

Wellington Botanical Society

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



NEWSLETTER

May 2018

Previous issue: December 2017

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From the President

This year's Wellington BotSoc summer camp 4–11 January was very well attended with thirty-four members making the trek to Taurewa Camp. The camp, situated between National Park township and Turangi, is Avondale College's outdoor education centre. Accommodation is in ex-forestry huts sleeping two to six.

Apart from torrential rain on our first day of botanising, the weather was mostly co-operative. The camp's central location enabled us to visit a wide variety of plant habitats from the alpine zone to lowland forest, many only a short drive away. Mike Wilcox, Auckland Botanical Society, provided excellent advice on day-trip options, which made our planning much easier.

Thanks to Graeme Jane and Mike Wilcox for providing species lists, and Richard Herbert for keeping track of transport costs. Bev Abbott's pre-camp advice was a huge help to Lara's organisation of breakfasts and lunches. Last, but certainly not least, a big thank you to Susan Brown and her two (adult) children, for their outstanding dinner catering and hosting. We highly recommend Taurewa Camp to any other botanical society, or other large group, wanting accommodation.

The 2019 summer camp will be based at Bannockburn, central Otago, where the vegetation will provide quite a contrast to this year's camp. We are booked for 25 January to 1 February at Bannockburn, so please pencil it into your diaries if you plan to attend.

Lara Shepherd, President

New members

We welcome the following: Wilbur Dovey, Frances Herrington, Maya Hunt, Andy McKay, Terese McLeod

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 esmereldadoris93@gmail.com or 479 0497.

Wellington Botanical Society

Address:	PO Box 10 412, Wellington 6143
Web site:	http://www.wellingtonbotsoc.org.nz
President:	Lara Shepherd 384 7147
Vice-Presidents:	Owen Spearpoint 562 8780 2nd position Vacant
Secretary:	Barbara Clark 233 8202 e-mail: bj_clark@xtra.co.nz
Treasurer:	Lea Robertson 473 8211
Auditor:	Jane Humble 971 6970
Submissions coordinator:	Bev Abbott 475 8468
Bulletin editor:	Eleanor Burton 479 0497
Newsletter editor:	Chris Horne 475 7025 (phone/fax) e-mail: jchorne15@gmail.com 28 Kaihuia St, Northland, WN 6012
Annual subscription:	ordinary \$35; country \$30; student \$10; joint / group / family \$40.
Send your subscription to Treasurer, WBS, Box 10 412, Wellington 6143 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 2018

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 2018 & JANUARY–FEBRUARY 2019

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 9 June: Field trip

Paewakawaka Reserve & Oku St Reserve, Island Bay

PLEASE NOTE: NOT Queen's Birthday Weekend

Botanise Paekawakawa Reserve, with Jennifer Bennett, Island Bay Natural Heritage Charitable Trust. See regenerating, semi-coastal forest with weed control and planting continuing. **Catch** No. 1 Island Bay bus 8.52 a.m. from Wellington Station Stop A; alight at stop just past Humber St, then walk along Humber to Derwent.

Maps: street map & NZTopo50-BQ31 Wellington. **Meet:** 9.30 a.m. 46a Derwent St entrance to reserve. **Meet** for lunch at Oku St Reserve, Oku St entrance at 12.30 p.m. to botanise a 8-ha flourishing coastal patch of plantings and natural regeneration converted from gorse cover 15 years ago. Some trees are now up to 15 m tall. Many northern rātā were planted in partnership with Project Crimson. Ted Lines will join us and share the story of regeneration. **Co-leaders:** Chris Horne 475 7025, Karin Sievwright 027 404 6975.

Monday 18 June: Evening meeting A Region Redesigned – South Marlborough, Flora Response to the Kaikoura Earthquake

Speaker: Jan Clayton-Greene, Senior Ranger Biodiversity, DOC, Renwick. The magnitude 7.8 Kaikoura earthquake had a major effect on the people, landforms and biodiversity of the Kaikoura region. Jan will discuss the impacts of this earthquake on the biodiversity of South Marlborough, in particular the flora. She will then outline how some of these plants are responding and the effects of the subsequent weather events.

Saturday 7 July: Field trip

Manawa Karioi, Island Bay

Join us at Manawa Karioi 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 Maggy Wassilieff's 1993 species list. **Maps:** street map & 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. **Meet:** 9.30 a.m. at Manawa Karioi information board next to Tapu te Ranga Marae's

carpark. This is signposted at the end of Danube St, and can also be accessed from upper Rhine St (opposite no. 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.

Note: For field trips from July onwards, check with the co-leaders that the bus route names, numbers and times shown below still valid, or have been changed, following reorganisation of public transport services from 15 July. are still valid, or have been changed.

Saturday 14 July: Field trip

Te Mārúa Bush workbee

In partnership with Greater Wellington, BotSoc has been committed since 1989 to do weed control and revegetation in this important matai/tōtara/maire remnant in Kaitoke Regional Park. Our biannual 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 gear: gloves, kneeler, weed bag, and your favourite weeding tools, e.g., trowel, hand fork, grubber, loppers, pruning saw, jemmy. **Meet:** Te Mārúa Bush, 9.30 a.m. (250 m north of Te Mārúa 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 map & NZTopo50-BP32 Paraparaumu. **Co-leaders:** Glennis Sheppard 526 7450, Sue Millar 526 7440.

Monday 16 July: Evening meeting

Update on the latest conservation status

Speaker: Jeremy Rolfe, DOC. The Department of Conservation recently published a new assessment of the conservation status of indigenous vascular plants. This update includes an additional 205 taxa and unnamed entities that have not been previously assessed, and significant changes to the assessment of several taxa since 2012. Hear about these changes and other recent developments in the New Zealand Threat Classification System.

Saturday 4 August: Field trip

DOC Covenant, Makara Farm

Botanise coastal podocarp forest and scrub, then a small gully-head forest to look for swamp maire. The 135-ha covenant is on land owned by Meridian Energy, with land beyond the covenant leased for farming. Close to Westwind Recreation Area and Makara Walkway beyond the end of Opau Road. **Maps:** street map & NZTopo50-BQ31 Wellington. **Travel:** Karori Rd-Makara Rd-Opau Rd—the two latter roads are narrow, with short sight-lines! **Catch:** No. 3 Karori Park bus from Lyall Bay 8.10 a.m., CtPl 8.30, alight at terminus. Advise co-leaders so you can get a lift to the meeting place. **Meet:** 9.30 a.m. at former NZ Post Office village, off Opau Rd. **Co-leaders:** Richard Herbert 232 6828, Lynne Pomare 934 1187, +64 21 054 9699

Reading: DOC *Conservation Management Strategy for Wellington 1995–2005 –Vol 2*. See Makara Covenant Conservation Unit No. R27105, also associated R27 map.

Monday 20 August: Evening meeting

Annual General Meeting;

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

Speaker: Prof Bruce Clarkson, Deputy Vice-Chancellor Research, Environmental Research Institute, University of Waikato, will combine a virtual visit to some of his favourite parts of the central North Island with a field ecologist's perspective on the frequency and abundance of native vascular plant hybrids. He will conclude with some thoughts on the ecological and evolutionary significance of hybridism. Along the way he will also discuss the influence of Eric Godley, Tony Druce and Brian Molloy on the approach he has followed and the interpretations taken.

Saturday 1 September: Field trip

Wainuiomata River West branch

Join us on a second trip into this extensive magnificent pre-European podocarp-broadleaved forest. This time we drive to the start of the track into the heart of this forest with massive northern rātā and rimu, and numerous species of ferns, lianes, shrubs, ground-covers. **Catch:** 8.35 a.m. train on Hutt line from WN to Waterloo Station, then no. 170 Wainuiomata bus (tbc), on east side of station, to end of Hine Rd. Then walk across park to footbridge and main gate. If you will travel by car, please tell co-leaders if you can take passengers. **Map:** NZTopo 50-BQ32 Lower Hutt. **Meet** 9.45 a.m. at main gate, Whitcher Grove, off Moores Valley Rd, Holmdale, Wainuiomata. From the main gate we will drive in convoy to the Water-Treatment Plant car-park by a toilet block. **Co-leaders:** Chris Hopkins 528 5195, Kat de Silva 020 4077 9377.

Monday 17 September: Evening meeting

Living in the rainshadow: NZ's most distinctive and threatened ecosystems

Speaker: Dr Susan Walker, Biodiversity & Conservation, Landcare Research, Dunedin. For the last 20 years, Susan Walker's research has focused on the past and present ecology of some of NZ's driest, and most invaded and

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

modified terrestrial ecosystems. These mixtures of short tussock grasslands, shrublands, cushionfields and mat vegetation are the interface between high-producing pasture and “our golden tussock grasslands” in the inland eastern South Island. These habitats have special ecological character, representing the last remaining examples of the evolutionary response of the native biota to protracted arid conditions in NZ, and are rapidly disappearing under irrigated pasture and wilding conifers. Susan will describe the cryptic ecology of a disappearing biome, focusing on the fauna and flora of the Mackenzie Basin.

25 January – 1 February 2019:

Botanise the valleys and block mountains with their fascinating floras and landforms. Full details and registration form will be in our September newsletter.

Summer Camp Bannockburn, Central Otago

AWARDS AND GRANTS

30 June. **Allan Mere Award 2018.** Made annually to a person or persons who have made outstanding contributions to botany in NZ, in a professional or amateur capacity. Nominations to Ewen Cameron, Secretary, NZ Botanical Society, c/- Canterbury Museum, Rolleston Ave, CH 8013.

- 6 September. **Jubilee Award 2018.**
Please see full details in the article in this newsletter.
- 6 September. **Wellington Botanical Society Grant to Graduate Students.**
Please see full details in the article in this newsletter.
- **Tom Moss Award:** This award is open to any student studying any aspect of Australasian bryophytes and/or lichens. See www.wellingtonbotsoc.org.nz/awards/moss.html.

EVENTS

- 1st Saturday each month. **Otari-Wilton's Bush Trust plant care**
Wilbur Dovey 499 1044.
- 1st Sunday each month at 1.30 p.m.; 2nd Tuesday each month at 9.30 a.m. **Trelissick Park Group workbee.**
<http://www.trelissickpark.org.nz> Peter Reimann, ph 938 9602.
- 23 May, 6.30–7.30. **Ornamental to detrimental—the invasion of NZ non-native plants.** Philip Hulme. Aronui Lecture Theatre, Royal Society of NZ, 11 Turnbull St, Thorndon, WN.
- 23 May, 7.15 p.m. Otari-Wilton's Bush Trust. AGM. Te Marae o Tane, 160 Wilton Rd, Wilton, WN.
- 26 May. **Restoration Day.** Hutt Valley. Theme: **Connecting Communities—people, plants and pests.** Talks, field-trips, workshops. There will be a Pecha Kucha—a series of brief presentations on various topics relating to the theme. Overview: www.naturespace.org.nz/restorationday2018. Full programme: [http://www.naturespace.org.nz/sites/default/files/u4/Event programme RD draft22.02.18.pdf](http://www.naturespace.org.nz/sites/default/files/u4/Event%20programme%20RD%20draft22.02.18.pdf)
- 27 May. **The “Big” evolutionary stories of NZ botany.** Walk guide—Dr Leon Perrie. Meet 2 p.m. at Te Marae o Tane, Otari-Wilton's Bush, 160 Wilton Rd, Wilton, WN.
- **Until 1 July. Linking people with plants through botanical art.** Auckland Botanic Gardens Visitor Centre.
- 2–6 July. **Conservation in a changing world.** 5th Oceania Congress. Te Papa Tongarewa.
<http://wellington2018.scoceania.org> Society for Conservation Biology.
- 1–2 August. **Green light or light green? The Government's environmental reforms.** Grand Millennium Hotel, Auckland.
<http://www.ed.s.org.nz> Environmental Defence Society, Box 91 736, Victoria St West, AK 1142.

- 1 August – 9 September. **Linking people with plants through botanical art.** Wellington Botanic Garden Tree House.
- 3 November – 9 December. **Linking people with plants through botanical art.** Millennium Gallery, Blenheim.
The Worldwide Day of Botanical Art was celebrated on 18 May when the paintings went on display at Auckland Botanic Gardens. Please see article in this newsletter.
The two Wellington artists amongst the 36 participating NZ artists are:
Sue Wickison: *Clianthus puniceus* Kākā-beak (pen and ink);
Dactylanthus taylorii The wooden rose (water colour);
Jane Humble: *Passiflora tetrandra* New Zealand passionfruit, 'Kōhia' (water colour).
- 8–13 November. **John Child Bryophyte & Lichen Workshop, Pureora.** Workshop is open to anyone interested in NZ's mosses, liverworts and lichens.
Contact: Thomas Emmitt, temmitt@doc.govt.nz & Dhahara Ranatunga, dranatunga@aucklandmuseum.com
<http://www.pureoraforestlodge.org.nz/facilities.html>
Pureora is 5 hr from Wellington, 3.5 hr from Auckland.
Costs: Accommodation at Pureora Forest Lodge kindly provided free by DOC. **Food:** c. \$25–\$45/person/day - \$20–\$30 for dinners, \$5–\$15 for breakfast/lunch
- 12–16 November. **12th Australian Plant Conservation Conference.** Canberra.
<http://www.anpc.asn.au/conferences/2018>

PUBLICATIONS

1. **Open Space.** [93 11/17](#): Message from the chair; a 1984-era covenant near Tuakau supplemented by 3 others; 40th annual conference in WN in 2017; Stephenson Fund for Covenant Enhancement launched – for covenants affected by extreme natural events, 4400 covenants registered since 1977; Nan Pullman, the Trust's longest-serving Regional Rep; 163 bird species recorded in QEII covenants; inspiring and supporting urban covenantors; 3 new Kāpiti coast covenants; ;
 2. **Trilepidea.** [169 12/17](#): Conference field trips; *Veronica hookeri*; NZ Indigenous Flora Seedbank (NZIFSB)—*Myrtaceae* seed collections; etc. [170 2/18](#): 2017 Favourite Plant - *Dactylanthus taylorii*—wood rose; 2017 Worst Weed—*Tradescantia fluminensis*; *Haastia pulvinaris*; Bill Sykes 1927–2018; kauri dieback—frequently asked questions; etc. [171 3/18](#): NZ's largest pine-to-native forest regeneration project reaches milestone; *Veronica pimeleoides*; Lawrie Metcalfe Herbarium opens in CH Botanic Garden; NZIFSB *Myrtaceae* seed collection workshop with DOC; etc. [173 4/18](#): Revision of the *Sticta filix* group of lichens; *Townsonia deflexa* a gnat orchid; Botanical Art Exhibition—see article in this newsletter, and in the Events section.
- events@nzpcn.org.nz NZ Plant Conservation Network, c/o 160 Wilton Rd, Wilton, WN 6012.

3. **NZ Botanical Society.** 130 12/17: *Coprosma waima*; Paul Champion receives Allan Mere Award; regional botsocs' news; 2017 Loder Cup awarded to Peter de Lange; 2017 Nancy Burbidge Medal awarded to Patrick Brownsey; Bill Sykes appointed a Foreign Member of the Linnean Society of London; text of presentation given by Colin J Webb at E J Godley Commemoration, 29.11.2010; the name of the Wollemi pine; phytophthora in tōtara – sightings wanted; Lawrie J Metcalf 1928-2017; biographical sketch – Bruce Gordon Hamlin 1929-1976; etc. 131 3/18: *Pelargonium inodorum*; call for nominations for Allan Mere Award; financial statement; regional botsocs' news; *Pteris parkeri* – a naturalised fern; Bill Sykes 1927-2018; etc.
- www.nzbotanicalsociety.org.nz NZ BotSoc, c/- Canterbury Museum, Rolleston Ave, CH 8013.
- 4a. **Auckland Botanical Society Newssheet.** 2–3/18: Regional Pest Management Plan; naturalised *Hordeum vulgare*; 4/18: Molesworth Station; books for sale; etc. 5/18: Closure for kauri?; Botanical Art Exhibition; impacts of 10.4.18 storm; books for sale; etc.
- 4b. **Auckland Botanical Society Journal.** 72(2) 12/17: NZ/s native freshwater flora: “Living the life aquatic” – Lucy Cranwell lecture by Paul Champion; growth of adventitious roots from a leaf cutting of kawakawa – *Piper excelsum* subsp. *excelsum*.
- <https://sites.google.com/site/aucklandbotanicalsociety/> ABS, Box 26 391, Epsom, AK 1344.
5. **Botanical Society of Otago.** 83 2/18: *Senecio glastifolius* invades; etc.
- www.otago.ac.nz/botany/bso
6. **Canterbury Botanical Society.** 5/18: *Cardamine* genus revised – now 41 species; *Melicytus obovatus* complex; NZ biodiversity hot-spots – spatial analysis; etc.
- <http://info@canterburybotanicalsociety.org.nz>
7. **Otari-Wilton's Bush News and Views.** 12/17: NZ Plant Conservation Network Award to artist Eleanor Burton; manager's report; pest-animal control; report on NZPCN conference; glow worms; *Leptinella rotundata*; etc. 3/18: Chairman's message; manager's report; cryopreservation of swamp maire; *Olearia gardneri*; *Poa anceps*; etc.
- *Otari-Wilton's Bush Trust*, c/- 160 Wilton Rd, WN 6012
8. **Friends of Wellington Botanic Garden.** 12/17: President's report; manager's report; FoWBG constitution; etc. 3/18: President's report; manager's report; guided sessions for VUW students; events; etc/
- www.friendswb.org.nz FoWBG, Box 28 065, Kelburn, WN 6150.
9. **ECOLink.** 10-12/17: Coalition agreements; AGM Conference & AGM – policy resolutions; no new mining on conservation land; *BioSecurity 2025*; call to oppose anti-mangroves bill; 1-3/18: Taxes for environmental purposes; climate change – zero carbon actions; National Party's conservation, climate change and environment portfolio holders; NZ Coastal Policy Statement reviewed; South-East Marine Reserves proposals; Toimata Foundation – education programmes about sustainability; etc.
- www.eco.org.nz Environment & Conservation Organisations of NZ Inc., Box 11 057, WN.
10. **Forest & Bird.** 367 Autumn 18: beware gene technologies; marine matters; nature restoration on Molesworth Station; Mangrove Bill concern; kauri dieback; adverse impacts of irrigation; restoring nature on farms; need for a Mackenzie Basin Conservation Park; high country protection; rātā in trouble; call to restore health & mauri of Hauraki Gulf; orange-fronted parakeet; luminescent mushrooms; threats to lizards; Whangamarino Wetland's woes; pest-animal control; damming upper Waitaha River?; marine park in Marlborough Sounds?; NZ's cicadas; etc.
- office@forestandbird.org.nz Forest & Bird, Box 631, WN 6140.
11. **The Tararua Trampler.** 2/18: *Muehlenbeckia australis*; 3/18: *M. complexa*; 4/18: *M. astonii*; 5/18: *Gahnia pauciflora*; etc.
- www.ttc.org.nz Tararua Tramping Club, Box 1008, WN
12. **Backcountry.** 210 11.17: 2017 Election; Remarkables Park; tenure review – Simons Pass; Sheila Natusch 1926-2017; Te Urewera; challenges of tourism; 211 3/18: New government; Taranaki National Park; FMC says 'no' to Te Kuha mine; myrtle rust; plant articles in *The Tararua Teramper*; backcountry Te Reo; Te Urewera – leading the world; proposed Remarkables National Park; tourism – thoughts; ; etc.
- *FMC, Box 1604, WN 6140.*
13. **Wairarapa Journal.** 5 Summer 17/18: Kōkako—the diva; discovering Wairarapa's urban nature reserves; Clive Paton's long-term efforts for conservation of the environment; etc.
- <http://wairarapajournal.co.nz>
14. **Maketu Ongatoro Wetland Society.** Annual Report 2016–17.
- *Available on loan from BotSoc committee.*
15. **The Dominion Post.** 2.2.18: State of crisis for nation's wetlands.
16. **Willdenowia.** 47(2) 8/17 and 47(3) 12/17: Papers on plant, algal and fungal systematics. Available on loan from BotSoc committee.
- *Botanic Garden & Botanical Museum Berlin-Dahlem.*

SUBMISSIONS CALLED FOR

- 15 May. **Wellington City Council 10-year Plan.** www.10yearplan.wellington.govt.nz/have-your-say/

SUBMISSIONS MADE

Taupō Swamp – background

In early 2016, BotSoc lodged a submission with Greater Wellington Regional Council (GWRC), asking that Taupō Swamp be treated as an Outstanding Wetland instead of as a Significant Wetland in GWRC's Proposed Natural Resources Plan. BotSoc later advised GWRC that we no longer wish to speak in support of our submission, because we are satisfied with the assessment provided by Dr Philipa Crisp (GWRC), and the recommendation in the Section 32A report. More importantly, we do not have any new technical information to bring to the panel's attention.

Evidence

Two reports provided to the hearings panel since we lodged our submission provided more thorough descriptions and assessments of Taupō Swamp's biodiversity values.

- Queen Elizabeth II National Trust provided a report commissioned from Wildlands Consultants;
- Dr Philipa Crisp provided technical evidence on Wetlands and Biodiversity (see below). She sought advice from Shona Myers in preparing her evidence.

Section 42A Report

This vital report, prepared by Guest and Denton, recommends adding the Taupō Swamp Complex to Schedule A3, with a consequential change to delete it from Schedule F3 “Significant natural wetlands”.

Hearings

The Hearings for Hearing Stream 5 began on 9 April for three weeks, covering sections of the plan on *Beds of lakes and rivers*; *Wetlands and biodiversity*; *Discharges to land*.

Bev Abbott, Submissions Coordinator

If you would like to read the entire submission, including appended statements by Dr Philippa Crisp, please contact the editor.

Greater Wellington Regional Council's Long-Term Plan 2018–2028

GWRC's vision for freshwater quality and biodiversity: "The quality of the freshwater in our rivers, lakes and streams is maintained or improved, and our region has healthy plant, bird and wildlife habitats."

Our society strongly supports this priority, and welcomes the fact that this is the first in the list of the council's four priorities. We believe that healthy indigenous ecosystems—aquatic and terrestrial—are of fundamental importance to our region, and ultimately to New Zealand and the planet.

GWRC's placing of environmental protection at the top of the council's list of priorities is entirely consistent with our society's Rules, in particular our Object 2(d).

Management of regional parks and forests

We are concerned at the adverse impacts of track building and road building on natural landforms, indigenous ecosystems and their supporting soils; we are also concerned at the adverse impacts of those activities on aquatic ecosystems.

Our East Harbour, Kaitoke and Belmont regional parks, Akatarawa Forest, Pakuratahi Forest, Battle Hill Farm Forest Park, Queen Elizabeth Park, and Whareroa Farm, have all been affected to some extent. Sometimes the building of tracks is done by GWRC, sometime by authorised community groups, and sometimes by unauthorised groups or individuals. Some tracks may be built for walkers and runners, others, usually wider, for 'shared use' by walkers, runners and mountain-bikers. Other tracks, in effect bush roads, may be built for off-road vehicles including 4WD vehicles, quads and trail bikes, and some are built for horses.

Recommendations

GWRC gives top priority to protecting indigenous plant communities, and their supporting soils and landforms on the lands it manages on behalf of the public, ahead of providing for recreational uses of those lands.

1. GWRC uses all means at its disposal, including the prosecution of offenders, to stop unauthorised construction of tracks and roads on any of the lands it manages on behalf of the public.
2. GWRC closes all unauthorised tracks and roads.
3. GWRC advertises in the print media and on its web site any proposals for the construction of new tracks and roads on the lands it manages.

Chris Horne, for the committee



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

Jubilee Award 2018—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 6 Sep 2018.

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

- applicant's name,
- postal address, telephone number and e-mail address.
- relevant position held
- summary statement of the applicant's accomplishments in the field of botany—no more than one page
- an outline and timetable for the proposed project for which the Award is sought
- 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 2018.

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.

Subscriptions overdue

Some subscriptions have yet to be paid, so if you have received a 'red dotted' notice with this newsletter, please note how much we appreciate your continued support.

Payment can be made by cheque posted to: The Treasurer, Wellington Botanical Society, PO Box 10 412, Wellington 6143 or be paid direct to BotSoc's account 02 0536 0017812 00, with your name as a reference. Donations are tax-deductible, and receipted.

Subscription rates remain:

- Ordinary member \$35
- Country \$30
- Group/family \$40
- Student \$10

Lea Robertson, Treasurer

Wellington Botanical Society Grant to Graduate Students

Each year the Wellington Botanical Society provides small grants to assist post-graduate students 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 2018**.

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 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 6 October 2018

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 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 the Wellington Botanical Society.

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

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).
- 1960s: no. 32 (12/61), no. 33 (2/66), no. 34 (11/67), no. 35 (10/68), no. 36 (12/69). Index to Bulletins nos. 1-35.
- 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: JCHorne15@outlook.com, 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

Plague skink

This Australian reptile, *Lampropholis delicata*, also known as rainbow skink, grows to 6–8 cm long. It is brown or grey-brown, often with a dark-brown stripe along either side of its body, with an iridescent sheen in a bright light. It has been found on Rakino Island, in the Hauraki Gulf. It serves as a warning that new invasive animals are arriving in NZ, small and mobile enough to get to our special places. Carefully check the contents of your pack before you land on any offshore island. Plague skinks and/or their eggs could easily be transported in potted plants. See article in *Professionalsl Skipper* magazine by Amanda Peart, Auckland Council. See also www.treasureislands.co.nz

Frances Forsyth

Percy Scenic Reserve news

We went on a seed-collecting trip 16–19 March, this time to Arthur's Pass, John Van den Hoeven and me from Downers, and Jonathan Bussell from Hutt City Council.

We spent 16 March at Temple Basin, Arthur's Pass. Like last year's trip to Cobb Valley, there is a huge number of plant species in quite a small area. We managed to find seed from 38 species, including *Celmisia armstrongii*, *Gentianella corymbifera* and *Ranunculus lyallii*.

We spent 17 March on the screes of Foggy Peak, Porters Pass, where we collected ten species, plus about thirty species as cuttings, e.g., *Azorella hydrocotyloides*, *Carmichaelia monroi* and *Kelleria dieffenbachia*.

In two days we collected seeds of 49 species and cuttings of 41 species. With some cross over, we ended up with 76 species, with 48 being new to the collection.

We sowed all the seed over 10–11 April after processing them, and giving them a fortnight in the fridge. The first two batches started to germinate over 26–27 April, these being *Epilobium melancaulon* and *Acaena glabra*.

Also several of the cuttings have taken, and now have roots, including *Carmichaelia monroi* and *Kelleria dieffenbachii*. We have potted on some of the propagated plants from our 2017 Cobb Valley trip as they were becoming too big for their pots.

We have taken more cuttings of our *Atriplex cinerea* to add to our populations which we planted out last year, and are doing very well indeed.

Cliff Keilty
Percy Scenic Reserve

Worldwide Day of Botanical Art, 18 May 2018

'Linking people with plants through botanical art.'

This project was proposed by the American Society of Botanical Artists to focus on plant diversity, to build connections with botanical artists worldwide, and to document some of the wild species of the world.

Juried exhibitions by each participating country to consist of original botanical artworks of the participating country's native flora. Twenty-five countries are participating.

A digital collection of images from ALL exhibitions will be shown at each participating venue, alongside that country's original artworks.

See www.botanicalartworldwide.info.

The New Zealand exhibition opened 30 March 2018 at the Auckland Botanic Gardens. It will run until 1 July 2018. It will then travel to the Wellington Botanic Garden, to Blenheim's Millennium Gallery, and possibly to Christchurch.

The two Wellington artists amongst the 36 participating New Zealand artists are:

Sue Wickison: *Clianthus puniceus* Kākā-beak (pen and ink); *Dactylanthus taylorii* The wooden rose (water colour);

Jane Humble: *Passiflora tetrandra* New Zealand passionfruit, 'Kōhia' (water colour).

Wellington Botanical Society congratulates Sue and Jane on their outstanding skills in botanical art.

Baring Head/Orua pouanui

Baring Head, part of East Harbour Regional Park, contains the lower reaches of the Wainuomata River, along with about 60 ha of associated flood-plain and oxbows. Because it is a River of National Importance and contains, or is associated with, several rare and threatened habitats and species of flora and fauna, considerable effort is being committed to protecting and enhancing its ecological values.

Much of the river and most of the flood-plain have been fenced off from stock, woody weeds are being controlled, traps and bait-stations are targeting possums and predators, and we've planted about 12,000 seedlings so far. The benefits of this effort are already becoming evident, including natural recovery of the remaining native vegetation, and reduced bank slumping.

Our planting effort is now being accelerated through the Million Metres programme administered by the Sustainable Business Network. This involves crowd-funding, with details of our project being posted on their web site and the public having the opportunity to donate online. We've started very modestly this year to test the waters, so have a look at millionmetres.org.nz/open-project/2018-wainuomata-restoration-at-baring-head.

Past work at Baring Head has shown that few species can cope with the combination of wind, dry summers and grass competition, and achieve rapid growth. The initial plantings will therefore focus on ngaio, cabbage trees and flax, which have proven to be hardy and vigorous on all parts of the site. These will be supplemented with toetoe in seeps, and rushes and *Plagianthus divaricatus* on the immediate river edge within the inundation zone.

Ngaio will be used across the terraces to create pockets of shade with reduced grass cover. We hope that there will be significant and rapid natural regeneration around these pockets, given the quantity of existing indigenous material within the grass. These pockets will break the wind, and create havens for lizards. They would also help the site

DOC Wellington Visitor Centre

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ō Te Whanganui ā Tara*

Conservation House,
18–32 Manners St

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

survive a grass fire if that occurred. Ngaio provide rapid canopy cover and spreads to cover a wide area around each plant. We have already planted several strips and pockets across the site.

Cabbage trees and flax will be concentrated along the river banks to provide erosion control and shelter for other species that will be added (or self-introduce) later.

We are also taking the opportunity re-introduce forest species that are now largely absent from the lower river, by planting into areas that already have shelter. We have had permission to collect seedlings and seed from Rimutaka Forest Park, and will be focusing on the species present in the Catchpool Stream tributary of the river, and the one remaining significant remnant along the lower river. This will ultimately transform the river valley into a riverine forest.

Some rare and threatened species will be added into the river valley plantings as suitable sites become available. For example, we have already started adding new *Muehlenbeckia astonii* plants to supplement the two that are left, choosing our plants in accordance with recovery group advice. Plantings of inanga-friendly species such as *Cyperus ustulatus* will also help restore spawning sites.

In addition to this river-focused programme, we have a work-stream to improve vegetation on the coast and the escarpment above the river (the 'grey scrub' community).

Other initiatives are underway to increase the amount of community and corporate involvement in this project and the other planting programmes elsewhere at Baring Head. We'll keep you posted on progress. As always, we would love to hear from you if you would like to help.

We now have volunteer accommodation at the lighthouse, and would welcome botanists who want to do more survey work in the area. Contact Paula Warren (pwarren@doc.govt.nz) for more information.

Colin Ryder, Treasurer, Friends of Baring Head

Propagation of threatened orchid

Our research on the seed germination of the NZ ladies' tresses (*Spiranthes novae-zelandiae*) has been published in the *NZ Journal of Botany*. In this article we described the steps we used to propagate this threatened orchid, and we also studied its genetic affinities with other *Spiranthes* species found in Australia and Asia.

After two years of inoculating the seeds, we have got plants that flowered and are still looking pretty healthy. Some have gone to Otari-Wilton's Bush and others to



Spiranthes novae-zelandiae.
Photo: Jeremy Rolfe.

Wellington Botanic Garden. This is the very first time a native orchid has been propagated from seed in NZ using its own mycorrhizal fungi. So we are over the moon! I would like to say a BIG THANKS to the Wellington Botanical Society for the funding provided. This has been super useful and key to our success!

Carlos Lehnebach (Jubilee Award)
Jonathan Frerichs (Arnold Dench Award)

Our Land 2018 report - a call for action on environment

The Environmental Defence Society has commended the Ministry for the Environment and Stats New Zealand for their latest environmental report, *Our Land 2018*.

"This latest in the series of environmental reports under the Environmental Reporting Act 2015, focuses on the state of land and soil. It acknowledges some serious data gaps, but is otherwise a useful, insightful and frankly worrying analysis that shows mostly declining trends," says EDS CEO Gary Taylor.

"In that respect it is similar to previous reports on other domains which have also shown mostly negative trends. We've got to do something and soon. "For example, it reveals that between 1996 and 2012 we lost 31,000 ha of tussock grassland—but we know that figure has dramatically increased since 2012. Similarly, it shows that large areas of indigenous shrubland, native forests and wetlands continue to diminish in spite of laws to protect them.

"Urban expansion is seeing productive and elite soils lost to development while exotic forest harvesting causes soil losses for 6–8 years. "Overall the report reveals that we are losing 192 million tonnes of soil a year, 44% of it from exotic grasslands. "Key drivers of loss, including of water quality, according to the report appear to be the 42% increase in the land area used by dairy farms in the period 2002–16 coupled with higher stocking rates.

"We know from previous reports about the extraordinarily high number of native species at risk from extinction on land. The only bright spot in that space is that 20 bird species are recovering because of active forest management. But that is an alarmingly small number against the total of about 215 bird taxa.

"What next? We can expect the Parliamentary Commissioner for the Environment to review the report and recommend responses. But mostly it reinforces the need for urgent action and provides irrefutable statistical support for the Government to push hard for big changes in the way we manage land.

"We consider it has a powerful and clear mandate from the electorate to do that.

"That means a suite of changes must be pushed forward including:

- • a major overhaul of the Resource Management Act
- • much better administration by regional councils
- • deployment of a National Policy Statement on Indigenous Biodiversity
- • strengthening the NPS Freshwater Management
- • reviewing the National Environmental Standard on Plantation Forestry preparing a proper plan for the Billion trees
- • investing more in pest and weed management
- • more funding for DOC's core functions
- • reducing stocking rates especially in dairying
- • better urban planning.

"It's what this report leads to that's important. It should be possible in 2018 to stop further decline in our natural environment and kick-start restoration of much of what's been lost," Mr Taylor concluded.

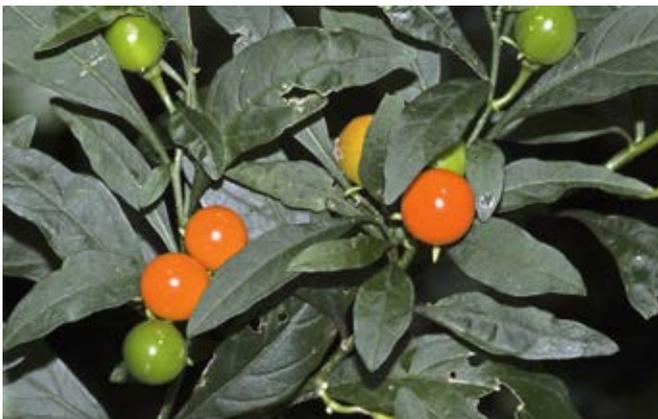
Source: Media Statement, Environmental Defence Society:
Gary Taylor 021 895 896.

Weed control work in our region

What has been done so far this year in Kāpiti, Porirua, Wellington and the Hutt Valley? Numerous environmental weeds (including banana passionfruit, blackberry, boneseed, buddleia, cherry, cathedral bells, climbing asparagus, Darwin's barberry, *Egeria*, holly, hops, Japanese honeysuckle, Jerusalem cherry, gorse, hawthorn, iceplant, lupin, marram, old man's beard, pines, *Pinus contorta*, selaginella, smilax, stinking iris, strawberry dogwood, sycamore, tradescantia, wild ginger, willow and yellow flag iris) have been targeted in our parks, reserves, Key Native Ecosystems (KNEs) and wetland areas etc. We have used several methods: removal by hand, cutting and stump treating, spraying herbicide from the ground, or aerially if there was no other practical option.



Cathedral bells (*Cobaea scandens*). Photo: Jeremy Rolfe.



Jerusalem cherry (*Solanum pseudocapsicum*). Photo: Jeremy Rolfe.

Where have we worked? Akatarawa Forest, Battle Hill Farm Forest Park, Baring Head KNE, Belmont Regional Park, Dry Creek, East Harbour Regional Park, Hayward Scenic Reserve, Haruatai Swamp Forest KNE, Hutt Water Collection Area, Kaitoke Regional Park, Karehana Bay KNE, Keith George Memorial Park, Korokoro Reserve, Lower Waikanae Bush Fragments KNE, Ngā Manu Wetland Complex KNE, O te Pua Pukehou Wetland KNE, Otaki Coast KNE, Pakuratahi Forest, Parangarahu Lakes, Peka Peka Dunes KNE, Speedys Reserve, Waikanae River KNE, Pauatahanui, and Porirua Stream Mouth & Estuary Enhancement site, Pukerua Coast KNE, Trentham Memorial Park, Te Hapua Wetland Complex KNE, Waterfall Bush Road KNE, Whitireia Park, and several small private wetland programme areas.

Why are we doing this work? Some sites are in the initial stages of control where much work is needed to bring invasive species under control. The level of control needed reduces significantly over the years, and at varying intervals of time, we arrive at a situation where the site is relatively free of threats and just needs regular maintenance to nip threats in the bud.

Regional Pest Management Plan species

We have monitored and controlled all known moth plant, woolly nightshade, perennial nettle, senegal tea, purple loosestrife and manchurian wild rice sites; as well as surveyed to determine the extent of newly discovered sites, e.g., moth plant near Waterloo Station.

We have had many discussions about the species to be included in our upcoming new RPMP, and what the rules would be for these species.

We've dealt with 26 boundary complaints—these are generally about blackberry, gorse or old man's beard. We also get numerous general enquiries to respond to.

Biocontrol

This year we have monitored green thistle beetles, tradescantia beetles, and buddleia. We have released tradescantia beetles, Japanese honeysuckle butterfly, broom gall mites, Darwin's barberry weevils, and tradescantia rust—for which we have high hopes of it making a difference.

NPPA

104 nursery or plant outlets have been inspected so far this financial year. No unwanted organisms were found at any of these.

Check Clean Dry

Our Check Clean Dry programme finished for the year in March. The message was spread through waterside advocacy, presentations at club meetings, school visits, social media and the GWRC web site.

If you would like more information on particular species or areas, please contact me.

Katrina Merrifield | Biosecurity Officer (Plants)
Greater Wellington Regional Council Te Pane Matua Taiao

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

7 October 2017: Glenburn Forest & Saline Springs, Eastern Wairarapa

The spring morning dawned fine, with a promise of drizzle or showers. Twenty people in five 4WDs met in Gladstone at 9 a.m. for the drive east along Te Wharau Rd to Craigie Lea Rd, and into Glenburn Forest. Soon the drizzle began, but there was little wind, so it was not cold. We planned to botanise the saline springs area first, and if time permitted, botanise the black beech forest back along the ridge to the north on our way home. The base rock substrates of the area are sedimentary siltstones and mudstones overlain with thin silty soils.

At the Saline Springs site, about 400m a.s.l., we were impressed with, and grateful for, the 13-wire-mesh deer-fence recently built to protect the site. Until recently the saline springs had been heavily browsed and trampled by animals using the site as a salt lick. The owners, who recognise that internationally the springs have extremely high ecological and geological significance, have recently spent c. \$20,000 erecting the deer-, pig- and goat-proof wire-mesh fence with separate bottom and top wires around the site. What also impressed us was that the fence is set well back from the saline springs and adjacent wetlands, allowing natural regeneration of vegetation around them, and finally that nearly all the pine trees within the area have been removed. The springs are both saline and give off a smell of sulphur. We often saw small bubbles forming and bursting in the muddy patches and mud cones. The main areas of the springs' activity do not support any vegetation because of the extremely high salinity. These areas of mud and sedimentary rock have formed a lunar landscape in miniature, with many volcano-like cones from which cold mud and water were expelled as small bubbles formed and burst. The site is on a gently sloping, broad ridge, and above the saline spring was a seepage wetland dominated by areas of *Carex flagellifera* (unc), *C. geminata*, *C. virgata*, *Eleocharis acuta*, *E. sphacelata*, *Machaerina rubiginosa* and *Schoenus concinnus*. Astrid van Meeuwen-Dijkgraaf (Wildlands

Consultants), who had completed an earlier ecological survey before the fence was erected for New Forests Ltd, was impressed by the changes already taking place. The main remaining mammal impacts on the vegetation and animals inside the fence will be from possums, hedgehogs, rodents, rabbits and hares.

Below is a description of the site by Dr Agnes G Reyes, GNS Science.

"The Glenburn saline spring system is the southernmost of a group of saline springs that extends from Glenburn to near Hicks Bay in the north. These are waters that have originated from at least 10 km deep. The fluids bear imprints of processes happening at the subduction zone. We are studying these springs to learn how earthquakes are generated in the east coast of the North Island, and why the mode of earthquakes is different in the north and the south. I am especially interested in Glenburn because of its nearness to the South Island - this may also give us information regarding earthquakes in the Marlborough region. The string of saline springs from Glenburn to Hicks Bay, occurring on land, is only one of two or three in the world, and thus is of intense interest for scientific study. We can learn what fluids are being generated at the zone of subduction about 10 km or more at depth and in so doing, we can learn more about how earthquakes are being generated. Saline fluids rise from depths through faults which in some cases have excess pressure.

There is little growth around the spring area because of the high salinity (about 7000 to 8000 mg/L chloride compared with a seawater salinity of 19000 mg/L and groundwater of about 100 mg/L) and high gas (methane). Occasionally there may be cold mud eruptions in the springs due to movements in the earth or a change in pressure. Usually a cold mud eruption is associated with earthquakes (this is also a reason for our scientific interest)."

After Chris Gibbons' health and safety briefing, and donning of hi-viz vests, we promptly dispersed to the four corners of the fenced area, botanising for the next 4.5 hours.

The vegetation of the more saline areas was marked by the presence of long strings of *Triglochin striata* (segments on circular cross-section leaves), and the occasional clump of *Schoenus concinnus*. Around it, turfs of the coastal herbs, *Samolus repens*/māakoako/sea primrose, and *Selliera radicans*/remuremu/selliera. At 400 m a.s.l, and c. 3.5 km from the coast, the presence of coastal turf species seems to be related to the salinity of the springs.

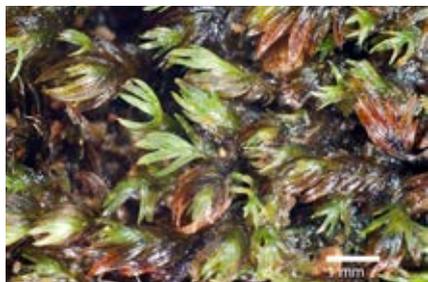
Further out, into the less saline areas of the surrounding wetlands and dry areas, we saw *Cordyline australis*, the shrubs *Leptocophylla juniperina*/prickly mingimingi, *Coprosma propinqua* var. *propinqua*, *C. robusta*/karamu, *Leptospernum scoparium* agg./mānuka, all showing evidence of browsing by either rabbits or hares. Ferns recorded included *Hypolepis ambigua*/rarauhi/nehenehe and *Histopteris incisa*/mātātā/water fern. On small dry 'islands', we saw numerous leaves of *Microtis* sp. including *M. uniflora*/māikaika/onion-leaved orchid. Sedges listed included: *Carex virgata*/pūrei/swamp sedge, *C. flagellifera*/maurea/Glen Murray tussock, *C. geminata*/rautahi/cutty grass. Rushes seen included *Juncus australis*/wīwī/leafless rush and *J. caespiticius*/grass-leaved rush.

Among the small herbs (forbs) listed were the daisies *Lagenophora pumila*, and *Senecio minimus*. We also saw *Acaena novaezelandiae*/piripiri/bidibid, *Centella uniflora*, *Dichondra brevifolia* agg., *Gonocarpus aggregatus*, *Pelargonium inodorum* (unc)/kōpata, *Ranunculus glabrifolius*/raoriki.



Lagenophora pumila. Photo: Jeremy Rolfe.

Bryophytes recorded included the mosses, *Breutelia pendula*, *Fissidens leptocladus*, *Gymnostomum calcareum*, *Ptychomnion aciculare*, and *Thuidium furfurosum* among others. Liverworts recorded included *Chiloscyphus hattori*, *C. novaezeelandiae* var. *meridionalis*, *C. semiteres*, and *Plagiochilla fuscella* var. *novae-zelandiae*.



Fissidens leptocladus. Photo: Jeremy Rolfe.

The history of the site shows it was originally grazed pasture. This was evident from the number of alien adventive species we listed. Among the twenty-two introduced plant species listed were the sedges *Carex flacca*/carnation sedge and *Cyperus eragrostis*/umbrella sedge, *Taraxacum officinale*/dandelion, *Parentucellia viscosa*/tarweed, *Plantago coronopus*/buck's-horn plantain, *P. lanceolata*/narrow-leaved plantain, and *Trifolium repens*/white clover. Among the grasses listed were *Agrostis capillaris*, *A. stolonifera*, *Anthoxanthum odoratum*, *Cynosurus cristatus*, *Dactylis glomeratus*, *Festuca rubra*, *Holcus lanatus*, *Lolium perenne* and the herbs (forbs) *Bellis perennis*, *Cirsium vulgare*, *Crepis capillaris*, *Erigeron sumatrensis*, *Hypochaeris radicata*, *Sonchus oleraceus*. However in more recent times the site, including the saline springs, had been planted with *Pinus radiata*, of which now only a few trees remain inside the fence.

Birds heard in the surrounding plantation forest included: pōpokotea/whitehead, kōtare/kingfisher, riroriro/greywarbler, tūi, pipīwharau/roa/shining cuckoo.

After visiting the saline wetlands, we had time to visit the beech forest north along the ridge, where we spent 1.5 hours botanising. The forest, also about 400 m a.s.l., is dominated by mature but small diameter tawhai/black beech/*Fuscospora solandri* to 15 m. It was of similar stature and cover, and had similar plant associations, as the seaward faces of black beech

forest in East Harbour Regional Park. The nature of the forest may well be a reflection of the environment and soils. The lack of saplings and young beech or other tree species, was evidence of almost no recruitment of canopy species. There was severe browse damage on *Pseudopanax arboreus*/whauwhaupaku/five-finger, *P. crassifolius*/horoeke/lancewood and *Weinmannia racemosa*/kāmahi, all preferred food species for ungulates and possums. We saw an occasional *P. crassifolius*/horoeke/lancewood to 5 m.

The dominant shrubs in the understorey were: *Coprosma lucida*/karamu, *Helichrysum glomeratum*/niniao, *Leucopogon fasciculatus*/big mingimingi, and *Raukaua anomalus*. On roadside banks we were reacquainted with *Pomaderris amoena*, a species not seen outside the eastern Wairarapa in the lower North Island. The forest contained few lianes, with only *Clematis forsteri*/small white clematis, *Muehlenbeckia australis*/pōhuehue, and *Parsonsia heterophylla*/kaihua/NZ jasmine being recorded.

Although the ground cover seemed bare, eighteen species of fern and several ground-cover species were recorded. The more commonly seen ferns, included *Asplenium flaccidum*/hanging spleenwort/makawe o Raukauri, and *A. gracillimum*, *Hymenophyllum revolutum*, *Microsorium pustulatum* subsp. *pustulatum*/kōwaowao /hound's-tongue, *Cyathea dealbata*/ponga/silver fern, *Polystichum neozelandicum* subsp. *zerophyllum*/pikopiko/shield fern, *P. oculatum*/shield fern, *Notogrammitis ciliata*, the more common *N. heterophyllum*/comb fern and *Pyrrosia eleagnifolia*/ota/leather-leaf fern.

Of the six orchid species seen few were in flower. Those identifiable were *Acianthus sinclairii*, *Earina autumnalis*/raupeka, *Pterostylis alobula*, *P. graminea*/greenhood orchids and *Thelymitra longifolia* agg. The other more common ground-cover species listed were *Poa anceps*, the hook grasses *Carex horizontalis* and *C. zotovii*, *Luzula picta* var. *picta*/woodrush, We recorded *Dianella nigra*/turutu/blueberry, the cudweeds *Euchiton audax* and *E. japonicus*, the straw flower *Helichrysum filicaule*, the

daisy-like *Lagenophora pumila*, and the carnivorous *Drosera auriculata*/sundew.

The nonvascular species also reflected the dry environment. Among the mosses listed were *Camptochaete deflexa*, *Cladomnion ericoides*, *Dicnemon calycinum*, *Ditrichum difficile*, *Glyphothecium sciuroides*, *Hypnum cupressiforme*, *Macrocoma tenue*, *Mesotus celatus* and the old man's beard moss *Weymouthia cochlearifolia*. The few liverworts seen in this drier site were *Lejeunea primordialis*, *Frullania aterrima*, *F. squarrosula* and *Porella elegantula*. The lichens recorded were: *Pseudocyphellaria crocata* agg, *P. multifida*, *P. dissimilis*, *P. rufovirescens*, *P. granulata*, and *Parmotrema reticulatum*.

We thank Greater Wellington Regional Council, Wildlands Consultants and Sunita Singh for the use of their 4WD vehicles.

A special thank you from the Society to the following:

Craigie Lea Forest is owned by an Australian company, New Forests Ltd, whom we thank for allowing us to visit the sites. We also give a very big thanks to Chris Gibbons of IFS Growth, who manage the forests, for arranging permission to botanise these two sites, conducting the health and safety briefing, and for himself, wife, and children for meeting with, and leading us to the parking area at the saline springs' site on the weekend. Wellington Botanical Society is keen to revisit the sites in late spring 2018 or early summer 2019, when many native plants will be flowering. This would enable the identification of more and hopefully unusual species. Another visit at this time of year will provide an even more complete record of the flora present.

Participants: Peter Beveridge and Patrick Brownsey (Te Papa), Eleanor Burton, Gavin Dench, Pat Enright, Frances Forsyth (Wildlands Consultants), Chris Hopkins, Chris Horne, Rodney Lewington, Pascale Michel (Zealandia), Leon Perrie (Te Papa), Barrett Pistoll (GWRC), Darea Sherratt, Sunita Singh, Roger Uys (GWRC), John van den Hoeven (Percy Scenic Reserve), Astrid van Meeuwen-Dijkgraaf (Wildlands Consultants), Carol West (DOC), Owen Spearpoint (leader/scribe)

5–11 January 2018: Volcanic Plateau

5.1.2018 Taurewa Loop Walk

The group set off in the rain for the two-hour loop walk. The forest is dominated by tall podocarps, a reflection of the history of the area. Beech would have dominated in the past, but eruptions have wiped them out. Although there are beech species in the area, they spread very slowly, whereas the fruits of podocarps are carried by birds, resulting in faster dispersal. The main podocarps which formed the tall canopy are thin-bark tōtara, *Podocarpus laetus*, miro (*Prumnopitys ferruginea*), mataī (*P. taxifolia*), and the occasional kaiwakawaka (*Libocedrus bidwillii*). There were no large rimu or kahikatea due to logging. Smaller podocarps in the understorey were pink pine (*Halocarpus biformis*), with its large, 1-cm-long juvenile leaves visible, to help us tell it apart from silver pine or manoa (*Manoa colensoi*) with its 0.4–0.5 cm juvenile leaf. To round out the podocarp list there were many mountain toatoa (*Phyllocladus alpinus*). Pōkaka (*Elaeocarpus hookerianus*), which usually grows in beech forest, is common here, again assisted by bird-dispersed seeds.

The understorey has a variety of shrubs, and we spent time looking at the dark green, leathery-leaved *Pittosporum colensoi* - which replaces *P. tenuifolium* in colder areas. Our attention was also caught by *Raukawa anomalous* and *Melicope simplex* with their hinged leaves—the former with hairs around the hinge, and a dark spot at the base of the leaf, and the latter with its winged petiole.

Native herbs were sparse; one of note was the little *Chaerophyllum ramosum* (used to be *Oreomyrrhis ramosa*) growing among the mosses alongside the track. Even the number of fern species was low—we recorded fewer than 30. We were pleased to see the Prince of Wales feather fern, *Leptopteris superba*.

After about two hours, the “slow group” reached a track junction sign that indicated the carpark could be reached from there in 15 min; a sign of the detailed botanising that had taken place.

Gael Donaghy

6.1.2018 Tupapakuraa Falls Track

Fine weather for this trip in Erua Forest was most welcome after the camp's damp beginning on day one. DOC and the voluntary National Park Progressive Association, are upgrading the falls track as a community partnership. At the start of the track walkers are invited/encouraged to carry buckets partially filled with gravel to one of five depots over the first 1.5 km to assist with track building. Another obvious activity was the sight of numerous DOC 200 traps, tucked away ready for any stray predators. Long-time BotSoccers and conservationists, Barbara and Neill Simpson joined us for the day.

The higher part of the track follows a gentle undulation along a broad ridge to the Taranaki Lookout, the highest point on the track at c. 860 m. Huge tōtara, rimu, miro, and cedar tower over a diverse range of some 60 forest tree and shrub species., e.g., *Beilschmiedia tawa*, *Nestegis cunninghamii*, *Quintinia serrata*, *Mysine salicina*. The tree ferns *Cyathea smithii* and *Dicksonia squarrosa* often grace a middle layer above the lush species of *Blechnum* (nine seen), both crepe ferns and the many other fern species and seedlings. A *Phyllocladus alpinus* seedling sat as an epiphyte on a *Cyathea*, and even *Ripogonum scandens* was spotted. We were particularly impressed by the size of many plants, including very large *Blechnum fluviatile* ferns looking most attractive along the edges of the track where it lined both sides in places. A fuchsia leaf from a waist-high sapling was estimated at 17 cm long. We saw *Dawsonia superba*, the world's tallest moss.

Beyond Taranaki lookout a steeper section of the track descends about 150 m, leading to the main lookout to the falls, where a very strong floral aroma emanated from near a large hīnau hosting both *Earina* species and *Dendrobium cunninghamii*. A further few metres SW the track leads to a second narrow-edged falls lookout, which also provides a view to the 50 m falls dropping from a cliff on Tupapakuraa Stream. Looking the other way is an open view down

valley to distant farmland. Most of us avoided the steeper route to the base of the falls.

In the wetter environment of the lower level, in a dark corner of a tiny side creek just before the falls lookout, some of the largest *Blechnum colensoi* many of us had ever seen draped the bank, along with huge plants of flowering *Machaerina sinclarii*, while a fallen tree trunk covered with large drooping *Hymenophyllum* specimens created a curtain for passers-by to duck under. A tuft of *H. pulcherrimum* was eye-catching and some *Phlegmariurus varius* and *H. nephrophyllum* seemed to belong at this level. Among the daisy-like herbs we saw *Senecio wairauensis* and *Anaphaliodes trinervis*. Other listed herbs we saw included two *Epilobium* spp. and two forms of *Lobelia angulata*. Orchid additions included three species of *Corybas*.

We collected leaves from young and older massive black maire, and some white maire, to discuss the differences that evening. One of the black maire hosting many epiphytes was estimated to be 80 cm dbh at a height of about 15 m. When nearly back at the carpark, we admired a *Gastrodia cunninghamii* stem at least 75 cm high, with its 39 flowers and apricot smell, followed soon with an easily missed, solitary fruiting body of *Aseroe rubra*. We saw several seedlings of *Dicksonia fibrosa* near the well-lit track edges. We recorded 196 species, many being additions to the list which had not included the lower part of the track.

We heard almost constant bird calls including long-tailed cuckoo, rifleman, tomtit, waxeye, grey warbler, kererū, North Island robin and the adventive chaffinch.

Michele Dickson

7.1.2018 Silica Rapids Walk

This was our first day in an alpine area and for me the first time I have been with a botanising group above the bushline. A nod to DOC (or to our tax-payers money that DOC spends on tourist infrastructure) in the that the track has been upgraded in recent years and is now in good condition, making for easy walking, and also the interpretive panels were excellent, and gracefully curved rather than

rectangular; aesthetics are never out of place in the bush.

To avoid BotSoc members having to walk the 2 km from the track end back to the Visitor Centre carpark (heaven forbid we should ever walk on a formed road), some cars were taken up to the top end, and keys handed to people in the main group starting from the Visitor Centre carpark end. The net was result was that within an hour BotSocers were spread out along the entire 7 km of the Silica Rapids walk.

The first surprise was the sighting of a whio (blue duck) flying down Whakapapnui Stream, surely unusual at this altitude. This part of the walk is under a low canopy of *Fuscospora cliffortioides*/mountain beech and *Olearia aborescens*; the shelter was welcome as it was raining off and on. We saw more than a dozen fern species along this section, but the highlight was very large examples of the greenhood orchid, *Pterostylis patens*, in flower. Also noted were *Aristotelia fruticosa*/mountain wineberry, with thick, stiff, entangled reddish-brown branchlets and divaricating habit; spiders lifting caterpillars on single-strand webs dangling from branches. We found *Raukaua simplex* with its deeply lobed juvenile leaves particularly striking.

Lunchtime saw us out in the open, and low and behold the rain stopped. Superb organisation. The track from this point up to the rapids was a mixture of bog (wetland) and scrub in the gullies. Of interest were:

- pinkish dwarf mānuka
- bright red arils with green seed on *Podocarpus nivalis*
- pimeleas in flower
- the large leaves and flower heads of *Hierochloa redolens* gracefully arching across the track
- meeting the world's smallest conifer, *Lepidothamnus laxifolius*
- Wahlenbergias in flower, from white to pale blue

The highlight for many of us was the Silica Rapids themselves, and the waterfall and plunge pool. The deposit that forms the rapids turns out to not be silica but is: "The creamy-white deposit in the stream bed below Silica Springs outlet on Mount Ruapehu, Tongariro National Park, New Zealand, has been identified

as a hydrous, X-ray-amorphous, aluminosilicate (allophane)." As the pH of the stream water increases downstream from the spring, the allophane is no longer soluble and so the deposit forms.

From the rapids it was a pleasant walk through the red tussock to the top end of the track, with large clumps of *Celmisia incana* being a feature.

This is where you need to pull out the book of NZ native ferns—we spotted 11 species in the last 200 m of the walk. Pat McLean

8.1.2018 Round-the-Mountain Track

Prominent features along this track on the western scoria slopes below the snowy flanks of Te Maunga Ruapehu were the multitudes of clumps of *Racomyrium* moss, looking like young lambs among the rocks. We were at times irritated by the drone of aircraft flying close to the peak—a contrast to the call of pihoihoi, the NZ pipit. We saw hare scats, and a passing trumper said that he had seen a deer near Whakapapaiti Hut. The perfume of the flowers of *Dracophyllum recurvum* and of the crushed leaves of *Clemisia incana* delighted us. We saw the parasitic and pretty *Euphrasia cuneata* in flower, and enjoyed the view from the crest of a large lava flow where we had lunch.

Chris Horne

9.1.2018 Ohinetonga Scenic Reserve

This reserve created in 1921, now covers 148 ha. Owhango Alive volunteers work with DOC to control predators and weeds to protect the native birds and plants.

Large trees include the podocarps kahikatea, miro, matai, plus tawa and tītoki. Two trees of note are a large tōtara, *Podocarpus totara* var. *totara*, several hundred years old, and a tall, straight-trunked kōwhai, *Sophora microphylla* which is c. 30-40 cm diameter at breast height. A feature of the forest floor is extensive coverage of *Blechnum colensoi*. NZ gloxinia, *Rhabdothamnus solandri*, was flowering with striking bright orange flowers.

A highlight for many of us was seeing adult and young whio/blue ducks in the rushing, clean water. There are only 2,500 left in the wild

in Te Urewera, central North Island, Fiordland, West Coast and northern parts of the South Island. Their blue colour acts as camouflage and their rubbery "lips" protect their beaks when they bump into rocks as they feed on aquatic insect larvae.

At the lagoon we saw a dabchick (NZ grebe) swimming amongst *Carex secta*, *C. maorica*, *Cyperus ustulatus* and *Eleocharis sphacelata* growing in deep water beside the boardwalk.

Margaret Herbert

10.1.18 Taranaki Falls Walk

The final walk of our summer camp began in the rain, as did our first walk in the region six days earlier, with enthusiastic botanists in full wet-weather gear. Fortunately the drizzle soon cleared and we quickly forgot it.

Most of the party elected to take the Taranaki Falls circular walk, but some energetic members went higher to the Tama Lakes.

The Taranaki Falls Walk took us across a 15,000-year-old lava flow and followed Whakapapanui Stream.

We set out on a well-made, and what turned out to be a very busy track, through sub-alpine scrublands with emergent mountain beech, *Fuscospora cliffortioides*.

The scrublands included mānuka and *Olearia arborescens*, both in flower, *Raukaua simplex*, *Podocarpus nivalis*, abundant heather, *Calluna vulgaris*, and the invasive trefoil, *Lotus pedunculatus*.

Growing together along the streambed beside the track we saw many fork-leaved sundew, *Drosera binata*, and a species of *Thelymitra*.

Unfortunately the lack of sunshine meant that those orchids remained closed, and thus difficult to identify. Later we identified *T. cyanea* and *T. nervosa* further along the track.

Coriaria pteridioides, mountain tutu grew plentifully along the banks of the track together with another lighter green *Coriaria*, which was possibly a hybrid between *C. pteridioides* and *C. sarmentosa*, which was also present.

Blechnum vulcanicum and the umbrella fern, *Sticherus cunninghamii*, were also abundant on the banks along the track.

Happily the clockwise group and the counter-clockwise botanists all met for lunch at the dramatic viewpoint on the large rocks

facing Taranaki Falls. At this point Whakapapanui Stream pours over a 5-metre drop left by the lava flow.

Because of the recent heavy rain the falls were spectacular. Intrepid members of our party took up the challenge to walk behind the cascade, a wet but dramatic experience.

As well as the *Thelymytra* species already mentioned, the Taranaki Falls Walk on this occasion was notable for the number of orchid species we saw, including *Pterostylis montana*, *P. patens*, *Caladenia chlorostyla*, and the odd-leaved orchid, *Aporostylis bifolia*. We also saw the red mistletoe, *Peraxilla tetrapetala*, not so commonly found in the North Island,

with some flowers remaining.

A *Hieraceum* species was found near Tama Lakes.

The elusive fernbird was seen in flight, and a pair of falcons, a grey warbler, a whitehead and the NZ pipit were seen.

It was very disappointing to see so much rubbish, namely toilet paper and wet-wipes, littering this popular track, so we reported our concern to the DOC Visitor Centre. Another unwelcome appearance near the waterfall was a drone, flown by visitors, which possibly disturbed two karearea. This activity was also reported to DOC.

Jane Humble

Participants: Margaret Aitkin, Sam Buckley, Gavin Dench, Michelle Dickson, Jenny Dolton, Raewyn Empson, Dale Every, Suzanne Fletcher, Ken Fraser, Julia Fraser, Bryan Halliday, Robin Halliday, Barbara Hammonds, Richard Herbert, Margaret Herbert, Chris Horne, Stuart Hudson, Jane Humble, Maya Hunt, Graeme Jane, Gael Donaghy, Brenda Johnston, Rodney Lewington, Betty MacGregor, Pat McLean, Pascale Michel, Chris Moore (co-leader), Leon Perrie, Syd Moore, Lara Shepherd (co-leader), Darea Sherratt, Sunita Singh, Val Smith, Owen Spearpoint.

3 February 2018: Te Kopahou Reserve, Wellington south coast

The timing of this trip was ideal, because Wellington City Council (WCC) is drafting a management plan for the reserve. It will be published in May as part of the Outer Green Belt Management Plan Review. The trip was made possible thanks to members of the Wellington 4WD Club, and to WCC Senior Ranger, Steven Peters who granted permission for vehicular access. Given the distance we travelled, and very steep terrain, the botanising we were able to do would not have been possible on foot.

Much of the reserve had been used for years as rough pasture for cattle. The 1982 NZMS 261 R27 cadastral map labelled the land as "Sanitary Works", because a previous WCC had earmarked the reserve's valleys for use as extensions of the Southern Landfill. Several Nationally Threatened species were found on the land, and BotSoc and Southern Environment Association successfully advocated for the designation to be lifted.

We were all equipped with plant lists, mostly prepared in 1991, with some recent additions by Pat Enright, Lara Shepherd and Leon Perrie.

Beyond gorse-covered slopes, which developed after a fire there, our first stop was on the Tip Track, beside numerous flourishing *Veronica parviflora*/koromiko tāranga/tree hebe, 2–3 m tall. They provide shelter for several fern and shrub species whose spores and seeds had arrived there and germinated. Near abandoned stock-yards and a fire-

fighting pond, we looked out over the valley of Hāpe Stream, a.k.a. Spooky Gully, the second largest valley in the 750-ha reserve. 'Hāpe' meaning 'crooked' aptly describes the course of the stream which enters Raukawa/Cook Strait by the site of the former Owhiro Bay quarry. BotSoc advocated for the closure of the quarry (*Evening Post* 29.5.1991).



Veronica parviflora. Photo: Jeremy Rolfe.

Our convoy descended the steep Hāpe Track. We noticed the largely native canopy in the tributary valley to our left, and added nikau to the plant list. Stopping near a ford of Hāpe Stream, we botanised māhoe/kawakawa forest with *Astelia fragrans*, the herb, *Haloragis erecta*/toatoa, and stream-side vegetation. Nearby, Gavin found that the sub-soil

included a 20-cm layer of charcoal and blackened soil. We then drove to the upper part of the catchment, where the canopy was largely gorse, showing that fire had swept parts of the valley. There were some emergent māhoe, tī kōūka/cabbage trees, tauhinu etc., so if fire can be excluded, the gorse will eventually be over-topped by native vegetation and die off.

We were encouraged to see former rank pasture being colonised by *Poa cita*/silver tussock, and by 'grey scrub' species, often in extensive communities. These shrubs and small trees are pioneer species in the development of coastal native forest. 'Grey scrub' species include:

- *Coprosma propinqua* subsp. *propinqua* a coprosma species
- *Coprosma rhamnoides* a coprosma species
- *Kunzea robusta* kānuka
- *Leptospermum scoparium* agg. mānuka
- *Meliclytus crassifolius* agg. thick-leaved māhoe
- *Olearia solandri* takupurenga coastal tree daisy
- *Ozothamnus leptophyllus* tauhinu

These communities are vital to the process of succession to coastal forest. Birds perch on them and excrete seeds. The communities trap wind-blown seeds and spores which germinate in their shelter. Eventually many of the plants growing in their shelter will over-top the 'grey scrub', as the coastal forest comprising broad-

leaved species and ferns develops.

We were all impressed at the sight of the 4-km-long, deeply incised valley of Waipapa Stream. The vehicles inched their way, in low ratio, down the very steep old road, dropping over 220 m to the valley floor. Here after lunch, we saw *Clematis afoliata*, its green stems, mostly leafless, scrambling over several shrub species. Then clambering up a steep bank we went to see Lara and Leon's recent find, the mistletoe *Korthalsella clavata*, on its host shrub, *Coprosma propinqua*.

Up on the ridge north of Te Kopahou trig, 485 m, we botanised the road banks, tasted *Leucopogon fraseri* berries, and found the grasses *Rhytidosperma gracile* and *Anthosachne solandri*. Nearby we saw the ferns *Asplenium hookerianum* var. *hookerianum* and *Blechnum vulcanicum*. The striking *Euphrasia cuneata*, a parasitic plant, was in flower.

At the gate at the top of Radome Track we saw *Aciphylla squarrosa*, also known as taramea or spianiard, a

prickly member of the carrot family. It is sought after by goats, so WCC has in the past arranged for goat-culling operations. Intensive control of possums, rodents and mustelids will soon begin throughout the reserve.



Euphrasia cuneata. Photo: Jeremy Rolfe.

Near abandoned stockyards near

Red Rocks Track, we found *Melicytus crassifolius* agg., listed in the NZ Threat Classification System as 'At Risk: Declining', and the daisy, *Senecio glomeratus*.

We thank Joel de Boer, WCC, David Sole, Manager, Wellington Botanic Gardens, and Paul Blaschke, ecological consultant, for their commentaries.

Participants: Bev Abbott, Paul Blaschke, Joel de Boer, Barbara Clark, Gavin Dench, Michele Dickson, Pat Enright, Jenny Fraser, Chris Hopkins, Rochelle Hopping, Jane Humble, Meena Kadri, Rodney Lewington, Mick Parsons, Leon Perrie, Lynne Pomare, Lara Shepherd, Darea Sherratt, Julia Stace, Carol West, David Willyams. Co-leaders: Chris Horne, Sunita Singh.

Wellington Four-wheel Drive Club drivers: David Coxon, Dave de Martin, Ricardo deTrend, Isaac Forrest, Arthur Gorton, Tony Insull, Grant Richards, Brian Smellie, Brett Smidt, David Sole. Howard Symmes. Club trip leader: Barry Insull.

3 March 2018: Boulder Hill, Kelson, Lower Hutt

The good forecast attracted twenty-four BotSoccers to this field trip in Belmont Regional Park. From Kelson's Kaitangata Cres carpark, we split up with some beginners benefitting from Leon's introduction to common Wellington plants, others getting Lara's help with the iNaturalist app. The speedsters raced up the hill towards the better forest. The lower slopes are dominated by gorse and other weeds, but there were some hidden treasures, e.g., *Gaultheria antipoda*, *Carpodetus serratus* and *Cyathea cunninghamii* and abundant *C. medullaris*.

As we climbed, the native vegetation increased but the many emergent dead tree trunks indicated that the trees were substantially larger in the past. We were impressed with the number of large *Lophomyrtus bullata* (thankfully free of myrtle rust).

Adjacent *Griselinia littoralis* and *G. lucida* trees allowed us to compare and contrast their features. *Prumnopitys ferruginea* was present in reasonable numbers, some with mature female cones. Both *Metrosideros fulgens* and *M. perforata*

were common and we managed to find some flowers of both species, despite being a bit late in the season. A few flowers on the common *Parsonsia* allowed us to identify it as *P. heterophylla*, since the reproductive parts didn't extend beyond the petals, whereas they do in *P. capsularis*.

On reaching the track junction just below the summit, some people turned around, while others headed through the farmland to the summit of Boulder Hill 442 m, where they enjoyed magnificent 360° views.



Ramarama (*Lophomyrtus bullata*). Photo: John Van den Hoeven.

Participants: Sam Buckley, Gavin Dench, Carolyn Dimattina, Wilbur Dovey, Jenny Fraser, Jonathan Frericks, Richard Grasse, Bryan Halliday, Chris Hopkins, Jane Humble, Brenda Johnston, Rodney Lewington, Chris Moore, Mick Parsons, Leon Perrie (co-leader), Hugh Robertson, Lea Robertson, Lara Shepherd (co-leader/scribe), Darea Sherratt, Sunita Singh, John Van den Hoeven, Carol West, Helen White, Julia White.

7 April 2018: Wainuiomata catchment

Park Ranger Ricky Clarkson, who we thank for granting us permission to enter the catchment, briefed us near the Water Treatment Plant, then by the hydro-power plant, and finally at the George Creek intake. Because the deer stags had started the “roar”, there were hunters in the catchment, so we were required to botanise only along the side of the road on the valley floor.

The valley contains forest that is regarded as the finest example of northern rātā-podocarp forest in the southern North Island. The 3-km road walk to it passes tall kānuka forest on land cleared decades ago for farming, swamp forest with swamp maire, then forest dominated by majestic towering northern rātā, rimu, matai, kahikatea and miro, some possibly over 30-m tall.

Botanising intensively along the edges of the road, we made numerous additions to the 1997-era plant list which everyone carried. At the briefing, Leon had offered to help newcomers to learn how to identify native and adventive plant species, and where to find them on the species lists. A highlight among the additions to the list was the tiny adder’s tongue

fern, *Ophioglossum coriaceum* agg., with a lone fertile frond. Aside from the fern’s tiny size, the undivided fronds are unusual—in outline, they look rather like a young leaf on *Coprosma robusta*/karamu.



Ophioglossum coriaceum. Photo: Ian Goodwin.

Pat Enright made 23 additions to the plant list. He believes that of those the swamp maire/*Syzygium maire*, and the swamp coprosma/*C. tenuicaulis*, are notable because of their relative rarity, and the *Olearia solandri* because of its unusual occurrence in lowland forest rather than coastal. Being a daisy its seeds can travel far and wide. The kōwhai and *Rubus schmidelioides*, both single sightings, are also a bit out of their usual environment.

The updated plant list was sent to the ranger, staff at Greater Wellington

Regional Council, DOC, the NZ Plant Conservation Network and everyone on the trip.



Coprosma tenuicaulis.
Illustration: Eleanor Burton.

Participants: Sam Buckley, Eleanor Burton, Gavin Dench, Michele Dickson, Wilbur Dovey, Pat Enright, Jenny Fraser, Julia Fraser, Ken Fraser, Ian Goodwin, Jill Goodwin, Chris Hopkins, Chris Horne (co-leader/scribe), Jane Humble, Amin Hunt, Heidi Hunt, Meegan Ireland, Alison Lane, Sumitra Manga, Tom Mayo, Mick Parsons, Leon Perrie, Don Pittham*, Lara Shepherd, Karin Sievwright, Sunita Singh (co-leader), Ianto Stevens, Helen White, Julia White, Beryce Vincenzi*

* Nelson BotSoc.

5 May 2018: ‘Tanah Burung’, 183 South Karori Rd, Wellington

We did introductions and briefings beside a stream at the Tanah Burung/‘Land of birds’ parking area. For use as a template, everyone had a copy of Pat Enright’s species list for a track on nearby Makara Peak, on the Outer Green Belt. We botanised our way up a broad track on the steep 24.7-ha property of north-facing regenerating mixed broad-leaved native forest and pine forest, on the true left of Karori Stream.

Pest-animal control is maintained with DOC200 traps, possum-bait stations, a cat trap and rabbit bait.

We saw that kohekohe, hīnau, tawa and titoki are regenerating, and recorded five species of tree ferns. On the ridge, three *Polystichum* species are growing together in a clump on a bank near the barn, and a patch of *Aciphylla squarrosa* var. *squarrosa* is spreading on the ridge beside the track.

We were impressed by the number of species of ferns, from ground dwellers to epiphytes and tree ferns. A very leathery *Asplenium flaccidum*,

contrasted with more usual specimens near it. The delicate *Asplenium hookerianum* var. *hookerianum* was numerous.



Asplenium flaccidum. Photo: Kat de Silva.

Of note was a spot near the top of the track near a barn where three *Polystichum* species were growing together in a clump on the bank. And beside it *Asplenium*

appendiculatum subsp. *maritimum* grew through a *P. oculatum*. See <https://www.inaturalist.org/observations/12151530>

Leon Perrie’s photos <https://www.inaturalist.org/calendar/leonperrie/2018/5/5>

John Van den Hoeven’s photos <https://www.inaturalist.org/calendar/johnvandenhoeven/2018/5/5>

The property warrants a more thorough reconnaissance because we covered only a relatively small area.

Participants: Gavin Dench, Kat de Silva, Michele Dickson (co-leader/co-scribe), Pat Enright (co-scribe), Ian Goodwin, Jill Goodwin, Richard Grasse, Chris Hopkins, Chris Horne (co-leader/co-scribe), Jane Humble, Mark Jones, Pierre-Louis Laudereau, Brent Layton*, Rodney Lewington, Leon Perrie, Hugh Robertson, Jo Schofield*, Lara Shepherd, Darea Sherratt, Sunita Singh (co-leader), Ianto Stevens, John Van den Hoeven, Julia White, (* = residents).



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 \$.....

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

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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.

<http://www.wellingtonbotsoc.org.nz>