operating expenses have been similar to the previous year—\$2,444 for printing, postage, speakers' and sundry expenses compared with \$2441 in the year to June 2015.

The transfer of \$960 each year from the General Account to the Student Field Grant Account represents the rent of the lecture room we use for meetings. The University allows the Society to use the room for our monthly meetings free of charge.

On the income side, subscriptions received have decreased. Nineteen members did not pay a subscription this year. We hope they decide to renew their membership in future. Interest received for the General and Life Accounts show an increase from \$2,080 to \$2,640. The increase reflects monthly compounded interest this financial year from a term deposit previously paid annually. Thus in the year ending 30 June 2017, there will be a fall in

interest recorded, as a larger portion has been credited and recorded this year for one term deposit. Currently we have an average interest return of 3.85% p.a. on invested funds down from 4.6 % p.a. last year.

\$2,600 was awarded from the Jubilee Award Fund, \$500 was given as a Student Field Grant, and \$150 was awarded to a school student at the NIWA Wellington Science Technology Fair 2015. Jubilee Award Fund donations rose above the level recorded last year, and our thanks go out to donors.

The cost of printing Bulletin 56 was significantly lower than the previous issue, which has enabled us to put funds aside for the next issue.

Subscriptions for the year ended 30 June 2017 are now due

At our August AGM, the Society resolved to maintain subscriptions at the current level.

Ordinary membership \$35, Country \$30, Joint/family \$40, Student \$10 (rebate of \$5 if paid before 30 November 2016—unless you choose to forgo).

*Lea Robertson
Hon. Treasurer
20 August 2016*

Jubilee Award 2016 – Applications sought

DEADLINE EXTENDED!

Wellington Botanical Society invites applications for an Award of up to \$2,600 to encourage and assist applicants to increase knowledge of New Zealand'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, Wellington 6143, or by e-mail to bj_clark@xtra.co.nz, by **20 September 2016**.

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

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

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

Selection

The Award will be made to one or more applicants selected by a subcommittee nominated by the general committee of Wellington Botanical Society. Award(s) will be made, and applicants informed of the results in writing, by 6 October 2016.

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.

Wellington Botanical Society—Grant to Graduate Students

DEADLINE EXTENDED!

Each year Wellington Botanical Society provides small grants to assist post-graduate students in VUW's School of Biological Sciences.

These grants can be used for travel, materials and other costs related to research projects undertaken as part of the course of study. Grants to any one student will normally not exceed \$600.

Application should be made initially through your supervisor to Prof. Kevin Gould by **20 September 2016**.

Applications should be brief and to the point. (Say two A4 pages).

They should state:

- Your name and e-mail address.
- Your current education qualifications.
- The course of study you are undertaking.
- The nature and aim of your research project.
- The name of your supervisor for this project.
- The budget for your project.
- The expenses that the grant is proposed to cover.

You will be advised of the results of your application by 3 October 2016

Grants will be made through the Research Trust of Victoria University of Wellington.

Names of successful applicants will be published in the Society's newsletter.

It is condition of the grant that you make a short presentation to the Society on your project and / or provide a one-page summary on the nature and results from the project to be included in the Society's newsletter or bulletin.

The small print

1. Grants will normally be to post-graduate students. Consideration may be given to applications by undergraduates where the supervisor considers that there is a special case to be made because the nature of the project is similar to that undertaken by graduate students.
2. Priority will be given to projects involving native New Zealand vascular plants and cryptogams. Consideration may be given to those projects involving other vegetation. With the anticipated competition and limited funds it is unlikely that applications for projects involving algae, fungi and coral would be successful.
3. The primary purpose of the grant is to cover field expenses—transport and accommodation, but not

rations. Financial assistance towards the cost of chemicals and chemical and DNA analysis will be entertained. The Society is reluctant to fund capital items but will consider applications for these.

4. Applications for grants made after the closing date may be entertained if the Society has not already allocated the funds available for the Student Grant. Priority will be given to applications received before the close-off date.
5. The funds available are limited and priority will be given to those applications and those expenditures that agree with the main criteria set out above and are most in line with the aims of Wellington Botanical Society.

Slime Mould—What is it?

An engineer's question — Ian Goodwin



Slime mould – Mt McKerrow, Rimutaka Forest Park

I've seen it in the Kaimanawa, Kaikoura and Rimutaka areas and in Ticino, Switzerland. What is this yellow splodge? Look again in an hour, and it will have moved! It moves towards and "captures" its food, but it is not Animal. It's called Slime Mould, but is not a fungus. At some stages in its life it has many single cells. At another stage the cells aggregate to form a larger single cell with many nuclei. How strange! They do not have nerve cells, yet seem able to learn and solve problems. Experiments in Germany have seen slime mould solving mazes, and in Japan slime moulds have managed to reproduce the map of Tokyo's complex train network linking city and suburban stations.

So what is a slime mould? This is too hard for an engineer. Call in a biologist ...

The Biology of Slime Moulds

— an old biology teacher — Ianto Stevens

They are a curious group of organisms—or rather collection of groups—that were once thought to be fungi. This was because their life cycle includes the formation of sporangia, containing spores. If you put a slice of damp bread in a plastic box with a non-airtight lid, then leave it in a dark place, it will go mouldy. The fungi that colonise will be true moulds rather than slime moulds and you are likely to find ones that have beautiful little black pinhead-like sporangia. Having sporangia allowed botanists to claim slime moulds as their own. Zoologists had perhaps a stronger claim because slime moulds move slowly but perceptibly. This is genuine movement; they flow along and don't just grow towards, or away from stimuli, as plants and the true fungi do. Slime moulds are now classified along with a diversity of single-celled organisms in a group called protista which includes the famous *Amoeba*.

Two Te Papa blogs

Nancy Adams, Wendy Nelson and the Three Kings' seaweeds

Pat Brownsey and the cave-dwelling spleenwort

Colin Miskelly

Curator Terrestrial Vertebrates

Museum of New Zealand Te Papa Tongarewa

Gaps

Matt McGlone's talk at the AGM reminded us that there are real gaps and presumed gaps—a fascinating look at the apparent absence of forty-five species of tall trees in the Taranaki region, a message that botany is not isolated from geology and all other sciences. There is indeed a gap which reminds us of the beech gap on the Wellington Peninsula for similar reasons. The climate and geology of a region are historically intertwined on massive scales.

However, there is a real gap on the WBS committee. Some members have served on the committee, many of them for a long time, but many have not. The work of the committee is a most interesting way of looking at the breadth of botanical issues in our region. There are monthly meetings at the Leonard Cockayne Centre. No expertise is necessary, just an abiding interest in the NZ flora. WBS is highly respected for its input into local and regional plans and enterprises—our area.

So where is this information? The newsletter is a mine of information and is readily available on the web site. Contributions are always welcomed by editor, Chris Horne. More members are always welcome to our monthly meetings and field trips. Why not bring a friend to the wonderful world of NZ's flora.

Karen Palmer

Immediate past-president

Seed-cleaning workbee 10 July

Anthea McClelland, a volunteer with the NZ Indigenous Flora Seed Bank*, drove from Palmerston North, where the bank is located, to Otari-Wilton's Bush, Wellington. She came to teach a group of eleven, including three BotSoccers, how to clean the seeds of some native plants. This is the first step in preparing seeds for storing in the seed bank. Anthea showed each of us how to clean the seeds in the first bag each of us chose. Cleaning work ranged from straight-forward for some species, to time-consuming and tricky for others. We used our fingers, plus tweezers, and sieves with various mesh sizes. After each bag's seeds had been freed of twigs, leaves, etc., the contents were recorded for further treatment at the seed bank. Then each of us selected another bag with seeds of a different species. By the end of the session, we had cleaned the seeds of thirteen species, and partially cleaned another six.

We thank Anthea for providing us with a most interesting experience learning a new botanical skill, and to WCC's Otari-Wilton's Bush staff for making available the conference room in Te Marae o Tane / Information Centre.

* For information on the seed bank, please refer to the article in our May 2016 newsletter, on pages 8, 9. For further information, contact C.R.McGill@Massey.ac.nz.

Chris Horne

Amoeba proteus, the species most of us will remember from school science, can be seen moving and feeding on the internet—a good choice of still shots and videos is always available. This species is a very large single cell, visible (just) to the naked eye. For part of their life cycle, slime moulds consist of independently living and feeding single cells similar to *Amoeba* but much smaller.

Both *Amoeba* and slime moulds move and feed in the same way. They have a highly flexible, physiologically active and sensitive cell-surface membrane. This is lined internally by cytoplasmic jelly. This gel cytoplasm can become a sol (i.e., 'melt') at any point on the cell surface. The interior of the cell is at a slightly higher pressure than the surrounding, so the cytoplasm 'squirts' into the zone where the external jelly has become less stiff. It thus puts out a pseudopodium to catch food, or allows the whole cell to 'flow' forward.



Beside Anatoki River, Kahurangi National Park

Slime moulds are found in wet habitats, e.g., rotting wood, waterlogged grassland and leaf litter, within wet soil. Mostly, they are hidden in the substrate they occupy. Only a few species are in any way spectacular specimens like the ones so beautifully photographed by Ian. They feed on other microorganisms, especially bacteria, and can be cultivated in a container on material such as decomposing oatmeal. When clumps of oatmeal are arranged to represent cities in the container, the slime mould puts out strands that detect them and then arranges its ever-flowing 'body' of cytoplasm to connect these feeding stations by the most economical network of interconnecting cytoplasmic strands. One of Ian's photos shows these cytoplasmic strands really clearly.

The species he has seen several times is probably *Physarum polycephalum*. This is one of the plasmodial slime moulds, the only ones big enough to be easily seen with the naked eye.

When a *Physarum* spore germinates, it hatches as a tiny amoeba that feeds and divides a few times. If fortune favours, it meets a similar and compatible *Physarum* amoeboid cell and they fuse – fertilisation has occurred. The resulting zygote feeds and grows. The nucleus divides, but not the cytoplasm. It moves about feeding and growing until it becomes the structure Ian has observed. It is a gigantic single cell with very many nuclei in a common cytoplasm. When food runs out it, forms sporangia and spores with single nuclei.

A slightly more detailed account of slime mould biology, and a brief resumé of why biologists are fascinated by them, with a few references, will be in the next edition of the Wellington Botanical Society Bulletin.

Ian Goodwin and Ianto Stevens

DOC's recent acquisitions

Anzac Bridge

Located just north of Pukaha Mt Bruce in the Wairarapa, is the Anzac Bridge which straddles the Makakahi River, near W A Miller Scenic Reserve. The Anzac Bridge was accorded Category I historic place status in May 2010.

The bridge, formerly part of SH 2, had its abutments sitting on land administered by the NZ Transport Agency, however NZTA agreed in 2009 to set apart surplus land there to become a scenic reserve. These five parcels of road comprising 8182 m² have been added to the adjoining W A Miller Scenic Reserve, which now provides a reserve link to the historic Anzac Bridge.

On the north side of the bridge, there is a small picnic area and turn-around area. Closed highway, and private land from neighbour Robert Cresswell, have been acquired to form the North Anzac Bridge Scenic Reserve.

These reserve additions are managed by DOC from the Masterton Office, in association with the Friends of Anzac Bridge.

Ratanui land added to Percy Scenic Reserve, Petone

Approximately 3 ha of land alongside SH 2 in Lower Hutt, once held by the NZ Transport Agency, were acquired by DOC as a Public Works Act transfer, and made a scenic reserve. One parcel comprises the site of the homestead which belonged to Sir James Hector, while other parcels form a vegetated buffer alongside SH2. This reserve has been vested in Hutt City Council, which it manages in conjunction with Percy Scenic Reserve.

*David Bishop
Senior Advisor (SLM)
Department of Conservation
PO Box 10-420, Wellington*

Wellington Botanical Society

Bulletins—back-issues

Expand your collection of our informative “flagship” publication. Limited numbers of copies of the following back issues are available:

1950s: nos. 23 (9/50), 30 (12/58).

1960s: nos. 32 (12/61), 33 (2/66), 34 (11/67), 35 (10/68), 36 (12/69). Index to Bulletins nos. 1–35.

1970s: nos. 37 (11/71), 38 (9/74), 39 (10/76), 40 (8/78).

1980s: nos. 41 (9/81), 42 (9/85), 43 (4/87), 44 (11/88), 45 (11/89).

1990s: nos. 46 (12/94), 47 (9/96).

2000s: nos. 48 (9/02), 49 (12/05).

Cost \$5 per issue, incl. p&p; \$15 for any five issues incl. p&p.

Copies of more recent Bulletins, no. 50 (3/07), no. 51 (11/08), no. 52 (4/10), no. 53 (6/11), no. 54 (11/12), no. 55 (11/14), and no. 56 (5/16) are \$11 each incl. p&p, to members and other individuals, and \$21 each incl. p&p, to organisations, posted within NZ.

Contact Chris Horne to confirm availability: jchorne@paradise.net.nz, phone 04 475 7025. Please either:

- make your cheque payable to Wellington Botanical Society, PO Box 10 412, Wellington 6143
- or pay direct to the Society's bank account 020536 0017812 00, with your name and Bulletin as reference.

Lea Robertson, Treasurer

eFlora with photos and maps

The eFlora is the dynamic, continually updated, electronically-based Flora for New Zealand. The old NZ flora printed-paper books still have their place, but slowly the diagnostic photos, distribution maps and updated keys in the eFlora will see us reach for a tablet, not a book. The “fascicles” are available online at: <http://www.nzflora.info/publications.html>. Each fascicle is “published” as a pdf file and can be fully referenced. Here is an example of a citation: Brownsey, P.J. & Perrie, L.R. 2016: *Thelypteridaceae*. In: Breitwieser, I.; Wilton, A.D. Flora of New Zealand - Ferns and Lycophytes. Fascicle 16. Manaaki Whenua Press, Lincoln. <http://dx.doi.org/10.7931/B1G59H>

Twenty-eight moss families are published and sixteen fern families. Seed plants are limited to the two small families of *Hypericaceae* and *Centrolepidaceae*. This week two new treatments were published - a treatment for *Thelypteridaceae* by Pat Brownsey and Leon Perrie, and *Nothofagaceae* by Kerry Ford, Peter Heenan and Rob Smissen. If you find printed paper easier to read, then you can print them out and compile a folder of fascicles.

Source: Canterbury Botanical Society newsletter September 2016.

NIWA Wellington Science and Technology Fair. Botany Award

The winner of the Botanical Society award of \$150 for an entry related to native plants at the 2016 NIWA Wellington Science and Technology Fair was Isabel Riseley of Wadestown School. Her project was entitled “Fractals in Foliage” (You can google “fractals”—they are repeating patterns). Using a microscope she measured the number of fractals on leaves of several native trees and hen and chicken fern, asking the question “Do larger leaves have more fractals” The answer was a tentative yes.

Rodney Lewington

Otari-Wilton's Bush

Kia ora koutou.

It's been a busy time at Otari recently, with planting, path changes and construction work in the gardens. Below the Cockayne Lookout we have finished a new boardwalk through the wetland garden, and hope to have interpretive signs there before the end of the year. We have been working on a new lower entrance to the Fernery, removing a steep (and slippery) asphalt path, and will add some sculptural elements to that entrance before Open Day.

Open Day will be on Saturday 24 September. The plant sale will begin at 10 a.m., followed by walks led by our volunteer guides, a talk about bees in the Leonard Cockayne Centre, and an open science lab in the Information Centre. The open science lab is a chance for people to get close to plants and other organisms under the microscope. There will be knowledgeable people running the lab to help visitors, talk about what they are looking at under microscopes, and pass on knowledge about the plants, insects and other organisms they have on show.

Our GIS team has recently completed a piece of work that allows great online access to our plant collections. You can link to our new Otari StoryMap on the Visitor Services page on the Otari web page on the Wellington City Council web site. Once in the StoryMap, you can scroll down the

side panel to explore the Garden. Map links can be clicked or tapped to focus on specific points of interest in the map.

The last page details the plant collections. No garden details or images have been added yet, but you can click the links on the left side panel that lead you to a pdf list of plants in each garden. It's not a complete picture—there is still some information to add. You can't search for a plant on the web site unfortunately, but you can perform a *ctrl-F* search on the pdf. Press *ctrl-F* once you have a pdf plant list open, then type the plant you want in the search box that appears. This allows much greater public access to what we have in our gardens than was previously available.

Karin Van der Walt, our Conservation and Science Advisor, has been getting up to speed with our flora and its conservation requirements, since arriving from South Africa a few months ago. Next week Karin, and Finn, our Curator, are travelling to Whanganui with DOC staff to help to restore to the region, *Pimelea actea*, a Nationally Critical endangered plant. This is just one of the endangered plants we hope to be working with over the coming years.

Rewi Elliot
Team Manager

Otari Native Botanic Garden and Wilton's Bush Reserve
Email: rewi.elliott@wcc.govt.nz

TRIP REPORTS

7 May 2016: Warrens' Bush, South Makara Road, Wellington

Our hosts, Janet and Mike Warren, welcomed us to botanise in their two contiguous QEII Open Space Covenants, and gave us a health and safety briefing. BotSoc first visited this impressive 'primary forest' remnant in 1994, following a recce by the leaders in 1991. Attracted by the combination of a little-known location, and fine weather, the turnout of thirty-three people was big for a day trip, and included nine on their first BotSoc field trip.

The covenants, which total 56 ha, cover three main gullies and intervening spurs, ranging in elevation from c. 70 m – c. 280 m above sea level, near turbines on the West Wind windfarm. During the 19th-century Terawhiti gold-rush, the catchment was known as 'Erin-go-Bragh Gully', after the mine, with a 70-foot tunnel, near the head of the gully. The stream is a true right tributary of Karori Stream. The lower 16-ha covenant was registered in 2005, the upper 40-ha covenant in 2006. No one in the party has yet botanised in the upper covenant, so far as is known.

References

1. *Biological Resources of the Wellington Region. Jointly prepared by Wellington Regional Council, Queen Elizabeth II National Trust, NZ Biological Resources Centre.* 1984. Site No. 10b: "One of the very few areas of (indigenous) forest in (the Wellington) southern peninsula".
2. *An Inventory of the Surviving Traces of the Primary Forest of Wellington City. Compiled for*

WCC by Geoff Park. 1999. Site No. O107.1: "Primary forest remnant".

3. *Terawhiti and the Goldfields.* James Brodie. Karori Historical Society. 1986. Page 68—map; pp. 88–89—description of mining company & operations; page 325—the gold mine is named 'Erin Go Bragh', (Ireland For Ever), 1869.

Leaving our fleet of cars in a barnyard, we crossed farm land to the forest edge. We were immediately impressed with the luxuriant growth of the liane, *Metrosideros colensoi*, near the creek, characteristically pendulous from its host trees. It was a new species for many members in the party, and made a useful teaching topic. It is much less common in Wellington ecosystems than *M. diffusa* and *M. perforata*.

Near where we entered the forest, we noticed that the eight-wire fence is in excellent condition. Inside the forest edge, we pushed through a dense, hip-high, grove of young *Piper excelsum* subsp. *excelsum*, not present twenty years ago. This species, not palatable to browsing animals, protects the forest's understorey from southerly gales, and provide a site for the seeds of several other species, including lianes, to germinate.

The forest includes one large rimu*, a hīnau and several pukatea and rewarewa, each of great age and stature, emergent over a mosaic of regenerating, indigenous, broad-leaved, semi-coastal forest species and adventive species. The hīnau, in flower and fruit, was attracting numerous birds.



Ian Goodwin inspects the buttresses of a senescent pukatea.

We were delighted to see an extensive patch of parsley fern / *Botrychium australe* which is not common in Wellington's native forests.



Botrychium australe. Illustration: Eleanor Burton.

The paucity of *Fuchsia excorticata*, (only one seen), *Coprosma grandifolia*, *C. lucida*, (only one seen), *C. robusta* and *Pseudopanax arboreus*, all palatable to possums and goats, and all usually common in Wellington's native forests, could be evidence of long-term browsing by pest animals.

As is typical of Wellington forest ecosystems, several of the emergent trees, mostly pukatea / *Laurelia novae-zelandiae*, appear senescent. Their eventual replacements are mostly still seedlings. Although pukatea seedlings are abundant, pukatea saplings and small pukatea trees, are uncommon. The reason why the sub-canopy tiers are much-reduced, and have very few pukatea saplings or young pukatea trees, is probably because they were eaten out before they could grow beyond the reach of browsing animals. In addition, saplings and small trees of other potentially-emergent species are not common. This phenomenon of 'missing tiers' is common in Wellington's 'primary forest remnants'.

The emergent rimu, on the True

Right, which was sound in 2003, has fallen. We did not investigate the emergent rimu which is on the True Left, or see or record any rimu seedlings or saplings.

There are relatively few 'nest-epiphytes', e.g., *Astelia hastata* and *A. solandri*, possibly because of damage by gales, browsing by possums, or seed-predation by rodents. We did not see swamp maire / *Syzygium maire*, recorded here in 1997 by Park (ibid). This species is not common in Wellington native forests.

We saw extensive evidence of pig-rooting on the true right slopes of the valley. We understand that pig-hunting occurs from time to time. We did not hear goats, or see any goat browse. We understand that goat-hunting occurs from time to time. Twelve possum-bait stations have been mounted in the valley. Extensive possum-trapping, and follow-ups, are done—possum control is essential for the restoration of the natural functioning of this ecologically significant forest.

We saw some matai seedlings, c. 50 cm tall, marked with flagging

tape, on the valley floor. These were planted by Wellington City Council, on the advice of Trevor Thompson, QEII National Trust Regional Representative, who deemed this to be 'an entirely appropriate supportive planting'.

All-in-all, a memorable day, thanks to the generosity of Janet and Mike Warren, and their foresight in covenanting their remarkable forest.

Participants: Mike Bartlett, Sam Buckley, Eleanor Burton, Gavin Dench, Katherine de Silva; Michele Dickson, Carolyn Dimattina, Jeremy Gallett-Walker, Ian Goodwin, Richard Grasse, Bryan Halliday, Michael Harrison, Stephen Hartley; Chris Hopkins, Chris Horne (co-leader / scribe), Rodney Lewington, Barbara Mitalcfe (co-leader / scribe), Chris Moore, Syd Moore, Richard Parfitt, Mick Parsons, Leon Perrie, Lynne Pomare, Mike Scrivens, Lara Shepherd, Mike Shepherd, Darea Sherratt, Karin Sievwright, Ianto Stevens, Sunita Singh, Julia Stace, John van den Hoeven, Sophie Williams.

4 June 2016: Huntleigh Park, Crofton Downs

As part of our preparation for co-leading the trip into Huntleigh Park, one of the largest and most significant forest remnants in Wellington city (Geoff Park, 1999), I was grateful that Chris Moore had alerted me to read Dr Paul Blaschke's 2006 report to Wellington City Council (WCC): *Ecological assessment of private land adjoining Huntleigh Park* which includes both the Park itself and the private land adjoining it. Available on the internet, the report contains a wealth of historical and ecological information on this highly significant ecosystem. Several earlier studies of it by BotSoccers Isobel Gabites (2002), and Vicki Froude (2002) following Blaschke's report, added valuable new material to assist WCC to prepare a plan change for this area which lies between established residential housing and the Outer Green Belt.

Huntleigh Park itself is mainly steep hill country with deeply incised streams, but there are gentler slopes as well. On a cool, fine, winter morning, twenty-nine of us gathered on Silverstream Road, gazing at the densely forested, spur-

and-gully prospect ahead of us, with its numerous emergents, some of them podocarps, between 100 and 200 years old (Blaschke). After our briefing, we crossed the stream, passed through a section of planted native species, (probably mostly cultivars), then climbed a broad, well-graded track through forest owned for some decades by GirlGuidingNZ, where Greater Wellington Regional Council and WCC have been assisting with possum control since 2001.

Teaching and learning were made easy by the gentle nature of the track and the accessibility and diversity of trackside vegetation. Fern species were numerous and prolific. We soon added *Tmesipteris elongata* and *Lastreopsis velutina* to the prepared list everyone carried. A massive tōtara, c. 1-m diameter-at-breast-height (d.b.h.) below the track, was the first pre-European podocarp we were to see. Kohekohe were in full flower, thickly draped in creamy panicles, and many of their last winter's glossy green capsules hung in clusters above, already almost full size. Here and there in the canopy, tūi squabbled

vociferously over trusses of flowering, nectar-bearing *Metrosideros fulgens*. We also heard kākā, kākārīki and kererū at various times.

We lunched in a bunch beneath a huge old hīnau whose many ancient, knotted knees offered good places to sit, then continued uphill through podocarp-broadleaf forest to a grassy clearing near where we stopped to admire some particularly fine old trees. A tōtara, d.b.h. c. 1 m is one of the largest. I regret I didn't think to check its gender. Beside it is the largest lancewood I have ever seen—c. 5m tall, many-branched, with a fully developed crown spreading for perhaps 7 m. Nearby is a huge, female kahikatea c. 80 cm d.b.h., a female, with purple fruit, and some years surrounded by her flourishing seedlings.

Almost throughout, we had clear views of the phenomenon known as 'missing sub-canopy tiers'. This commonly develops over decades in native forests where, unless pest control and/or stock control has been introduced soon enough, the young trees get browsed and dwarfed. The

only trees that escape browsing are those that are unpalatable, or already tall enough to escape being browsed. This leaves a recognisable pattern of gaps.

We descended via a minor spur crest, passing several matai of estimated age 80–100 years old, admiring their ruby-revealing trunks, and pausing to greet an ancient miro, d.b.h. c. 1 m, possibly one of those mentioned by Park in his list of the oldest trees in Huntleigh Park. En route, we noted numerous ‘hand-grenade-like’ burls on a *Myrsine australis*. Further down we spent time botanising a beautiful dell ringed by matai, miro, and a tall rimu, where in season, we have seen a carpet of native orchids and numerous podocarp seedlings. Near this site we saw a tall matai with its typically upright, narrow-angled branching, the natural

growth form of this species.

Not far from there we passed a mountain-bike ramp illegally built by riders using Huntleigh Park’s tracks and creating new ones. A prompt letter of complaint to WCC describing the damage to tracks, vegetation and soils, resulted in swift action in the form of notices banning bikes in the park. We were very impressed with this response, and look forward to seeing the ramp removed, and the illegal track blocked off and allowed to revert.

One day in 1994 when I was first exploring Huntleigh Park, I came on an unusual sight—just ahead of me was a 2-m-tall, straight, *Metrosideros robusta* / northern rātā trunk, c. 35 cm d.b.h., completely dead but still standing. There was no mistaking it for anything but northern rātā. I have not seen northern rātā anywhere in

the park since. Geoff Park recorded the species in the reserve, but it has never been recorded since. I hope someone comes across propagules of it there some day.

Barbara Mitcalfe

Participants: Bev Abbott, Peter Beavon, Regina Blattner, Barbara Clark, Kat de Silva, Gavin Dench, Michele Dickson, Carolyn Dimattina, Pat Enright, Jenny Fraser, Ian Goodwin, Jill Goodwin, Richard Grasse, Michael Harrison, Jackie Hemmingson, Chris Hopkins, Chris Horne (co-leader), Rodney Lewington, Winifred Maindonald, Barbara Mitcalfe (co-leader), Chris Moore (leader), Richard Parfitt, Mick Parsons, Leon Perrie, Lara Shepherd, Darea Sherratt, Karin Sievwright, Sunita Singh, Julia White.

2 July 2016: Rimutaka Forest Park

Twenty-seven BotSoccers set off to explore the Old 5-Mile Track on a lovely cloudless day. This provided wonderful light and delightfully clear vegetation as a result of Wednesday’s heavy rain. Before setting off, Leon explained how *Tmesipteris lanceolata* had not been seen in the southern North Island, and described its characteristics, in case we should see some.

Peter Cooper, Catchpool Restoration Project Coordinator, Rimutaka Forest Park Trust, described the objectives and activities of his restoration project in the Catchpool “eco hotspot”, and the Trust’s progress in re-introducing kiwi to a part of the park. He was looking forward to the trip to advance his knowledge of the area’s botany, and to help with establishing a 2016 benchmark of the botany of the Catchpool area, with a particular view to quantifying how effective his revegetation project will be in future. A 1080 drop is being planned for September. It will be the first-ever possum cull in the area. A helicopter spray programme is also planned for the many wildling pines above the car park. This will be a pinus-specific herbicide to avoid damaging the native replanting among these pines.

We spent the morning among predominantly open beech forest on the Old 5-Mile Track to the start



Nikau. Photo: Leon Perrie

of Clay Ridge Track. The Old Five-Mile Track proved surprisingly rich in botanical interest. Three members who had to return earlier than the main party opted for the sign-posted DOC route down to the Orongorongo Track over a (dry foot) bridge.

The remainder then continued on the Old Five-Mile Track no longer maintained by DOC, down through magnificent mixed broadleaf podocarp forest, and rich understorey, to cross a ford over McKerrow Stream. We then went off-track and had lunch in lovely warm pools of afternoon sunlight before

crossing Catchpool Stream to reach the well-formed Orongorongo Track and Catchpool Loop track, then return to the car park by 4 p.m.

We made more than forty additions to the indigenous vascular plants on the list, originally from August 2009. Examples of our additions include: *Alepis flavida* [planted], *Coprosma rotundifolia*, *Elaeocarpus hookerianus*, *Melicope simplex*, *Syzygium maire*, *Tmesipteris tannensis*, *Asplenium flabellifolium*, *A. hookerianum*, *Hymenophyllum flexuosum*, *Hypolepis lactea*, *Acianthus sinclairii*, *Drymoanthus*

adversus.

Pat's and Leon's trip photos are available at:

<http://www.inaturalist.org/calendar/caqalai/2016/7/2>

<http://naturewatch.org.nz/calendar/leonperrie/2016/7/2>

Participants: Bev Abbott, Eleanor Burton & 'Mackie', Barbara Clark, Peter Cooper, Joe Daish, Kat de Silva, Gavin Dench, Michele Dickson, Carolyn Dimattina, Pat Enright, Ian and Jill Goodwin (leaders & scribes), Michael Harrison, Chris Horne,

Rodney Lewington, Barbara Mitcalfe, Chris Moore, Richard Parfitt, Leon Perrie, Lynne Pomare, Lea Robertson, Darea Sherratt, Karen Sievwright, Sunita Singh, Julia Stace, John Van den Hoeven, Julia White.

23 July 2016: Te Mārua Bush workbee

Thirteen members of BotSoc and Forest & Bird worked through the planted areas of the bush to find and remove any weeds and rubbish. New plants were added to fill gaps where needed on the western side. The GWRC weed team had recently done a very good job of weeding and spraying, so only a few small patches still need intensive treatment, e.g., *Alstroemeria* and *Crocsmia* / montbretia.

The newest planting, in the corner of what was part of the pony paddock, beside SH2, still has some blackberry and lupin emerging, and a climbing rose is still producing a few shoots. Ten new plants were added here to replace losses caused by last summer's drought, but most are still growing. Numerous tiny, self-sown, mānuka seedlings are rising through the grass sward.

In the most southerly planting,

ten more plants were put into gaps, and existing plants which have grown really well were checked to make sure the slower-growing tōtara, matai, kahikatea, and black maire had good light-wells around them. Pruning was done where needed. Some blackberry was removed, also a ranunculus and *Alstroemeria*. A low-growing weed (*Geranium* sp.), first noticed near the gate last year, had spread nearly right across the planting to SH2. It has soft foliage and it should be possible to spray it out if that is found necessary.

The older part of the southern planting has opened up as the trees have aged and the hebes and *Coprosma robusta* show more dead branches, allowing more light through. Dead branches were removed and cut up to lie on the ground, allowing the many emerging seedlings to grow through without being scratched up by birds. The pruning done here over

the years to let the light through to the slower-growing trees is showing the benefits now, as these trees are a good size and are coming through the original canopy of faster-growing species. They will form a more permanent canopy in a few years. The replacements for the understorey, a good mix of self-seeded trees, are already growing.

At the end of the morning we emerged from the calm and shelter inside the bush, to find that the rather doubtful earlier weather had turned into a very windy and wet day—a good moment to head home!

Participants: Kim Broad (GWRC), Trudi Bruhlmann, Michelle Dickson, Steve Edwards (GWRC), Chris Horne, Sue Millar, (co-leader / scribe), Barbara Mitcalfe, Hugh and Lea Robertson, Allan, Glennis (co-leader) and Graeme Sheppard.

6 August 2016: Silversky Track, Crofton Downs

Trip cancelled – bad weather.



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 2017 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.

Wellington Botanical Society

2017 Mangarakau Summer Trip Details

Date:

In on Wednesday 11 January, out on Wednesday 18 January 2017.

Accommodation:

The Outpost, 2170 Dry Road, Mangarakau. The facilities are:

- Laundry with washing machine, tub and clothes line.
- Three hot showers.
- Three composting toilets.
- Plenty of room for tents and campers.
- BBQ.
- Each bedroom contains one double bed and single bunks. The smallest bedroom sleeps a maximum of 5, the largest 9. Mattress and pillow provided.

Location:

The Outpost is located about five hours' drive from Picton. Drive to Collingwood and then head north towards Pakawau. From there head towards Wanganui Inlet on a largely shingle road. At the south end of the inlet you'll reach the old Mangarakau Wharf. The Outpost is just a few more kms further on. Once on the tar-seal look to the right for The Outpost signage. If you run out of tar-seal you have gone too far!

Provisions:

Collingwood, which is 42 km from The Outpost, is the closest "major" centre, although petrol is available at Pakawau Beach Camp which is only 27 km away. (Make sure you have enough fuel for the return trip to Pakawau Beach Camp or Collingwood!)

The three main meals and beverages will be provided, although at the time of writing, the cooking arrangements are uncertain. No provision can be made for people with special dietary requirements.

What to bring:

- Everything you need for an enjoyable Kiwi camping holiday including sunscreen and insect repellent (or try theirs).
- Sleeping bags and or sheets / blankets. (Pillows & pillow cases are provided.)
- Soaps and detergents should be septic-tank friendly. If you can't find a suitable shampoo or detergent, these can be obtained from The Outpost.
- Personal medications.
- Enough fuel for the return journey.
- Snack foods and drinks for your personal use.

Communications:

There is a free guest phone for calls to NZ landlines, but cell-phone reception is patchy, and then only from a short drive away. There is no WiFi.

Registration form:

Please complete the Registration Form and return it with your payment by **21 November**. (Details are on the form.) For further information, please contact me, Chris Moore, on 04 479 3924, or mobile 0274 313 789.

Well before the Summer Camp further details will be sent to everyone who has registered.

Mangarakau Summer Trip Registration Form

(Wellington Botanical Society)

In on Wednesday 11 Jan, out on Wednesday 18 Jan.

Completed forms and deposit to be in on, or by, 21 Nov - the last BotSoc meeting of the year.

Name(s):	
Address:	
Phone:	Mobile:
E-mail:	
Emergency contact: Name	
Relationship:	
Address of contact:	
Phone number of contact:	

Travel and accommodation arrangements:

Please indicate which evenings you intend to be at Mangarakau: 11 Jan 12 Jan 13 Jan 14 Jan

15 Jan 16 Jan 17 Jan

Type of accommodation required:

Bunk accommodation.

Tent site.

I/we will be making my/our own arrangements.

Please specify your mode of travel to Mangarakau, e.g.: public transport, own car, or as a passenger with someone else.

If you are going with your own car, how many additional passengers could you take:

None 1 2 3 4

If you are taking a car, will it be available for day trips at Mangarakau?

Yes No

Payment:

Estimated cost per person: \$400. (This applies both to those who are bunking or camping.)

Please check one of the following boxes and make payment as specified:

By Cheque: please make cheque out to Wellington Botanical Society and send it with the completed Registration Form to:
Chris Moore, 7 Spencer Street, Crofton Downs, Wellington 6035.

By Electronic Funds Transfer: please make the deposit to the Society's account:
020536 0017812 02 citing your name(s) in the particulars/reference boxes of the payee section.

Notes for e-mailing the completed Registration Form:

1. Download the form from the bottom of the BotSoc Trips web-page at: http://www.wellingtonbotsoc.org.nz/trips_2016.html (To fill in the form's "check boxes", double left click on it and click on the "Checked" button.)
2. E-mail to Chris Moore at: moore.c@xtra.co.nz

Notes for posting the completed Registration Form:

1. Print off a copy of the form from the newsletter or download from the above web site.
2. Fill in as appropriate by putting an X in the required check boxes.
3. Post the form with your cheque to my above home address. (Cheque not required if payment already made by Electronic Funds Transfer.)

At the end of the trip, depending on the final cost, you will be sent an invoice (or a refund) for the full cost less your original payment.