

Wellington Botanical Society

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



NEWSLETTER

May 2017

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From the President

The weather in Wellington this summer may have been disappointing, but there have still been great turnouts for the 2017 field trips to date. The next trip, to Akatarawa Forest, is also likely to prove popular with field trips to remote and difficult to access spots always popular with our members. A WBS trip is planned for the Forest of Tane in Tawa. This forest was recently purchased by Wellington City Council to add to the Outer Green Belt. With all the talk of housing shortages, and rising house prices, it is fantastic that there are still opportunities for new reserves to be created in our region.

The WBS's unofficial Facebook page, Wild Plants of Wellington, now has over 200 members. This page provides an opportunity to advertise our trips and talks, as well as other botanical events. It also allows people to post photos of plants to be identified and ask botany-related questions. If you are on Facebook, but aren't a member of Wild Plants of Wellington, then I suggest that you consider joining.

Lara Shepherd, President

New members

We welcome the following: Sue Fletcher, Alison Lane, Nicki Papworth, Gill Ross, Karin Sievwright.

*Lea Robertson
Treasurer*

Articles for web site

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

www.wellingtonbotsoc.org.nz

Please send your article to:

Richard Herbert

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

Writing for the Bulletin

Do you have a botanical observation, anecdote, or insight that you could share with others in BotSoc? If so, please consider contributing it to the Wellington Botanical Society Bulletin. There is still plenty of space in the next issue. For more details and assistance, contact Eleanor Burton at trogs@paradise.net.nz or 479 0497.

Wellington Botanical Society

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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 August 2017

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.

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 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

If 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.

FIELD TRIPS & EVENING MEETINGS: JUNE – SEPTEMBER 2017, JANUARY 2018

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

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

Saturday 3 June: Field trip

Silversky Track, Crofton Downs

Botanise regenerating bush on the Outer Green Belt. See a mature tōtara, a *Bechnum* fern which is uncommon in Wellington, also recent extensive plantings and weed-control efforts.

Meet: 9.30 a.m. at the end of Silverstream Road. Leader: Chris Moore 027 4313 789 / 479 3924; deputy leader: Richard Grasse 976 2690. Catch 9.02 a.m. train on Johnsonville line from Wellington Station to Crofton Downs Station, then walk for 15 minutes up Silverstream Rd.

Maps: Street map and NZTopo50-BQ31 Wellington.

Saturday 17 June: Field trip

Te Mārua Bush work bee, Upper Hutt

In partnership with Greater Wellington, BotSoc has been committed since 1989 to do weed control and revegetation in this important matai/tōtara/black maire remnant in Kaitoke Regional Park. Our biennial workbees must continue so that we keep ahead of re-invasion by weeds, particularly around the plantings, so *please* come to help with this important work. Bring weeding and planting gear: gloves, kneeler, weed bag, and your favourite weeding and planting tools, e.g., trowel, hand fork, grubber, loppers, pruning saw, jemmy.

Meet at Te Mārua Bush at 9.30 a.m. (250 m north of Te Mārua Store and then left, off SH2 for 50 m, on Twin Lakes Rd, Kaitoke Reg. Pk. Catch 8.05 a.m. Hutt line train WN to Upper Hutt - ring the leader to arrange to be met at Upper Hutt Station. Maps: street & NZTopo50-BP32 Paraparaumu. Co-leaders: Glennis Sheppard 526 7450, Sue Millar 526 7440.

Monday 19 June: Evening meeting programme

Greater Wellington's terrestrial ecology monitoring

Speaker: Dr Philippa Crisp, Environmental Science, Greater Wellington Regional Council, will talk about GWRC's terrestrial ecology monitoring, which includes State of the Environment monitoring, and other programmes which involve the assessment of wetland health across the region, and the results of pest control at selected sites.

Saturday 1 July: Field trip

Manawa Karioi, Island Bay

Join us at Manawa Karioi reserve on Tapu Te Ranga Marae's land, Island Bay, one of Wellington's oldest and arguably most scientifically-based revegetation areas. The oldest plantings are now twenty-five years old, and the hills and gullies of Manawa Karioi support a range of regenerating and replanted ecosystems, and a growing diversity and abundance of native species. Manawa Karioi Restoration Project (www.manawakarioi.nz)

Come and document this growing diversity – let's add to Maggie Wassilieff's 1993 species list.

Meet: 9.30 a.m. at Manawa Karioi information board next to Tapu te Ranga Marae's carpark—signposted at the end of Danube St, and can also be accessed from upper Rhine St (opposite #59); NOT from the marae itself, unless you are walking, then you can easily get from the south end of the marae buildings to the carpark. Co-leaders: Paul Blaschke 389 8545 / 027 2462848; paul@blaschkerutherford.co.nz. Sunita Singh 387 9955 / 027 4052987.

Maps: street map and NZTopo50-BQ31 Wellington. Catch no. 1 Island Bay bus 8.40 a.m. from Wellington Station Stop A. Alight at Dee St, then walk up it to Eden St and Danube St.

Monday 17 July: Evening meeting Wairarapa. Tree growth and survival.

Monitoring the eco-restoration of Wairio wetland, Lake

Speaker: Stephen Hartley, Senior Lecturer, Conservation Biology, School of Biological Sciences, VUW. In 2010 Victoria University was invited by Ducks Unlimited and the Wairio Wetland Restoration Trust to undertake some research into reestablishment of woody vegetation at Wairio wetlands on the eastern shores of Lake Wairarapa. The result was a large-scale field experiment begun in 2011. It involved planting 2000 trees (eight species) under a variety of pre-planting and aftercare treatments, all designed to give the trees a chance against a thick sward of tall fescue grass. Six years later the survival and growth of the trees continues to be monitored. Initial results showed that weed-mats made little difference to most species, but scraping the topsoil with a bulldozer has resulted in slower growth for all species. The over-riding influence on establishment, however, has been the hydrological gradient of soil moisture. Sustained inundation in 2016/17, and drone technology, have added the latest twists to this evolving and multiplying experiment.

Saturday 5 August: Field trip

Ngā Manu Nature Reserve

Botanise this 5-ha remnant of predominantly coastal lowland swamp forest and dune forest. See kahikatea, pukatea; swamp maire, kohekohe, tawa, māhoe, plus tree ferns, shrub species, sedges and flax, and sourced from Mana Island, large-leaved milk tree. There are plantings of other species from throughout the NZ botanical region. A feature is the recovery programme for mistletoe species, with two species now established on site, *Korthalsella salicornioides* and *Ileostylus micranthus*. Entry fee: \$5.00. Meet: 10.00 a.m. at Ngā Manu Nature Reserve, 74 Ngā Manu Reserve Rd, off Ngarara Rd, Waikanae, Exit SH1/Kāpiti Expressway at Te Moana Rd, then go along Park Ave, then left onto Ngarara Rd, and right onto Ngā Manu Reserve Rd.

Co-leaders: Rhys Mills (Supervisor), Ngā Manu Nature Reserve, ph 04 293 4131; Eleanor Burton 04 479 0497 / 021 0588 324.

Catch 8.44 a.m. train on Waikanae line from Wellington Station to Waikanae Station. Ask Eleanor to meet you there.

Maps: Street map and NZTopo50-BP32 Paraparaumu.

Ngā Manu's web site: www.ngamanu.co.nz, Facebook page: www.facebook.com/NgaManuNatureReserve.

Monday 21 August: Evening meeting

Annual General Meeting;

A P Druce Memorial Lecture: Botanist Tony Druce's methods and our memories

Speakers: Rodney Lewington, Tony Silbery and Chris Horne. Tony Druce's field trips with Wellington Botanical Society began in 1948. Until 1997, Tony was leading BotSoc, and family trips on camping holidays, to botanically interesting places. The world has changed somewhat since then. Rodney, Tony and Chris will talk about Tony's field trips with BotSoc, discuss some of the camping and travel routines, and his botanical contributions. They have a few tales and highlights to tell from this period.

Saturday 2 September: Field trip

Forest of Tāne, Tawa

Botanise this recent 36-ha addition to Wellington's Outer Green Belt on the Tawa side of Spicer Forest. The area includes a small tawa / kohekohe remnant, regenerating native bush within an established pine plantation, and a yet-to-be-botanised gully. Meet: 9.30a.m. at 58C Kiwi Crescent, Tawa, Wellington.

Catch 8.44 a.m. train on Kāpiti Line train from Wellington Station to Redwood Station.

If you would like a lift from Redwood Station, contact Richard, or walk for 25 minutes via Tawa St, The Drive and Larsen Crescent to Kiwi Crescent. Leader: Richard Herbert 232 6828 / 027 445 5942; co-leader: Margaret Herbert 232 6828. Maps: street map and NZTopo50-BQ31 Wellington.

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

Monday 18 September: Evening meeting Seaweeds of central NZ: what do we have at our back door?

Speaker: Dr Wendy Nelson, Principal Scientist – Marine Biology, Programme Leader – Marine Biological Resources, NIWA. We have been fortunate in Wellington that the macroalgae in our region have been studied over a longer period, and in more detail, than any other region of New Zealand. I will talk about the early collectors (mid-1800s) up to the present day—and highlight some of the interesting features of our local flora.

4- 11 January 2018: Summer field trip

Volcanic Plateau, Central North Island

Base camp: Taurewa Lodge, State Highway 47, due north of Whakapapa Village and The Chateau. Sleeping accommodation includes huts, a cottage and camping. The September newsletter will include more information and a booking form.

SUBMISSIONS MADE

• DRAFT CONSERVATION MANAGEMENT STRATEGY WELLINGTON 2016

The Department of Conservation invited submissions on its Draft Conservation Management Strategy Wellington 2016 in December 2016, ten years after the statutory date for its review. (The Minister granted several extensions). Consultation on Wellington's first CMS (1996–2005), occurred over 20 years ago, from March to May 1994.

The first CMS (statutory), and the non-statutory Wellington Plant Conservation Strategy 2004–2010, established a sound foundation for plant conservation in the CMS area, but it's hard to recall any reports on progress. Development of the second Wellington CMS provides an opportunity to revitalise a more collaborative approach to the management and conservation of species and populations of our indigenous plants. It would also show support for *The Global Strategy for Plant Conservation 2011–2020*, which the NZ Government ratified in 2001 as part of the international Convention on Biological Diversity (CBD). Objectives in the CBD emphasise working together at all levels, i.e., local, regional, national and global to address the many threats to plant diversity.

We asked for six major changes in emphasis in the CMS, i.e.:

Indigenous plant populations: More and better integrated programmes to improve the resilience of populations of indigenous plants in the CMS area, particularly those already declining or at risk of extinction.

Priority ecosystem management units: More summary information about these units in Part One, and more operational details and milestones in Part Two. There are only 24 of these priority units in the Wellington CMS area, and they cover only a small percentage of public conservation land in that area. DOC didn't say how much.

Invasive weeds: More ambitious milestones for the management of invasive weeds. (The distribution and density is not meant to get worse).

Project Kākā: A commitment to publish findings from the Project Kākā study of changes in forest condition resulting from the changed approach to pest control.

Public participation: More investment in education and interpretation, and raising awareness of the need for better protection of NZ's indigenous plants.

Climate change: New objectives and policies to address the most imminent threats of climate change on natural resources. We also asked for a realistic Vision, SMART milestones, and better monitoring and reporting to the public.

PSGEs: The draft CMS also includes objectives, policies and milestones for DOC's relationships with new entities called Post Settlement Governance Entities (PSGEs). These entities will receive Treaty settlements on behalf of iwi members when each settlement is ratified by iwi members. One milestone shows that by Year 10, DOC will have progressed conservation-related projects of strategic priority to PSGEs and tangata

whenua.

Next Steps: After hearings in May 2017, DOC will present a revised draft to the Wellington Conservation Board, and when the Board is satisfied, it will go to the NZ Conservation Authority for approval.

• DRAFT MAKARA PEAK MOUNTAIN BIKE MASTER PLAN

This plan outlined Wellington City Council's (WCC) plans for twenty-four sections of new track at Makara Peak, totalling 16 km in length. Most are to have "a discreet, intimate feel and be within a closed tree canopy throughout" or be "in a closed tree canopy wherever possible". We argued that Makara Peak is more than a network of mountain bike tracks; it is 250 ha of recovering forest in which there is a network of mountain bike tracks. We recommended that WCC seek further advice about the ecological implications of this approach, (e.g., fragmentation, edge effects). We argued that a "Master Plan" should also reflect the Makara Peak Ecological Restoration Plan prepared by Wildlands in 2013. We also encouraged WCC to repair tracks throughout the city that have already been damaged by mountain bikers, and either upgrade or close off unauthorised tracks, before investing in new tracks.

DECISIONS FOLLOWING RECENT SUBMISSIONS

• CONSERVATION AND ENVIRONMENT SCIENCE ROADMAP

The approved Roadmap was published by the Ministry for the Environment (MfE) in February. BotSoc's December 2016 Newsletter has more information about the purpose of the Roadmap and our submission. We were one of 88 submitters. A new feature of the Roadmap is the list of sixteen indicative priorities for the next five years. The list is still ambitious, for example:

- Widely accepted and affordable solutions to invasive pests, weeds and diseases that have high-risk conservation, economic or health implications;
- Cost-effective technologies to manage the threats to native species, particularly to help achieve the 'predator-free New Zealand 2050' goal;
- Improved tools for completing taxonomic inventories of coastal and oceanic species and land-based invertebrates;
- Comprehensive models of New Zealanders' values, beliefs and understanding of conservation and the environment;
- New and improved tools for gathering and reporting data on condition and trends for our land, fresh water, air and marine environments.

A list of all the 5-year priorities is in the two-page *Roadmap at a Glance* on the MfE website. The full Roadmap has sixty-five-pages (plus glossary and appendices). Printed copies are not available.

There's not much about threatened plants in the Roadmap.

“New Zealand now has a large list of threatened and endangered plants and animals, including the quillwort (a critically endangered aquatic fern), the kiwi species, Maui’s dolphin, the NZ sea lion, and the Canterbury knobbed weevil.” (p.56).

Quillworts are fern allies; rather than ferns, and the NZ species belongs to the genus *Isoetes* in the *Lycopsidea*. It’s an aquatic plant with upright, tubular leaves that usually grows at the bottom of lakes and mountain tarns.

The Ministry for Primary Industries is developing a separate but aligned roadmap which will focus on key science and technology needs and opportunities for protecting and growing NZ’s primary industries, and improving the associated environmental outcomes.

• DRAFT STRATEGY FOR ENVIRONMENTAL EDUCATION FOR SUSTAINABILITY 2016–2026

BotSoc was one of 198 individuals and groups that submitted on the Draft Strategy for Environmental Education for Sustainability. We weren’t very complimentary (see the December newsletter). Brief feedback on DOC’s web site suggests it’s back to the drawing board for this ‘strategy’ which is now described as a survey. For example, only 68% agreed that the actions under the priority areas were the right ones to focus on at this time.

Bev Abbott

Submissions Coordinator

AWARDS AND GRANTS

- 6 September. **Wellington Botanical Society - Grants to Graduate Students.** Applications sought. Please refer to the article elsewhere in this newsletter.
- 6 October. **Wellington Botanical Society Jubilee Award 2017 – Applications sought.** Please refer to the article elsewhere in this newsletter.

EVENTS

- 1st Saturday each month. **Otari-Wilton’s Bush Trust plant care.**
Wilbur Dovey 499 1044
- 17 May 7.15 p.m. Otari-Wilton’s Bush Trust AGM.
Te Marae o Tāne, 160 Wilton Rd, Wilton, WN
- 27 May. **Restoration Day.** Whitireia Community Polytechnic, Porirua.
RestorationDay@gw.govt.nz
- 28 May 2 p.m. Fungal Foray. Leader: Geoff Ridley.
Leonard Cockayne Centre, Otari-Wilton’s Bush, 160 Wilton Rd, Wilton.
- 28 July, 7.30 p.m. Using gene drive to cause all-male offspring and thereby eradicate a pest species. Talk by Prof. John Knight. This will be preceded by a meeting in the Wairarapa on 28 July.
Aro Valley Hall, 48 Aro St. WN. Contact Julia Stace: jbwstace@outlook.com
- 9–10 August. **Tipping Points.** Environmental Defence Society conference re degradation of terrestrial, freshwater and marine ecosystems. Grand Millennium Hotel, Auckland.
www.edskonference.com www.eds.org.nz
- 25–27 August. **Environment and Conservation Organisation of NZ.** (ECO). 2017 Annual General Meeting and Conference. Nelson. Theme and venue to be confirmed. Registration will begin at the end of May.
eco@eco.org.nz

- 15-20 November. **NZPCN Biennial Conference & John Child Bryophyte Workshop.** Hokitika. Theme: Back to basics, core botanical themes.
NZPCN conference: afergus@doc.govt.nz or jmarshall@doc.govt.nz
John Child Bryophyte Workshop: pwarren@doc.govt.nz
- 30 March – 1 July 2018. **Botanical Art Worldwide.** Exhibition, Auckland Botanic Gardens Visitor Centre Gallery.
botanicalartnz@gmail.com

PUBLICATIONS

1. **Predator Response.** Leaflet re threatened birds, and pest-control methods.
 - DOC, www.doc.govt.nz/battleforourbirds
2. **Our Freshwater Environment 2017.**
 - Joint report by Ministry for the Environment and Statistics NZ. It is part of the State of the Environment reporting series.
- 3a. **Open Space.** 92 4/17: Guest editorial – re benefits of, and need for, tree hugging; weed-busting; protecting stream banks; Queen’s Commonwealth Canopy launch; examples of the diversity of open space protection in the 4300+ QEII covenants; managing fish passage; covenantors coping after fire and quake damage; killing agapanthus; weed quiz; etc.
- 3b. **Who we are and what we do.** A5 booklet, 18 pp.
 - QEII National Trust, Box 3341, WN 6140. info@openspace.org.nz www.openspace.org.nz
4. **Trilepidea.** 157 12/16: Network Council members; *Wahleenbergia congesta*; Bartlett’s rātā / *Metrosideros bartlettii* voted favourite plant; veldt grass / *Ehrharta erecta* voted worst weed; NOTE: article re *Sonchus kirkii* / pūhā is in fact re the naturalised exotic *Lactuca virosa*; myrtle rust workshop; NZ Indigenous Flora Seed Bank (NZIFSB) workshop – Wellington 5-6.12.16; NZ tree project; post-graduate scholarship in plant evolutionary biology; etc. 158 1/17: NZPCN strategy 2016-2020; *Bulbinella talbotii*; NZIFSB – new international connection; NZPCN biennial conference & John Child Bryophyte & Lichen workshop 2017; etc. 159 2/17: *Ranunculus scirithalis*; Barbara Jean Mitcalfe née Fougere 25.11.1928-7.1.2017; NZIFSB 2017 seed collecting programme; land tenure reviews; Port Hills fire; Coastal Restoration Trust National Conference; etc. 160 3/17: *Epilobium matthewsii*; NZIFSB Myrtaceae collecting 2017, and Taranaki seedbank workshop; Exhibition – Botanical Art Worldwide, 30.3-1.7. 2018; NZPCN postal address now 160 Wilton Rd, Wilton, WN 6012; request for *Epacris* images; *Flora Insularum Novae Zelandiae Precursor* by Allan Cunningham; etc.
 - events@nzpcn.org.nz
5. **NZ Botanical Society.** 127 3/17: *Gastrodia minor*; Call for nominations for Allan Mere Award- see Awards section in this newsletter; a Māori plant name from Lord Howe Island; Barbara Jean Mitcalfe 1928-2017; discovery of NZ endemic fern *Hypolepis ambigua* growing wild in Scotland; the Pteridophyte Phylogeny Group’s recommendation in relation to ferns and lycophytes in the eFloraNZ; biographical sketch – George Boris Rawlings 1906-1978; etc.
 - NZBS, c/- Canterbury Museum, Rolleston Ave, CH 8013. www.nzbotanicalsociety.org.nz
- 6a. **Auckland Botanical Society.** Journal Vol 71 (2) 12/16: “Ferns: what we’ve learnt in the last 25 years” – Lucy Cranwell Memorial Lecture by Leon Perrie; trip reports; *Arthropteris tenella*; weedy willowherbs (*Epilobium* spp.); Alan Eric Esler (1929-2016); etc.
 - aklbotsocjournal@gmail.com
- 6b. **Newsheet.** 2-3/17: nectar yield & quantity in mānuka; annual report; etc. 4/17: bio-control of weeds; etc. 5/17: ecology of tree ferns; University of Canterbury Field Botany Course 2017—impressions; etc.
 - ABS, Box 26 391, Epsom, AK 1344 <https://sites.google.com/site/aucklandbotanicalsociety/>

7. **Otari-Wilton's Bush Trust.** News and Views. 3/17: pest-animal control – 'RAMBO' programme; *Brachyglottis kirkii* var. *kirkii*; *Helichrysum filicaule*; etc.
- *Otari-Wilton's Bush Trust, 160 Wilton Rd, Wilton, WN 6012.*
8. **ECOLink.** 10-12/16: ECO's compendium of policies; open government and democracy; AGM report; freshwater & Māori interests; mapping sensitive environments; Forest Stewardship Council National Standards; NZ Conservation Authority considers land classification, land disposal, policies; marine sand mine proposal; ECOI withdraws from Land & Water Forum; IUCN World Conservation Congress 2016; etc
- *ECO, Box 11 057, WN 6142. www.eco.org.nz*
9. **Tararua Tramping Club.** Articles on native plants.
- <http://ttc.org.nz/pmwiki/pmwiki.php/InTheHills/HomePage>
10. **Forest & Bird.** 363 autumn 2017: parks under pressure; privatising of banks of braided rivers; bats benefit from 1080 drop; sustained predator control in Russell State Forest; public perceptions of our environment; Ruataniwha Dam case; regulating the quality of fresh water; coal mining proposed for Papahua Range, West Coast; selling conservation land to developers; Auckland reserves threatened by development; \$5 million donation to F&B; the Whanganui River as a legal person; Kaikoura quake's effects on birds; loss of natural vegetation in high-country Canterbury; kea; restoration at Paparāangi, Wellington; Hauturu / Little Barrier; flowering behaviour of northern rātā and southern rātā; NZ's invertebrates – project; climate disruption; Hochstetter's frog; Stan Butcher 1923-2016; NZ's fungi; Rotokare Scenic Reserve, Taranaki; etc.
- *Forest & Bird, Box 631, WN 6014. www.forestandbird.org.nz*
11. **Friends of Wellington Botanic Garden.** 12/16: Tradescantia beetle breeding programme; pest control work; plant conservation work; etc. 3/17: establishment of the Botanic Garden; etc.
- *FoWGB, Box 28 065, Kelburn, WN 6150. www.friendswbg.org.nz*
 - <http://www.friendswbg.org.nz/nomenu/2017/MARCH2017NEWSLETTER.pdf>
12. **Friends of Tawa Bush Reserves.** A4 leaflet.
- www.tawabush.org.nz
13. **Manawa Karioi & Tawatawa Reserve walking tracks & entrance ways.** Island Bay.
- www.manawakarioi.nz
 - Facebook: Tawatawa Reserve – SEA
14. **Miramar Peninsula – Te Motu Kairangi.** Brochure, 20 pp.
- enterprise@miramarpeninsula.org.nz
 - www.miramarpeninsula.org.nz
15. **Friends of Taputeranga Marine Reserve.** A4 leaflet.
- www.taputeranga.org.nz
16. **Mana Island – self-guided trail.** A4 leaflet.
- www.manaisland.org.nz
17. **2016 NIWA Wellington Science & Technology Fair.** Page 11: BotSoc prize of \$150 for the best exhibit of a project involving a NZ native plant or plants.
- www.sciencefair.org.nz
18. **Last Line of Defence – Compliance, monitoring and enforcement of NZ's environmental law.** Marie A Brown. Environmental Defence Society, assisted by NZ Law Foundation.
- *EDS, Box 91736, Victoria St West, AK 1142 www.eds.org.nz*
- 19a. **Federated Mountain Clubs.** Bulletin. 206 11/16: DOC's performance, and underfunding; national park management; Marlborough backcountry; kea under threat; Waitaha River – proposed dam; Kaimai Range and Kaimai-Mamaku Forest Park; Coromandel Forest Park; etc.
- 19b. **Backcountry.** 3/17: problems caused by 4WDs; Predator-free NZ critique; DOC funding; tenure review; DOC rangers decrease; proposed Oparara development; Te Araroa; Protecting Paradise – 1080 and the fight to save NZ's Wildlife, Dave Hansford; etc.
- *FMC, Box 1604, WN. administrator@fmc.org.nz*

20. **The Best of Wellington.** 6th edition. Sarah Bennett & Lee Slater. Pocket-sized guide, soft cover, 204 pp. Includes section on Wellington's natural history, written by Barbara Mitcalfe on behalf of BotSoc. RRP \$28.

- *Bennett & Slater, Box 24-103, WN 6142. www.bennettandslater.co.nz In book shops.*
21. **Ossmosis.** 7/16: Pest-free initiative.
- *NZ & Wellington Heritage Conservation Trusts, Box 5070, WN*
22. **Willdenowia.** 46.3, 12/16; 47.1 4/17. Annals of the Botanic Garden & Botanical Museum Berlin-Dahlem. Available on loan from BotSoc.
- <http://www.bgbm.org/willdenowia>

NOMINATIONS CALLED FOR

- **30 June. Allan Mere Award 2017.** Call for nominations of a person or persons who have made outstanding contributions to botany in NZ, either in a professional or amateur capacity. *Ewen Cameron, Secretary, NZ Botanical Society, c/- Canterbury Museum, Rolleston Ave, CH 8013.*

SUBMISSIONS CALLED FOR

- **19 May. Wellington City Council Annual Plan.** Consultation documents: <http://wellington.govt.nz/have-your-say/public-inputs/consultations/open/2017-18-annual-plan> 3-Year Work Programme - <http://wellington.govt.nz/have-your-say/public-inputs/consultations/open/2017-18-annual-plan/3-year-work-programme>
- **29 May. Tongariro National Park partial Management Plan Review.** The policy changes are limited to the three-shared walking and cycling tracks. The only additional proposed policy is on the use of e-bikes. <http://www.doc.govt.nz/get-involved/have-your-say/all-consultations/2016/tongariro-national-park-management-plan-partial-review/>
E-mail submissions to: TNPMPpartialreview@doc.govt.nz or post to Tongariro NPMP partial review DOC, PBag 3072, Hamilton 3240.
- **30 June. GWRC Regional Pest Management Plan – discussion document.** *Contact Tim Gale, Biosecurity Advisor (Policy), Greater Wellington Regional Council, 021 688 531, or use the online form to make a submission: <http://haveyoursay.gw.govt.nz/developing-a-regional-pest-management-plan>.*

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

Wellington Botanical Society Bulletin back-issues

Expand your collection of our informative “flagship” publication.

Limited numbers of copies of the following back issues are available:

1950s: no. 23 (9/50), no. 30 (12/58).

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1970s: no. 37 (11/71), no. 38 (9/74), no. 39 (10/76), no. 40 (8/78).

1980s: no. 41 (9/81), no. 42 (9/85), no. 43 (4/87), no. 44 (11/88), no. 45 (11/89).

1990s: no. 46 (12/94), no. 47 (9/96).

2000s: no. 48 (9/02), no. 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.

Many thanks

Lea Robertson, Treasurer

Letters to the editor

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

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

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

*Thank you,
The committee*

Jubilee Award 2017—Applications sought

The 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 New Zealand. 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 2 September 2017.

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

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

Selection

The Award will be made to one or more applicants selected by a subcommittee nominated by the general committee of Wellington Botanical Society. Award(s) will be Made and applicants informed of the results in writing, by **6 October 2017**.

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 grants to graduate students

Each year the Wellington Botanical Society provides small grants to assist post-graduate student in the VUW 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 be not more than \$600.

Application should be made initially through your supervisor to Prof. Kevin Gould by **6 September 2017**.

Applications should be brief and to the point, e.g., two A4 pages.

They should state:

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

You will be advised of the results of your application by 3 October 2017

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 a 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 NZ 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 comply with the main criteria set out above, and are most in line with the aims of the Wellington Botanical Society.

Myrtle rust reported in Kerikeri on 4 May

This rust-fungus is a disease-causing pathogen from South America. It can cause the decline and death of plants in the *Myrtaceae* family. If the disease arrives in NZ, it would threaten our several species of rātā trees and vines, mānuka, kānuka, *Syzygium mairi* / swamp maire, *Lophomyrtus bullata* / ramarama and *L. obcordata*, and *Neomyrtus pedunculata*. In addition, it could affect feijoa, guava and eucalypts.

Its spores are spread by the wind, animals, people, insects and dirty equipment. It invaded parts of the east coast of Australia and became widespread within five years. It was found on Raoul Island in March this year on a Kermadec pōhutukawa / *Metrosideros kermadecensis*.

Stages of infestation:

1. Purple blotches, spotting, and deformation / curling of leaves;
2. bright yellow to orange pustule spores.



What to do

- Do not touch the infestation;
- Take photographs if possible;
- GPS the site if possible;
- Mark the site, e.g., with coloured tape;
- Ring the Ministry of Primary Industries' hot line 0800 80 99 66 immediately;
- Ring your nearest DOC office;
- If any of your clothing might be contaminated, put it in a plastic bag, and leave it at the site.

Adapted from Zealandia Sanctuary bulletin 28.4.17

Visit www.MPI.govt.nz/alerts to view the Ministry of Primary Industries' fact sheet.

Barbara Jean Mitcalfe 25.11.1928–7.1.2017

Barbara collapsed at home on 6 January, and died the following day. Barbara led a very full life, raising five children, and was involved with starting the first Māori pre-school in NZ, before eventually moving to Wellington. She was a long-term staff member, teaching Communication Studies, at the former Wellington Polytechnic. Barbara joined BotSoc in 1980, served on our committee in the 1980s, was president during our Jubilee year in 1989, and was later our submissions co-ordinator. She proposed the establishment of the Jubilee Award, attended scores of BotSoc field trips, and co-led one or two a year. Her love of native plants resulted in contract botanical work in the 1990s and 2000s for DOC, GWRC, WCC and HCC. An athlete in her youth, she became a capable tramp, revelling in long traverses in the ranges, ever on the look-out for interesting plants. Detailed obituaries have appeared in:

1. The February issue of *Trilepidea*, the newsletter of the NZ Plant Conservation Network;
2. The March issue of *NZ Botanical Society Newsletter*.

Chris Horne

DOC Wellington Visitor Centre

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New Zealand Government

Department of
Conservation
Te Papa Atawhai

Otari-Wilton's Bush news

There have been various developments happening at Otari that I hope you'll come to see on your next visit. We also have two exciting plant-conservation projects under way.

First, we have been continuing the development of the lower collections below the Cockayne Lookout. This area we are calling the 'adaptation garden'. The three themes will be how plants have adapted to their environment, how they cope with pests and predators, and how they are pollinated and disperse seed. The adjacent wetland garden is establishing very well. Although the wetland garden is a representation of a wetland, rather than actually being one, it does capture a lot of the rainwater runoff from the upper collections.

Next to the wetland we are introducing a climbers' and epiphyte garden. We have recently installed tree-fern logs for plants to grow on, and the first few plants have been planted to climb up them. You will see plants that root, scramble, twine, hook or wrap with tendrils in pursuit of light. And finally, we are planting duplicates of the Te Papa Renee Orchison harakeke collection in the north picnic lawn. The plants are all *Phormium tenax*, but recognised as having variations in their weaving qualities. The complete collection really is a national treasure. Interpretation for all of the newly developed gardens will arrive soon.

The next month will see results of two plant conservation initiatives facilitated through Otari. For the last five years we have been collecting cuttings and seed from *Brachyglottis kirkii* var. *kirkii*, a regionally uncommon plant. Kirk's tree daisy / kohurangi is usually an epiphyte. It has been recorded from Otari previously. The plant is now unknown from Wellington lowland forest, being reduced to very small populations (no more than 20 plants at each site) at Wainuiomata, Kaitoke and the Akatarawa area. Seed was collected and sown from the plants that have been cultivated together at Otari's nursery since 2012. We will be conducting two planting experiments, one at Otari, and one at Zealandia. We want to know the best planting techniques (on the ground, in a tree), best aspect, light conditions, and most of all monitor for any successful recruitment. Look out for updates and interpretation at both sites by the end of this month. Further controlled pollination and germination experiments are also being conducted by our Science and Conservation Advisor, Karin Van der Walt at the Botanic Garden.

Another plant we have recently been cultivating is *Olearia adenocarpa*, a nationally critical plant endemic to the Canterbury plains. The main threat to *Olearia adenocarpa* is browse by unfenced cattle. Ecologist Debra Wotton, from Moa's Ark Research, collected the seed from Rakaia Island and did germination trials at Otari. The successful seedlings raised in the nursery here (about 70 plants) will be sent to Christchurch City Council to be planted for restoration work. We will keep a small number of them here, and no doubt these will soon be planted near our rain-shadow garden.

Finn Michalak
Acting Team Manager, Otari-Wilton's Bush
finn.michalak@wcc.govt.nz

Percy Scenic Reserve news

We sowed about 200 seeds collected from our *Celmisia* 'mangaweka'. About thirty have germinated so far.

With a collection permit granted by DOC, John Van Den Hoeven, Jonathan Bussell (representing Hutt City Council), and I, went seed-collecting in the Cobb Valley, Cobb Ridge, and Peel Ridge area of Kahurangi National Park, NW Nelson.

In two days' work we collected seed from over 50 species of plants, some 47 new to the Percy Reserve collection. Among these were several *Celmisia* species, e.g., *C. verbascifolia* subsp *membranacea*, *C. spectabilis* subsp *spectabilis* and *C. traversii* *Raoulia glabra*, a couple of *Gentianella* spp, including *G. patula*, *Acaena* species, including *A anserinifolia*, *Helichrysum filicaule*, *Rytidosperma* species, etc.

We had two days of great weather, enjoyed wonderful views, and found a huge diversity of plant species. It was great to see the plants I look after at Percy Reserve growing in situ.

We have sown batches of each species of seed we collected. Several seeds have begun to germinate, the first about ten days after sowing. We are now looking forward to seeing what does eventually germinate and getting them potted up.

Cliff Keilty
Percy Scenic Reserve, Petone, Lower Hutt

Sheena Hudson

11.12.1943–29.3.2017

Sheena joined BotSoc in 1990 and over the years, came on numerous field trips, long and short, and attended evening meetings. As a long-term BotSoc member, a scholar and a researcher, she was the right person to volunteer to interview numerous older members of the society about their memories of overnight field trips. The result was *Wellington Botanical Society overnight field trips: an evolving phenomenon*. This important record of the society's history was published in the WBS Bulletin No. 56 June 2016. It was typical of Sheena, gregarious, effervescent, and always keen to learn, that she came on Leon Perrie's South Coast seaweeds trip on 4 March, less than a month before she died. We offer our condolences to her husband, BotSoc member Stuart.

Chris Horne

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

TRIP REPORTS

11–18 January 2017: North-west Nelson

Twenty-six BotSocers attended the summer field trip based at The Outpost, Mangarakau. Most of us were from the Wellington area, but it was great to be joined people from as far afield as Dunedin.

We visited several very different plant habitats. We botanised Mangarakau Swamp, coastal salt turf, Patarau River, Wharariki Beach, and picturesque Lake Otuhie. The summit of 500-m Knuckle Hill, with its spectacular views to Farewell Spit in the north, and Whanganui Inlet to the west, was clothed in stunted vegetation not seen nearer sea level.

Although not botanically significant, the most unusual place we visited was a gigantic limestone cave that went right through the ridge above The Outpost. We entered on one side of the ridge and popped out of the other!

It was a pleasure to host three enthusiastic botanists from DOC, namely Shannel Courtney, and the father-and-son team of Simon Walls and Rowan Hindmarsh-Walls. They accompanied us on one of our day trips, and gave illustrated evening talks about their work. They were thrilled to find the very rare *Myosotis* aff. *brockiei* growing on the limestone cliffs above The Outpost. I thought that with botanists like them working for DOC, the future of our native flora is in good hands.



Myosotis aff. *brockiei* (a) (CHR 497375; Lake Otuhie). Illustration: Eleanor Burton.

Organising the field trip was an interesting exercise. During my reconnaissance of the area in

December, I was initially dismayed at what I perceived to be a lack of places to visit. There are relatively few tourists to the area, so apart from Whanganui Inlet, Mangarakau Swamp, and Wharariki Beach, there were few other places of easy access. It was only by consulting the locals, and seeking permission to cross their land, that the full range of possibilities opened up.

I thank everyone for their support, and for contributing in so many ways to the success of the trip. My special thanks to the land-owners, to Richard and Margaret Herbert for beavering away in the background, and sharing some of the leadership responsibilities, to Julia Stace for ensuring we were well fed at breakfast and lunch, and to Barbara Hammonds for the onerous task of collating all the many plant lists. And lastly, many thanks are due to Greg and Rose, our hosts at The Outpost, for the excellent service and meals they provided. Tasty desserts came from the nearby Nugget Café.

Chris Moore, Trip Leader.

Participants: Margaret Aitken, Robyn Bridges, Mark Calcott, Gavin Dench, Michele Dickson Raewyn Empson, Dale Every, Julia Fraser, Ken Fraser, Barbara Hammonds, Richard Herbert (deputy leader), Margaret Herbert, Jan Heine, Brenda Johnston, Allison Knight, John Knight, Rodney Lewington, Pat McLean, Pascale Michel, Chris Moore (leader), Syd Moore, Darea Sherratt, Sunita Singh, Val Smith, Owen Spearpoint, Julia Stace.

The following four field trips were to locations depicted on NZTopo50-BN23 Patarau River:

12.1.17: Mangarakau Swamp

On the first day of the summer camp we 26 were pleased to wake to a fine, if cloudy morning after persistent rain the previous day.

We crossed the road from The Outpost to Mangarakau Swamp Reserve. This swamp comprises land purchased from private landowners in 2001 by the NZ Native Forests

Restoration Trust, and land owned by DOC. Mangarakau Swamp is the first wetland, and first South Island reserve, created by the trust. It is managed by The Friends of Mangarakau Swamp and, covenanted with the QE11 Trust, with the aim of restoration. It lies south of Whanganui Inlet, near the west coast of the northern South Island.

We were joined for the day by DOC Rangers, Simon Walls and his son Rowan. They described the history of the swamp, explained something of the geology of the area, and helped us with plant identification. A vehicle track leads through part of the wetland, with smaller tracks branching off it. We split into 3-4 groups to botanise the wetland, and reach the lookouts to get an extensive view of the swamp.

The mature forest that once covered the wetland was kahikatea- and pukatea-dominant, with a wide array of under-storey species. Only a remnant now remains along the western edge. This is being extended by restoration planting using local seed grown off site, sourced from the wetland.

Within the swamp area there are three dominant vegetation patterns. The *Gleichenia* fern / mānuka scrublands are on the drier soils, while the wetter areas are covered in rush and reed communities of *Typha* (raupo) and *Baumea*. Within these areas there are some small lakes where the endangered *Myriophyllum robustum* continues to survive. The reed-lands also have some rare plants, including the pink ladies' tresses orchid, *Spiranthes sinensis*. Simon Walls has been out on the "Big Pond" in a kayak. He told us about the deep layer of peat under the swamp. Anyone who stepped off the track was likely to sink to their armpits.

Trapping to control pest species is evident throughout the reserve. In the Visitor Centre, we saw the records of all the mice, rats, possum and mustelids caught during the last twelve years. Sighting fernbirds / matata was one of the highlights of our day. We were alerted to them by

their “U-tick” call and spotted them on the edge of the track in low mānuka bush. They didn’t seem bothered by us, and stayed close, allowing us to identify their distinctive brown- and fawn-striped heads, speckled breasts with brown wings and tails.

On another day, Robyn from The Friends of Mangarakau Swamp, took some of us to see and feed robins / toutouwai. She had meal-worms which soon attracted a male robin with his big fluffy chick demanding to be fed.

Julia Fraser

Bibliography

Website of the Native Forest Restoration Trust, Mangarakau Wetland: <https://www.nfrrt.org.nz/reserves/mangarakau-wetland/>

Leaflet: Mangarakau Swamp Reserve Visitor Guide, obtained at the wetland.

13.1.17: Knuckle Hill, 506 m

Despite it being Friday 13th, after worshipping the full moon the previous night, we woke to a perfect day. After 7 a.m. breakfast, and 8 a.m. briefing, we were ready to go by 8:30 a.m. to the aptly named Knuckle Hill. We had the choice of going to the top and botanising on the way back, or botanising on the way up, and possibly not getting to the top.

We saw and heard a NZ falcon / kārearea. A red deer stag crossed the track near the summit, and we saw a nanny goat and kid on the track. The pest animals were unfazed by our presence.

Most of us reached the top to enjoy outstanding views that included Farewell Spit, Mt Burnett, pākihi swamps and Whanganui Inlet. We were impressed by the completely different vegetation association on the nutrient-deprived granite of the summit.

Botanical highlights of the trip included: *Ascarina lucida*, *Gleichenia dicarpa*, *Lycopodium volubile*, *Metrosideros parkinsonii*, *M. umbellata*, *Sticherus cunninghamii*, *Thelymitra cyanea*, three species of *Dracophyllum*, *Weinmannia racemosa*, and the new species of *Kunzea* that looks like *Leucopogon fasciculatus*.

Some people explored Kaituna Track where Alison and Mark found many lichens in regenerating rimu forest. Also on the Kaituna Track, but

beyond the Knuckle Hill turnoff, Jan, Owen, Pascale and Raewyn noted the changes in vegetation and soil fertility corresponding with changes in the basement rock.

Despite a passing shower at lunchtime many returned happy, but sunburnt.

Brenda Johnson.

14.1.17: Salt Turf

Following a morning in the bush, everyone was keen to get to the beach, and sand turf. And what luck! There was no wind, and only a little moisture. We parked the cars about 500 m beyond the bridge over Sandhills Creek then followed a sheep track down a small gully spilling through the sand hills to the beach. We rapidly spread out, heading north to the limestone outcrops just south of the mouth of Sandhills Creek, as we had been advised that the sand turf there could be good for foraging.

On the sand-hill banks behind the beach a few people searched among the sparse common plants, and admired a native plantain. At the cluster of limestone monoliths, bluffs, tongues and small reefs, our searching intensified among the hollows, grooves and cracks supporting mostly gnarled taupata, flax, pōhuehue, two spleenworts (*Asplenium obtusatum* and *A. oblongifolium*), *Dysphyma australe* and a small *Veronica* (*Hebe*). One large tongue of limestone, with a gently sloping ledge top, ending in a dangerous overhang that became the main focus of our attention. We accessed it by climbing up near the back edge on to pasture, then heading back out through the marram grass area, then a band of shin-high, dense, beautifully wind-trimmed, flowering *Metrosideros perforata*, on to the flatter slopes, densely covered with a carpet of mat-forming turf. Here was an amazing variety of many species of tiny coastal plants.

Some of the special gems were the endemic and uncommon species *Wahlenbergia congesta*, *Leptinella calcarea* and *Ranunculus recens* var. *recens*, the declining *Myosotis pygmaea* var. *pygmaea* and the threatened *Lepidium flexicaule*. Catching the eye too were several *Thelymitra* spp. with leathery leaf and capsule, only 2–3 cm tall and the red fruits of a *Nertera*. It seemed inappropriate that we should tread on

this beautiful carpet, but considering how few others might ever venture there, the sturdy little plants might be OK.

Michele Dickson.

15.1.17: DOC reserve behind The Outpost

This sortie to the limestone bluff and cave above The Outpost was intended to be a leisurely day! After heavy rain at dawn, by 9 a.m., the mist was clearing and a fine day was ours.

The “cavers” and limestone-bluff botanists left at 9:45 a.m. with DOC botanists Shannel Courtney, and Simon Walls and Rowan Hindmarsh-Walls. Greg (our host at The Outpost) led the way immediately up onto mud slides, slithering uphill with two steps up and one or two down! Eventually we got up through the native forest to the pine plantation, and across to the cave.

The first group, with Greg, went through the big cave festooned with stalactites and stalagmites, and bullock and moa bones. Smaug from the Hobbit lurked there rearing up its log-head.

The next group of “deep botanists” got stuck on the bluffs where they found *Myosotis* aff. *brockiei* (a) (CHR 497375; Lake Otuhie). (This was a new population of the plant, so the find was exciting). Other plants of note were *Veronica stenophylla* var. *hesperia*, *Asplenium lepidotum*, and *Brachyglottis hectorii* which was in flower.



Asplenium lepidotum. Photo: © Alex Fergus (Creative Commons Licence CC BY 4.0, <https://creativecommons.org/licenses/by/4.0/legalcode>).

Our slither home was easier than expected using supplejack, and demolishing the odd māhoe. We dribbed and drabbed back over two hours, arriving late afternoon with clothes and legs caked in slimy mud.

The alternative trip was to the swamp, with Robyn Jones from the Mangarakau Swamp Trust, to search for robins. With a little treat of mealworms, two robins hopped up to say howdy. And another treat for the group was seeing fernbirds.

The evening's meal of succulent roast lamb, potatoes, and kumara went down a real treat. A berry crumble followed.

Jan Heine

16.1.2017: Lake Otuhie

The day dawned cloudless but with strong winds. We began botanising at Sandhills Creek bridge. Chris had arranged with the farmer that we could use the main farm access road up the valley, saving us having to cross the stream to botanise the more interesting and forested north side of the lake. We slowly botanised up the road along the base of limestone bluffs, recording as we went. We almost immediately saw the newly described *Asplenium lepidotum* with

its distinctive black scales. The bluffs had eroded in such a way as to leave striated terraces on which grew *Poa anceps*, *Coprosma robusta* and *Hebe stenophylla* var. *stenophylla*, *Olearia avicennifolia*, *Coriaria arborea* var. *arborea*. Lagging behind the rest, Pascale, Julia and I worked our way along the road, then across the wetland paddocks filled with *Galium propinquum*, *Juncus edgariae*, *Rumex acetosella* and *Carex eragrostis*. Once across the valley and over the small but very deep stream, we went along the base of the limestone bluffs on the north side of the valley. At the start we encountered *Coprosma areolata*, *C. propinqua*, *C. rotundifolia*, *C. rhamnoides*, and *Ileostylus micranthus* growing out of the top of the compact bushes. South across the valley towards the stream was a swamp forest of *Laurelia novaezelandiae*, *Rhapalostylis sapida*, with occasional *Dacrycarpus dacyroides* and *Cordyline australis*. Crossing the boundary fence into Kahurangi National Park, there was an immediate increase in the density of regenerating native species, with the whole suite of species you would expect to find, including some more local endemics e.g., *Hebe townsonii*.

The botanising groups had lunch at various sites, some in the bush, some on the grassy slopes above the lake, and some higher up among the bluffs. Simon Walls from DOC had given us a talk about the area, providing hints on where to find uncommon species. After lunch, the groups headed up towards the bluffs and taller forests. Barbara H had the finds of the day with an endemic *Myosotis* sp., *Melicytus* "Burnett" and *Lepidium flexicaule*, all either on, or just under, the bluffs. The *Lepidium* was growing along a narrow strip at the base of the bluffs where there was just enough light and water. Gavin found *Manoa colensoi*, Rodney and Darea found *Hymenophyllum scrabrum*, and Pascale and I enjoyed the forest at the bend in the lake amongst large *Lauralia novaezelandiae*, *Metrosideros robusta*, *Pittosporum cornifolium*, *Dacrycarpus dacyroides* and saw much pig rooting. At 3 p.m., people returned to the cars, then drove to Big River for a short potter. We had had another very different and memorable day.

Owen Spearpoint

11 February 2017: Barry Hadfield Nikau Reserve, Paraparaumu

At the start of the pre-trip briefing, Mick Parsons asked us to observe a minute's silence, in memory of Barbara Mitcalfe. Barbara, who died on 7 January, was on the recce of the reserve on 16 June 2016, and was to have been co-leader of our trip. There is an obituary elsewhere in this newsletter.

This 11-ha DOC reserve is managed by Kāpiti Coast District Council. Greater Wellington Regional Council staff service twelve possum bait-stations in the impressive coastal nikau/kohekohe. As a result, palatable species are now regenerating well.

The species list we used was prepared for the Department of Lands and Survey in 1986 by Maggy Wassilieff, Denis Clark and Isobel Gabites, with additions made during recces on 16.6.2016 and 5.6.2017. Everyone in the group had a copy of the list on which each species was numbered to make it easy for the person to put a tick against a plant identified.



Loxogramme dictyopteris. Photo: Jeremy Rolfe.

The reserve, which rises from 20 m to 160 m above sea level, is traversed by two tracks. We climbed the older, northern track, and descended the newer, southern track. Among the significant additions to the list were kahikatea and miro, both found by someone who 'answered the call of Nature' 30 m off the track! How often finds are made on such occasions! Other additions included black maire, putaputawētā, the ferns *Adiantum aethiopicum*, *A. cunninghamii* and *A. diaphanum*, *Loxogramme dictyopteris* and *Pteris macilenta*, *Microtis unifolia*

agg., *Carex banksiana*, *Gahnia pauciflora*, *Libertia (grandiflora ?)*, and *Stellaria parviflora*. Among the more worrying weeds are *Asparagus scandens* / climbing asparagus and on the northern track, the fern *Pteris cretica* / Cretan brake.

Participants: Joe Buchanan, Gavin Dench, Carolyn Dimattina, Kat de Silva, Amelia Geary, Ian Goodwin, Jill Goodwin, Richard Grasse, Bryan Halliday, Chris Hopkins, Chris Horne (leader), Graeme Jane, Alison Lane, Richard Parfitt, Mick Parsons, Karin Sievwright, Sunita Singh.

4 March 2017: South Coast seaweeds

Wellington turned on a calm, warm day as we ventured to Te Raekaihau, the point between Houghton Bay and Lyall Bay. Learning some of the common seaweeds was the goal for the trip. The turnout was great, being boosted by several visitors, including a contingent from the Levin Native Flora Group. We were fortunate to be joined by seaweed experts Maren Preuss and Joe Buchanan, who are current and former students at Victoria University, respectively.

Although the nominal trip leader, I'm only a beginner with seaweeds. In the last year or so, I've picked up a few basics using Wendy Nelson's book, *New Zealand seaweeds. An illustrated guide*, and NIWA's free online *Beautiful Browns. A guide to the large brown seaweeds of New Zealand*. It is these big brown seaweeds that I've found the easiest to learn, and I suggest they are a good group for anyone to begin with. I've also found an excellent way to learn seaweeds is by uploading photos to the citizen-science web site www.naturewatch.org.nz and receiving crowd-sourced identifications.

New Zealand is home to some 800 species of seaweeds, which are also known as marine macro-algae. Alongside the brown seaweeds are the greens and reds. These major groups differ in the coloured pigments that they use to photosynthesise. Some of the green species are relatively easy to identify. It is the third and biggest group of seaweeds in NZ, the reds, which I find the hardest; there are many species, and many seem bewilderingly similar, at least to me.

The brown seaweeds that we saw included: *Durvillaea antarctica* (bull

kelp), distinctive for its immense size; *Hormosira banksii* (Neptune's necklace) with its linked brown spheres; *Landsburgia quercifolia* with its oak-shaped blades, the introduced and weedy *Undaria pinnatifida* with its frilly base; *Macrocystis pyrifera* (giant kelp) which has floats between its blades and main axis; *Lessonia variegata* with linear blades from much-branched 'stalks'; *Ecklonia radiata* with many lobes from a flattened central axis that arises from a robust cylindrical stalk; *Carpophyllum maschalocarpum* (common flapjack) with flattened blades and axes; species of *Cystophora* with branched, tubular "leaves"; and two species of *Marginariella* with their distinctive cylindrical fertile structures. Greens included the self-evidently named sea lettuce (*Ulva*), sea rimu (*Caulerpa brownii*), and sea grapes (*Caulerpa geminata*).



One of the most prominent seaweeds on Wellington's south coast is *Lessonia variegata*. It has a robust holdfast, much-branched stipes, and linear unbranched blades.



Another common Wellington seaweed is *Ecklonia radiata*. It has a flattened blade with lobes branching from a wide central axis. The

stipes are cylindrical and unbranched.



Both of the *Marginariella* species around Wellington are characterised by clusters of cylindrical reproductive structures in among their ribbon-like blades. They also have floats. In the pictured species, *M. urvillianiana*, the floats are spherical. (BotSoc memory-aid: the floats are the shape of the globe, which was what Jules Dumont d'Urville, whom the species is named after, circumnavigated.) The other species, *M. boryana*, has elliptic, rugby ball-shaped floats, and seems to be more common on Wellington beaches.

With their great diversity of colours and structures, seaweeds are an enchanting group of plants. If you give them a bit of attention next time you're at a beach, you're likely to be rewarded, not only by their aesthetics, but also by seeing repeated patterns; that's the first step in beginning to know them.

Participants: Dave Allen, Liz Allen, Joe Buchanan, Eleanor Burton, Rita Chin, Leita Chrystall, Gavin Dench, Lynette Fischer, Frances Forsyth, Jill Goodwin, Bryan Halliday, Susan Hansard, John Hobbs, Chris Horne, Sheena Hudson, Stuart Hudson, Vanessa James, Brenda Johnston, Alison Lane, John Leggott, Rodney Lewington, Leon Perrie (leader), Maren Preuss, Lea Robertson, Darea Sherratt, Sunita Singh, Julia Stace, Ian Townsend, Brian Tyler, Judith Tyler, Julia White, David Willyams.

1 April 2017: Mt Kaukau (445 m) and Te Wharangi ridge to south

Vegetation on the ridge is low, wind-shorn scrub, previously pasture. We started from the TV mast on Kaukau, having driven up the access road in low cloud, which lifted late morning, aided by a strong northerly. The group botanised mostly along the ridge, with one diversion off the side into a relatively sheltered gully. The low, wind-shorn scrub comprised mostly *Coprosma rhamnoides* and *Raukaua anomalus*, often growing together, and usually with the *Coprosma* to

windward. There was also a fair amount of gorse and Darwin's barberry. Closer inspection under the shrub cover revealed a surprising variety of herbs and ferns, and a less surprising selection of weeds. Highlights were large, spreading, but low plants of *Lophomyrtus bullata*, several species of *Hymenophyllum* including *H. minimum*, a number of climbers including *Clematis forsteri*, *Metrosideros fulgens* and *M. diffusa*, *Rubus cissoides* agg., *Muehlenbeckia*

complexa and *Parsonsia heterophylla*.

Participants: Gavin Dench, Carolyn Dimattina, Bryan Halliday, Chris Hopkins, Alison Lane, Rodney Lewington, Pat McLean, Richard Parfitt, Leon Perrie, Sunita Singh, Lara Shepherd, Darea Sherratt and co-leaders Jane Humble and Eleanor Burton. We thank Liz and John Hume for permission to use the access road across their property, and Pat Enright for the species list.



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 2018 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.