

Wellington Botanical Society

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



NEWSLETTER

April 2020

Previous issue: December 2019

ISSN 1171-9982

From the President

Week 2 of the Covid-19 lock-down

I hope this newsletter finds you and everyone in your bubble healthy, safe and well. My thoughts go out to those who may be struggling, stressed or sick. These are trying times, so let's look out for each other, be kind.

Although longer botanical walks are now restricted, we can still enjoy short walks near home for exercise and to make botanical observations. From my window I've observed kōwhai trees festooned with seed pods and ti kōuka / cabbage trees with many hard, green seeds.

With lots of native seed now well ripened, it's a good time for collecting your favourite plant seed (from an eco-sourced parent) and having a go at growing the plant from seed. The link below is a basic introduction for some trees.

<https://www.doc.govt.nz/get-involved/run-a-project/restoration-advice/native-plant-restoration/ecosource-seeds/collection-and-propagation-guide-trees/>

Jon Terry

New members

We welcome Scott Priestley and Jim O'Malley to our membership.

Lea Robertson, Treasurer

Newsletter by e-mail

Are you ready to move from a print copy to a .pdf copy of the newsletter three times a year?

If so, please e-mail Lea Robertson at harlea@actrix.co.nz and we will get things rolling. Thanks in advance.

Wellington Botanical Society

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Annual subscription:	ordinary \$35; country \$30; student \$10; joint / group / family \$40.	
Send your subscription to Treasurer, WBS, Box 10 412, Wellington 6143 or to our bank account 020536 0017812 00.		
New subscribers: Please complete form at the back of this newsletter.		

Covid-19 lock-down

Meetings

Presentations at the VUW venue are cancelled until further notice BUT instead speakers will give their talks at 7.30 p.m. on the Mondays planned using ZOOM. Follow instructions below. Open ZOOM on your computer in time to be ready for 7.30 p.m. on the third Monday of the month. For future changes please check our web site (www.wellingtonbotsoc.org.nz). Members in the Wellington metropolitan area without e-mail contact details will be phoned to give them the above information. Instructions for using ZOOM—see page 4.

Field trips

Cancelled until further notice. For future changes please check our web site (www.wellingtonbotsoc.org.nz).

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.

DEADLINE FOR COPY FOR NEXT ISSUE – 20 August 2020

Articles may be edited for clarity and length

Overdue subscriptions

As of March, we are $\frac{3}{4}$ of the way through BotSoc's financial year. There are a few members yet to pay. They will receive an e-mail reminder from me shortly. Please reply—let me know if you wish to cease your membership, if you are about to pay, or if you have now paid and when. If necessary, a yellow reminder will be attached to our print April newsletter for some of you. Type of membership: Ordinary: \$35; Country \$30; Student: \$10; Group/family: \$40.

BotSoc's membership account is :

02-0536-0017812-00 reference: name (yours) / Sub20

Or post a cheque to: Attn – Treasurer, Wellington Botanical Society, PO Box 10-412, Wellington 6143.

Annual subscriptions are due end of November, and compliance is rewarded with a \$5 discount.

Donations to the Jubilee Award fund are always welcome, and are receipted for IRD purposes.

Lea Robertson, Treasurer

BotSoc on Facebook

<https://www.facebook.com/groups/322939557873243/>

This is the unofficial page for Wellington Botanical Society.

New members

We need to welcome more people to the delights of botany via BotSoc. If you know someone who might relish our field trips, newsletters and informative meetings, please encourage them to join.

Lea Robertson, Treasurer

Letters to the editor

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

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

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

*Thank you,
The committee*

ATTENDING FIELD TRIPS AND MEETINGS POST LOCK-DOWN

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 Sunita Singh, PO Box 10 412, Wellington 6143, ph 387 9955.

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.

Booking on field trips: Give the leader/s your cell-phone number so that we can contact you if you are running late.

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. 18e Miramar: 7.05 p.m. from Karori Park, 7.21 p.m. @ VUW.

No. 18e Karori: 7.00 p.m. from Miramar – Darlington Rd, 7.43 p.m. @ VUW, or 6.00 p.m. from Miramar, 6.43 p.m. @ VUW.

No. 21 Courtenay Place: 7.01 p.m. from Karori Mall - Beauchamp St, 7.13 p.m. @ VUW.

No. 21 Wrights Hill: 7.00 p.m. from Courtenay Place – Stop A, 7.08 p.m. @ VUW.

No. 22 Mairangi: 7 p.m. from Wellington Station - Stop C, 7.08 p.m. @ VUW.

No. 22 Wellington Station: 7.02 p.m. from Norwich Street, Wilton, 7.17 p.m. @ VUW.

Cable Car: 00, 10, 20, 30, 40, 50 minutes past the hour from Lambton Quay terminus to Salamanca Station. Ten-minute walk to Murphy Building lecture theatre M101 at VUW.

FROM MEETINGS

No. 18e Miramar: 8.05 p.m. is the latest bus from VUW, so catch a no. 21 or No. 22 to CBD – see nos. 21 and 22 below - then a no. 2 to Miramar/Seatoun.

No. 21 Courtenay Place: 9.13 p.m. or 10.13 p.m. from VUW.

No. 22 Wellington Station: 9.38 p.m. or 10.38 p.m. from VUW.

Cable Car: 01, 11, 21, 31, 41, 51 minutes past the hour from Salamanca Station

For further information ring Metlink, 0800 801-700.

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

FIELD TRIPS & EVENING MEETINGS

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.

NOTE: Meetings and field trips may have to be cancelled if we remain at Covid-19 Alert level 3 or 4. Check the web-site for updates: www.wellingtonbotsoc.org.nz.

How to join a ZOOM meeting

1. Click on the link e-mailed to you in your internet browser. The secretary will e-mail out the invitation with a link to join the meeting closer to the event.
2. Follow the prompt to Download the ZOOM app. which should take you automatically to the meeting.

Please note:

- When you join the meeting, your microphone will be automatically muted. This is so no one accidentally interrupts the speaker. If you're not speaking, please keep your microphone muted, so accidental background noise and playback doesn't disrupt the meeting.
- You can turn the video on if you like or leave it off.

Join Kate for a practice run beforehand

We know this will be a new experience for most of our members, so we're holding a test meeting on Easter Monday 13 April, 6–8 p.m., hosted by Kate Jordan, BotSoc Secretary. Practise turning your microphone on and off, and generally get a feel for what you need to do.

On the meeting night

Please join the meeting early at 7.10 p.m. so that we are ready by 7.30 p.m. when the meeting will start with Jon's introduction to our speaker, Debra Wotton.

You can also join a ZOOM meeting via Apple and Android devices

(MAY?) – JUNE – SEPTEMBER 2020 & JANUARY 2021

Monday 18 May: Evening meeting

Members' evening & film showing

Please share your botanical slides & photographs taken on BotSoc trips, your paintings & drawings and favourite botanical readings. Slides on a USB stick - limited to 20/person. Hugh Wilson's film *Fools and Dreamers* will be shown for those who missed it and for those who want to enjoy it again. For a gold-coin koha, or even 'folding money', buy one or more books we put on display, and help build up the Jubilee Award Fund which is used to support research on NZ plants. Any spare botanical or other natural-history books donated for this or future sales would be welcome. Plant specimens to sell or to discuss, would add to a memorable evening.

Saturday 6 June: Field trip

331 Valley Road, Paraparaumu

Botanise Diana & Peter Kiernan's 16.5 ha private mature bush in the Nikau Belt managed by the Kōtukutuku Ecological Restoration Project (<https://www.naturespace.org.nz/groups/kotukutuku-ecological-restoration-project>) dominated by kohekohe / *Dysoxylum spectabile* and tawa / *Beilschmiedia tawa*. See three species of *Nestegis*, large northern rātā, rimu, tōtara, *Mida salicifolia*, and an interesting range of ferns and orchids. Fenced since 1990, with extensive pest control. **Train:** 8.44 a.m. Kāpiti Line train from Wellington to Paekākāriki Station. **Car pool:** 9.30 a.m. at Paekākāriki Station north end car park to drive to the site. **Map:** NZ Topo50 –BP32 Paraparaumu. **Co-leaders:** Diana Kiernan 021 2159 262 / 04 299 1394; Alison Lane 022 309 4558.

Saturday 20 June: Field trip

Te Mārua Bush workbee, Upper Hutt

In partnership with Greater Wellington, BotSoc has been committed since 1989 to do weed control and revegetation in this important mataī/tōtara/black maire remnant in Kaitoke Regional Park. Our biennial workbees must continue so that we keep ahead of re-invasion by weeds, particularly around the plantings, so please come to help with this important work. Bring weeding gear: gloves, kneeler, weed bag, and your favourite weeding tools, e.g., trowel, hand fork, grubber, loppers, pruning saw, jemmy. There may be some planting as well. **Meet:** 9.30 a.m. at Te Mārua Bush. 250 m north of Te Mārua Store and then left off SH2 for 50 m, on Twin Lakes Rd, Kaitoke Reg. Pk. **Train:** 8.05 a.m. Hutt line train WN to Upper Hutt—ring the leader to arrange to be met at Upper Hutt Station. **Maps:** NZ Topo50-BP32 Paraparaumu; street map. Co-leaders: Glennis Sheppard 526 7450, Sue Millar 526 7440.

Monday 22 June: Evening meeting

What's happening in weed bio-control in the Wellington region

Speakers: Mark Alpine et al, Biosecurity Advisors, Greater Wellington Regional Council. They will describe where bio-control of pest plant is at in our region, discuss the agents they use and the ones they are seeking to get released in NZ.

Saturday 4 July: Field trip

Brookfield Wildlife Refuge & Outdoor Education Centre (Scouts NZ), Wainuiomata

Join us to botanise this fascinating 255-ha area of bush owned and being restored and cared for by Scouts. Of this area, 50 ha was originally a farm & orchard established from bush and bequeathed to them in 1958. Sharing a boundary with GWRC's 'mainland island' within the Wainuiomata Water Collection Area, it includes ecosystems ranging from wetlands to bush. An intensive pest-control programme removed 1,000 possums in 2018 and now the focus is on deer. In the past eight months 1,400 pests have been trapped. A Plant Conservation Plan is being prepared together with plans for freshwater ecology improvements. **Maps:** NZTopo50-BQ32 Lower Hutt; street map. **Train:** 8.35 a.m. train on Hutt Line to Waterloo Station. Ask Lydia to arrange for someone to meet you on the east side of the station. **Meet:** 9.30 a.m. 562 Moores Valley Rd, Wainuiomata. Drive into camp then go around the kayak lake on your right to the "camp kitchen"—2nd building on your left, opposite a tall climbing tower (all buildings are labelled). **Leader:** Grant Crawford, grantcrawfordnz@gmail.com/Helenamwhite@gmail.com./021 400 338; **Botsoc co-leader:** Lydia Metcalfe. 027 726 5556.

Link: <https://goo.gl/maps/qHbo4b8yVvwcr8u6>

Monday July 20: Evening meeting

Nurturing Percy Scenic Reserve's botanical potential

Cliff Keilty (Downer), John van den Hoeven (Downer) and Jonathan Frericks (Hutt City Council) will deliver a three-part presentation about various aspects of looking after the extensive ex-situ conservation plant collection from alpine areas, offshore islands and coastal areas, and the Tony Druce collection. The topics covered will include: propagation and cultivation; collecting and expanding the collection; and maintaining data about the collection

Saturday 1 August: Field trip

Waikanae River

This trip was originally planned for Saturday 2 May but due to its anticipated cancellation in the Covid-19 context it has been transferred to this date.

Botanise plant communities on the north and south banks of the river from the NIMT railway bridge & former SH 1 bridge downstream to a footbridge. We will visit remnant kohekohe forest, regenerating native forest and plantings. **Map:** Street map & NZ Topo 50-BP32 Paraparaumu. **Meet:** 9.45 a.m. Waikanae Station north end car park. **Train:** 8.14 a.m. Kāpiti Line train from Wellington to Waikanae. **Co-leaders:** Kate Jordan, 027 899 0018, Chris Horne 475 7025, mobile 021 474 9300.

Monday Aug 17: Evening meeting

Annual General Meeting Relationships and the battle to save the Raukumara Range

Speaker: Graeme Atkins: DOC Biodiversity Ranger, East Cape / Ruatoria. His talk will be about relationships. A relationship was lost between our Raukumara and the tangata whenua who have lived in and around their forest for centuries. Their reliance, to use contemporary terminology, on the many services provided, has diminished considerably, when compared with former times. Pharmacy, supermarket, clothing store, hardware store, timber mill, cultural needs and the arts, all were once sourced from their Raukumara. That connection has been lost. They now find the present situation where the degradation of their Raukumara has occurred because of too many introduced animals. Because of this disconnect, no one had witnessed the damage, caused mainly by red deer and possums. Relationships feature again in the battle to turn things around for our Raukumara. Attend the talk to find out more.

Saturday 5 September: Field trip

Kiripiti Scientific Reserve, Old Hautere Rd, Ōtaki

Botanise this 2-ha reserve of second growth lowland forest. It features a canopy of tōtara, mataī and tītoki with a dense understorey of small trees and shrubs, e.g., *Lophomyrtus obcordata*, *Streblus banksii*, *Coprosma crassifolia*, and others, with an interesting suite of weeds. Fenced off in 1971 it was last visited by WBS in 1977 when they assisted with a plot survey. Time permitting, we will return to Rangī's Bush cemetery, north of Whenuatapu cemetery where we will botanise a 4.14 ha remnant of low kohekohe forest. WBS Bulletin 45 describes a visit there in 1983 by Maggy Wassilieff and others. **Map:** NZTopo50-BN33 Levin. **Train:** 8.14 a.m. train on Kāpiti Line to Waikanae Station. **Meet:** 10 a.m. Waikanae Railway Station north end car park to travel in convoy to Ōtaki Forks Rd junction, SH1 at 10.20 a.m. **Leader:** Mick Parsons 027 249 9663 parsonsroad@gmail.com

Mid-January 2021

Northern Canterbury

We are hoping to be based in Hanmer Springs. Full details and booking form will be in the September newsletter.

AWARDS

- 30 June. **Allan Mere Award 2020 – Call for nominations.**
Ewen Cameron, Secretary, NZ Botanical Society, c/- Canterbury Museum, Rolleston Avenue, CH 8013.
- 6 September. **Wellington Botanical Society Jubilee Award 2020 – Applications sought.**
Full details elsewhere in this newsletter.
- 6 September. **Wellington Botanical Society – Grant to Graduate Students – Applications sought.**
Full details elsewhere in this newsletter.

EVENTS

- 2nd Saturday each month, except January after end of lockdown. **Ōtari-Wilton's Bush – Plant Care. Meet:** Te Marae ō Tāne Visitor Centre, 160 Wilton Rd, Wilton at 9:00 a.m.
Bus: No. 14 Wilton bus, Ct Pl 8.28, Molesworth St 8.36, alight Warwick St. **Planting:** winter months: **weed clearance** other months.
Wilbur Dovey. Landline 499 1044. Mobile 027 499 1044.
- 6 June. **Restoration Day.** Theme: *Birds, Bugs & Lizards.* Samuel Marsden Collegiate School, Karori.
restorationday@doc.govt.nz

PUBLICATIONS

1. **Pristine, popular ... imperilled? The environmental consequences of projected tourism growth.** 12/19. A4 177 p. card-bound.
• *Parliamentary Commissioner for the Environment* pce@pce.parliament.nz pce.parliament.nz 04 471 1669.
2. **Conservation status of indigenous vascular plant species in the Wellington Region.** Philippa Crisp, Environmental Science Department, Greater Wellington Regional Council.
• www.gwrc.govt.nz
3. **Outer Green Belt Management Plan.** 8/19. A4 230 pp card-bound.
• *Wellington City Council* ISSN 877232-00-9
4. **Seeds of NZ Monocotyledons.** Colin J Webb.
• https://www.manukapress.co.nz/Monocots_order_form.html.
This takes you to a special Botanical Society page where you can order at a discounted price until 1 May. RRP: \$90.00. 284 pp A4 hard cover. 105 plates. ISBN: 978-0-9583299-7-2.
5. **Trilepidea.** 195 2/20: New liverwort – *Cheilolejeunia rodneyi* – named after liverwort expert Rodney Lewington (1935-2018) – see 12/2019 newsletter; Plant of the Month: *Liparophyllum gunnii*; taurepo – *Rhabdothamnus solandri* voted 2019 Favourite Plant; 2019 ASBS – NZPCN Joint Conference – *Taxonomy for Conservation* – post-conference summary & call for additional reports.
• <http://www.nzpcn.org.nz/newsletter>
• *NZ Plant Conservation Network, c/- 160 Wilton Rd, Wilton, WN 6012.* www.nzpcn.org.nz
• *News items or event information to:* events@nzpcn.org.nz
6. **NZ Botanical Society.** 138 12/19. *Pittosporum colensoi*; President's speech re Allan Mere Award to Rodney Lewington (1935-2018); regional botanical societies' news; Loder Cup 2019 awarded to Chris Horne; dispersal of seeds of whau / *Entelea arborescens*; Chilean plants in Auckland Museum; biographical sketch - Greta Bernander-Du Reitz; *Seaweeds of Auckland* by Mike Wilcox; *Lichens of NZ – An Introductory Illustrated Guide.* Allison Knight. 2019 reprint with updated names; etc. 139 3/20: *Carex pterocarpa*; Call for nominations for Allan Mere Award 2020; financial statement to 31.12.19; regional botanical societies' news; launch of *Seeds of NZ monocotyledons*, Colin Webb; plants from NZ named by N.S. Turczaninov and a note on collector W Stephenson; *White-flowered myrtles: An overview of white-flowered myrtaceous trees & shrubs native or cultivated in NZ.* Elizabeth Miller: biographical sketch – Hugh McCutcheon Spencer (1905–1981), etc.
• *Ewen Cameron, Secretary, NZ Botanical Society, c/- Canterbury Museum, Rolleston Avenue, CH 8013.*
7. **Auckland Botanical Society.** Journal Vol 74(2) 12/19: Sir Joseph Banks and his Florilegium. – Lucy Cranwell Lecture 14.4.19; new fern records on Aotea / Great Barrier Island; giant pākaurōharōha / gully fern / *Pneumatopteris pennigera*; etc.
• *ABS, Box 26391, Epsom, AK 1344.* <https://sites.google.com/site/aucklandbotanicalsociety/>
- 8a. **Canterbury Botanical Society.** Journal 50, 2019: Role of mycorrhizal fungi in plant invasions; vegetation change in Branch River; NZ Wilding Conifer Group; role of botanic gardens to mitigate impact of Invasive Alien Species; what do we do with Canterbury's weeds?; crowd-sourcing the discovery of new plant naturalisations in Canterbury using iNaturalist NZ; Chilean mayten – increasingly invasive tree in Canterbury; the fern *Polypodium vulgare* as a weed in Canterbury.
- 8b. **Canterbury Botanical Society.** 4/20: Acheron River - trip report; etc.
• *Box 8212, Riccarton, CH 8440.*
info@canterburybotanicalsociety.org.nz
• <http://www.canterburybotanicalsociety.org.nz/>
9. **Nelson Botanical Society.** 3/20: Programme, etc.
• *Nelson Bot Soc. newsletter, Mar 2020.pdf*
10. **Ōtari-Wilton's Bush Trust.** 3/20: Chairman's and manager's reports; sub-Antarctic islands visit; Mahood Lowe Wetland Forest Reserve, Taranaki – visit; *Carex wakatipu*, etc.
• www.owbt.nz
11. **Forest & Bird – Te Reo o Te Taiao.** 375 autumn/20: Offsetting emissions; NZ Game Animal Council needed?; genetic modification for pest control?; miner fined; data gaps in e-reporting; National Policy Statement for Indigenous Biodiversity; Foulden Maar; how do we perceive nature?; Margaret Atwood's visit; policies for the planet - re general election; lizards; hedgehogs are pests; carbon footprint; coal mining's impacts; 1000-year-old Rātānui in Bushy Park; threat of wildfires; pest-animal control on Waiheke Island; putting nature before economy; kaumatua Kevin Prime of Motatou, Northland; eels; wasp control; caring for sand dunes; ethical investing; tourism's impact on nature; eco-tourism; ghost fishing; etc.
• *Forest & Bird Protection Society, Box 631, WN 6011.* www.forestandbird.org.nz
12. **Wellington Branch News.** 3/20: 2019 AGM forum discussion; "Wild Wednesdays"; Chartwell Bush news; Wainuiomata Nursery; plant pests; "Places for Penguins"; Tanera Gully project; submissions; etc.
• *Wellington Branch Forest & Bird, Mail Chimp, wellington.branch@forestandbird.org.nz*
13. **Friends of Wellington Botanic Garden.** 3/20: Rewi Elliot is now Manager, Wellington Botanic Gardens; links with Victoria University; seeking a sterile cultivar of weedy agapanthus; *Nurseries in the Wellington Botanic Garden.* Tomlinson, P, Duthie, D, Cook, W: bird species study in WBG; etc.
• <http://www.friendswbg.org.nz/nomenu/2020/newslettermarch20.pdf>
14. **Friends of Tawa Bush Reserves.** 4/20: Plant propagation units; karaka – friend or foe?; NZ passion flower / kōhia; supplejack / kareao; germination rates of pigeonwood / porokaiwhiri; etc.
• secretary@tawabush.org.nz

15. **Gorge Gazette.** 46 3/20: killing karaka; water-quality studies in Ngaio Gorge, etc.
 - *Gorge Gazette 46 Mar 2020.pdf*. Peter Reimann, Trelissick Park Group
<https://www.facebook.com/TrelissickParkGroup>.
<http://www.trelissickpark.org.nz/>
 04 938 9602.
16. **Pipipi.** 50 11/19: Maurice White (1923-2019) who set up the M. White Conservation Trust to fund the purchase of land for conservation purposes; Hinewai Reserve now has link to the sea; pernicious push for pines; *Fools and Dreamers* – 30-minute documentary – view it on YouTube; controlling gorse & broom; electric quad-bike useful; some native plants have female and male parts on separate plants; etc.
 - *Hinewai Reserve, 632 Long Bay Rd, RD3, Akaroa 7583.*
Donations welcome to Maurice White Native Forest Trust by cheque or direct credit to BNZ Akaroa 02 0832 0044225 00.
17. **Monarch Butterfly NZ Trust.** Autumn newsletter.
 - <https://www.monarch.org.nz/wp-content/uploads/2020/03/32-Autumn-with-hyperlinks-20200316.pdf>
18. **Wellington Natural Heritage Trust.**
 - www.naturespace.org.nz/groups/wellington-natural-heritage-trust
19. **Willdenowia – Annals of the Botanic Garden & Botanical Museum Berlin.** 49-3 12/19: Taxonomy of the Americas – neotropical species of the *Adiantum raddianum*; etc.
 - <https://bioone.org/journals/willdenowia>

SUBMISSIONS CALLED FOR

- **Draft Parks Network Plan.** GWRC says consultation on it is behind schedule. Check GWRC web site and public notices in *The Dominion Post*, *Wairarapa Times Age* and *Kāpi-Mana News*.

SUBMISSIONS MADE

Draft National Policy Statement for Indigenous Biodiversity

Two major Government initiatives to protect more indigenous biodiversity have been underway for some time, so it will be interesting to see if both will be completed before 6 August 2020, Parliament's last sitting day before the 2020 election. Back in 2017, the Draft Threatened Species Strategy didn't get through Cabinet before serious electioneering began so became a victim of the change in government.

The 30-year non-statutory New Zealand Biodiversity Strategy (NZBS) being led by the Minister of Conservation is the more advanced of the two initiatives. We submitted on a discussion document about the NZBS in September 2019. The final version is expected to include aspects of Government's response to the Waitangi Tribunal's 2011 report on WAI 262.

In mid-March 2020, we submitted on a draft National Policy Statement for Indigenous Biodiversity (NPSIB). This statutory document under the RMA will place new obligations on councils, including the responsibility to identify significant natural areas (SNAs) on private land. A Biodiversity Collaborative Group (of stakeholders) released the first draft of the NPSIB in October 2018. It then took

officials another year to produce the 45-page draft NPSIB and several associated reports including a Regulatory Impact Statement (RIS). The RIS defined the problem the NPSIB was intended to solve as follows: *Provisions addressing indigenous biodiversity protection under the Resource Management Act 1991 (RMA) are unclear and therefore subject to different interpretation, application and monitoring by councils. This has led to repeat litigation costs, confusion and uncertainty, an undervaluing of biodiversity in decision-making and inadequate regulatory protection contributing to indigenous biodiversity loss.* The NPSIB process is being led by Hon Nanaia Mahuta in her role as Associate Minister for the Environment, and there are still some contentious issues for Cabinet to resolve.

In the public consultation process on the draft NPSIB, the Ministry for the Environment (MfE) sought answers, with reasons, to 62 questions. We answered 26 of them, but also asked MfE to clarify other matters which made it difficult to understand how the NPSIB will fit into the wider jigsaw of legislative, statutory and non-statutory documents with implications for indigenous biodiversity.

Clarity of terminology

We told MfE that the draft NPSIB will need a much clearer glossary if it is to minimise the number of different interpretations. As one example, the NPSIB says the maintenance of indigenous biodiversity may also require 'restoration', but the only relevant term in the glossary is "reconstruction". We've asked MfE to define and describe other approaches to restoration, e.g., revegetation, regeneration, and translocation using the definitions from Wellington City Council's (WCC) biodiversity strategy *Our Natural Capital 2015*.

In some sections, 'restoration' is linked to 'enhancement'. For example, the focus of the proposed regional biodiversity strategies is 'landscape-scale restoration and enhancement'. 'Landscape-scale' is not defined, but appears to signal a preference for projects that cover larger geographical areas. An objective indicates that 'enhancement' relates to '[enhancing] the ecological integrity of ecosystems'. We pointed out that there is no reference to site-specific species protection initiatives such as work Robyn Smith has been doing for many years, and is still doing to protect populations of *Leptinella nana* at Titahi Bay.

We recommended removing the statutory requirement for regional biodiversity strategies to be prepared according to a prescriptive list in an appendix of the NPSIB in favour of including them as non-statutory documents under the NZBS. WCC's *Our Natural Capital 2015* is an excellent example of what is possible when communities and a city council work together to develop an integrated biodiversity strategy and action plan.

Protecting indigenous biodiversity on private land

If approved, the NPSIB will require all councils to identify and map all Significant Natural Areas (SNAs) within 5 years. Debates about the criteria for identifying SNAs continue. One argument is that SNAs should include only the most iconic and valued indigenous biodiversity, and that any widening of the criteria should be opposed. We supported the criteria in the draft which include areas that provide habitat for an indigenous species that is listed as Threatened or At Risk in the lists of the *New Zealand*

Threatened Classification System (NZTCS). The most recent NZTCS reports show that about 4,000 species of plants and animals are threatened or at risk of extinction. It seems that neither the NZBS nor the NPSIB are likely to include any targets for reducing that figure. Without any targets, it will be hard to know what progress is being made.

If local and/or regional councils are going to demonstrate their effectiveness in maintaining the indigenous biodiversity for which they are responsible, they will require local or regional lists of species and ecosystems in their areas, particularly the rare and threatened taxa and ecosystems. The Greater Wellington Regional Council, aided by many local botanists, has already made major progress towards developing its lists. If other councils are going to be helped to develop these lists, funding for a national portal will be essential.

Councils also have to decide whether to rate each SNA as High or Medium. It seems medium SNAs may be at more risk from new activities than those protecting iconic species.

SNAs on Crown land?

There is still a possibility that the Minister may advise Cabinet to require councils to identify SNAs on Crown land (e.g., national parks, reserves, conservation areas and defence land) as well as private land. We can see no rationale for, or benefits of this option; only risks that it may make it easier for Crown land to be taken for 'nationally significant infrastructure'.

Hutia te Rito

The dNPSIB refers to Hutia te Rito as the framework for achieving an integrated and holistic approach to maintaining indigenous biodiversity. This concept requires territorial authorities to recognise and provide for three interrelationships, the interrelationship between the health of the people and the health of indigenous biodiversity, the health of species and ecosystems that are taonga, and the health of the wider environment. This presents a very different picture from the three elements of integrated management that the draft NPSIB requires of local authorities, i.e., from mountains to the sea, across administrative boundaries, and with the requirements of other legislation. Narrowing the gap between these two ways of thinking about integration will be a significant challenge during implementation.

Another challenge will be to assist all parties to acquire a deeper understanding of indigenous species, their biotic and abiotic needs, and the ecological processes in terrestrial, aquatic and marine ecosystems.

Sustainable customary harvest

The draft NPSIB allows the sustainable customary use of indigenous vegetation, but not indigenous fauna. But there is no policy guidance on how the sustainable customary use of indigenous vegetation is to be determined or monitored. It may be that exercising kaitiakitanga may include the right for each iwi/hapū to determine what use of each species is customary in their rohe, and what levels of use are sustainable. We suggested adding the words 'indigenous fauna' after the words 'indigenous flora' as a way of increasing the focus on how the sustainable customary use provisions for different species of plants and animals will be implemented.

Reversing the decline of New Zealand's indigenous plant species

The objectives and policies in the draft NPSIB are very 'generic'. They don't seem to recognise that protecting or increasing wild populations of species as different as kakabeak, kidney fern, kauri, kauri snails and kea may require very different levels and combinations of knowledge, skills and resources.

In the final section of our submission, we focused on plants:

Almost 10% of NZ's vascular plants are in a worse state in 2017 than they were in 2012.

The Wildlife Act (1953) gives much more protection to most species of animals than the Native Plants Protection Act 1934 (NPPA) gives to plants outside of public conservation land. It's time to consider either reviewing the NPPA or strengthening the protection under the NPSIB for plants on land of any tenure that need additional protection.

Where the gene pool of a population is limited, it may be possible to increase the resilience of the population to diseases or climate change by introducing some plants from genetically different populations of the same species. Where the gene pool of a population is diverse, plantings should be representative of the local population (ecosouring).

Several botanic gardens are already developing new skills in plant propagation and establishing ex-situ populations. Staff at Ōtari-Wilton's Bush are also developing new techniques for saving the seeds of taxa that can't be stored in 'ordinary' seed banks. Target 8 of the current Global Strategy for Plant Conservation signalled an increasingly important role for ex-situ collections because it won't be possible to save all plants in their natural habitats.

Effectiveness review

We disagreed with MfE's proposal that MfE should conduct the first review of the NPSIB 10 years after it is gazetted and release a report. We suggested that Government invite the Parliamentary Commissioner for the Environment to do a preliminary review within five years to provide an independent evaluation of the contribution of all councils, other agencies, tangata whenua, landowners and communities to the maintenance of indigenous biodiversity.

Overall

In our answer to MfE's first question, we agreed that a NPSIB is needed to strengthen the requirements for protecting indigenous biodiversity under the RMA. We remain optimistic that our detailed submission will result in some improvements to the draft, but as it is now 10 years since we submitted on an earlier version, it's probably time to appreciate the gains this NPSIB may deliver.

*Bev Abbott,
Submissions Coordinator*

Jubilee Award 2020—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 kateljordan@gmail.com, by **6 September 2020**.

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

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

Selection

The Award will be made to one or more applicants selected by a subcommittee nominated by the general committee of Wellington Botanical Society. Award(s) will be made and applicants informed of the results in writing, by 6 October 2020.

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.

Eleanor Burton

Grant to Graduate Students—Applications sought

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 2020**.

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.
- Your course of study.
- The nature and aim of your research project.
- The name of your supervisor for this project
- The budget for your project.
- The expenses that the grant is proposed to cover.

You will be advised of the results of your application by **6 October 2020**.

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.

Eleanor Burton

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

QEII National Trust

Lower North Island covenant update

QEII National Trust is an independent charitable trust that partners with private landowners to protect natural and cultural heritage sites on their land. Landowners retain ownership of their property and special areas are protected with legally binding agreements called covenants, which remain on the land title forever.

As of March 2020, QEII has a total of 4,702 registered covenants protecting 177,203 hectares throughout New Zealand.

Since 1 September 2019, QEII has registered nine covenants to protect 74 ha in the lower North Island. All of these include modified primary forest and at least one At Risk or Threatened species. All nine new covenants meet at least one of the national priorities for protecting rare and threatened species on private land.

Since 1 September 2019, QEII has also approved a further six covenants, protecting an additional 38 hectares. These areas are being fenced and will be registered in due course.

Funding assistance

When approving a covenant, QEII can assist with fencing costs and provides establishment funding. This is most often used for weed and/or pest control. QEII also encourages landowners with registered covenants to apply to their contestable Stephenson Fund—set up by QEII to support covenant enhancement and management. Over five previous funding rounds, \$23,000 has been awarded for weed and pest control and restoration work in four lower North Island covenants.

Lower North Island covenants have also received support for fencing and weed and pest control from Greater Wellington Regional Council and Horizons Regional Council.

Pest and weed control

QEII covenants in the Wellington and Wairarapa region have been dealing with several pest and weed control concerns, with rabbits and water parsnip continuing to be major problems. Rabbits can ring-bark and nibble podocarp seedlings at ground level and burrow under tree-root systems and their presence is thought to have been exacerbated by regular pest control dealing with natural rabbit predators such as cats, ferrets and weasels.

Weed control work in Taupō Swamp has continued, with grey willow control in the southern end approximately 30% complete. Several covenantors have been equipped

with Envirottools rat and possum traps to encourage continued pest control in the area. QEII has been assisting with controlling massive number of weed trees and dealing with a serious ivy infestation in a newly registered 12 ha covenant.

Our local reps have been involved in planting out spaces following weed control with site-appropriate eco-sourced native species, rather than just weed control alone. Our reps have also sourced, grown and planted 200 *Olearia gardneri*, forty *Coprosma obconica* and approximately sixty *Coprosma wallii* plants into QEII covenants, reducing the risk to original populations.

New protection in Wainuiomata

A notable new QEII covenant is a 38-ha bush block in Wainuiomata. Owned by David and Pauline Innes, it is one of the largest protected areas in the Wellington—Hutt Valley area. It is mainly in a SSW-facing gully system, with the headwaters of at least six small streams feeding into the main creek at the bottom.

The block includes 80-year-old regenerating bush, with large rimu and beech trees that were spared from historic felling. The higher levels are mostly stunted kāmahi in high density with luxuriant growth of numerous species. Of note are relict rimu, tōtara, miro and large black beech, with abundant kiekie / *Freyinetia banksii* on the wet gully floor and lower levels.

David and Pauline and their son Craig have shown great tenacity to see the protection of this area through to the stage of it now being fully fenced. Along with difficult contours to fence, and obstacles from neighbours, there was also a hefty price to fence the area. Fencing is complete, and a methodical hunting programme to remove deer and pigs from the interior will follow. This will be the start of a comprehensive recovery of the vegetation followed by the fauna that will benefit.

Plans for further pest control for rats and possums will follow, all supported by the QEII Trust. Protection will encourage understorey growth, with the hope that species such as mistletoe and coprosma will flourish and help build local populations of bird species such as tūi, kererū, rifleman, falcons and tomtits.

Kalliana Kong
Senior Communications Advisor
QEII National Trust

Greetings from Ōtari

We have had some cooler autumnal mornings but no significant rain in sometime. We can see the shrubby understorey plants like kawakawa, rangiora and karamū beginning to wilt in the dry forest. The good news is that the MetService predicts showers any day.

Talking of dry habitats, the team will soon be doing field work in the Wairarapa alongside Tony Silbery and Pat Enright. In partnership with DOC, we'll visit remnant *Muehlenbeckia astonii* sites around Palliser Bay and the Ruamāhanga. The aim is to get plant and site information, GPS, vegetative cuttings and we hope some seed to test viability back at the Ōtari Lab. More plants will be grown at Ōtari to be used for restoration by community groups and iwi in the Palliser Bay area. Also, this year the GWRC found a single plant of *Olearia gardneri* growing inside one of



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call the 24-hour conservation emergency helpline
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

their vegetation survey plots near Gladstone. The site is not far from the planting of over one hundred plants Ōtari staff completed with Trevor Thompson of QEII Trust last year in a covenanted river valley. We got a small amount of seed from the GWRC tree that proved to have very low viability in the Ōtari Lab. We have sown this and now hope for the best.

More news just in from the Ōtari Lab and Karin Van der Walt in her own words... "We had a successful *Syzygium maire* / swamp maire seed collection trip to Taranaki in early March. There is a good quantity of seed again this year despite the drier than usual conditions. This collection will be used to do detailed research into the mechanisms triggering the lack of survival during cryopreservation by analysing cellular structure using Transmission Electron Microscopy (TEM) while biochemical analysis indicate the extent of metabolism-linked damage inflicted at each step of the cryopreservation process. Plant and Food Research (Palmerston North) has also provided access to their equipment to use Differential Scanning Calorimetry to understand the thermal properties of the water in the embryos. This information will enable us to tailor those steps in the cryopreservation process inflicting the most damage. At the same time I am looking at initiating cryopreservation of the plumules, which is an alternative to using the entire embryo of *S. maire*".

"Work is intensifying again on *Dactylanthus taylorii* / pua ō te Reinga / wood rose. Germination is very tricky due to the parasitic nature and also complicated dormancy issues. We are investigating options of breaking dormancy using Gibberellic Acid and also excising embryos from the seed and then growing them in special media types. This will provide us with valuable information regarding what type of dormancy the seeds have and how we can go about breaking this. Ōtari, Zealandia and DOC will be collaborating to collect seed in June from Pureora Forest. The main purpose of this seed will be to establish seeding plots at Ōtari and Zealandia to serve as back-up germplasm

collections and also as a seed source for future research work. We anticipate that this is the first step in a long-term project."

Ōtari's apprentice, Louis, and I visited Percy Scenic Reserve enjoyed seeing the new glasshouses still being developed. They have put much thought into creating optimum conditions for growing alpine plants. I took many notes, because we plan to develop our own alpine house for cultivating and displaying to the public our alpine collection. Much of our collection came through BotSoccers Tony Druce, Arnold Dench and Percy Scenic Reserve. I would also like to say how good the gardens looked, especially the establishing wetland. We shall also be splitting our collection of *Celmisia* 'mangaweka' with Percy Scenic Reserve. All our plants are divisions from the last plant growing in the wild, collected by the team and DOC in 2015, when bank erosion threatened to finally wipe out the last plant.

Further developments have happened on the Alpine Garden with more planned for this winter. We shall replant the Alpine Tarn, featuring many plants collected by Eleanor Burton during BotSoc's Ōtago trip in 2019. The team will do more track repairs over autumn / winter, mainly the Blue Trail going uphill from the rimu platform. The platform is complete, and there are discussions about naming the tree that for 50 years has been called the 800-year-old rimu. Watch this space....

Finn Michalak, Manager, Ōtari Native Botanic Garden and
Wilton's Bush Reserve

Ph 04 475 3245, mobile 027 803 0045, finn.michalak@wcc.govt.nz
Web Wellington.govt.nz

Percy Scenic Reserve news

It's been a hot, dry summer, with many plants suffering. Most of the veronicas have struggled, off-colour and with drooping leaves. They always seem to be the first to start struggling. We have had a bumper year with other flowering plants though, with many producing huge numbers of flowers.

We have been potting on our propagated plants from over the past three years, with the older plants going in to the collection, or in to the stand-out area for planting out. The plants from the last two years have been potted on in to larger pots. The latest batches of cuttings and seedlings are being potted up in to small pots.

We have added to the alpine collection *Carmichaelia monroi* and *C. crassicaulis* collected from Foggy Peak in 2018, and *Celmisia dallii*, *C. traversii* and *Lachnagrostis lyallii* collected from Arthur's Pass in 2017, amongst others.

The alpine collection has been reasonably free of pests and diseases this year, with the odd aphid or mealy-bug attack. Recently though, since midsummer, as usual at this time of year, we have had many more problems with mealy bug which we control with Confidor. In recent weeks, since the start of autumn, we have had many mildew problems, especially on our ranunculus. We control this with Supershield. We have been re-potting some of the alpine collection, dividing some in the process.

Our new glasshouses are up now, with electricity and fans etc., functioning. We are waiting for new benches to be installed.

Cliff Keilty, Gardener

DOC Wellington Visitor Centre

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

Conservation House,
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- Track, hut, conservation information
- Kapiti Island visitor permits
- Hut tickets, backcountry hut passes
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New Zealand Government

Department of
Conservation
Te Papa Atawhai

Baring Head / Ōrua pouanui

Much has happened at Baring Head since my last article six months ago.

The 2019 planting season was a mixed bag. While the Million Metres on-line crowd-funding campaign went very well and we received more than our target amount, our main supplier had propagation problems but didn't tell us until the week before the scheduled delivery date. Thus we had to scratch around for alternative plants. Although the number planted was below what we had hoped, we were able to carry over substantial funds to the forthcoming season.

We are now fund-raising through Million Metres so we can plant over 7,500 plants along the river and on its associated flood-plain. Plantings will be intensive close to the river to stabilise the banks and provide shade. Further away the lower river flats will be planted in nodes of c. 200-400 plants to suppress rank grass and provide micro-habitats to encourage natural regeneration. We will concentrate on *Myoporum laetum* / ngaio, *Phormium tenax* / harakeke and *Austroderia toetoe* / toetoe for most plantings. Over time, we intend to add secondary species, if necessary, when suitable habitats have been created, to complement the natural regeneration. Bulk planting of over 400,000 plants on the river flats would be a big task, given our resources, and relying mainly on natural processes is a far better option. Our focus is to reduce grass dominance to allow regeneration, and reduce fire risk.

Hares are a real problem at Baring Head. To reduce their impact and allow a wider range of species to be planted, we will do hare control and build some experimental large enclosures. Night shooting of hares was trialled in 2018 and was successful in reducing numbers and predation pressure. It also confirmed the high numbers present. Using hare-excluders around individual plants has been successful, but is expensive, the protectors are hard to maintain in the windy environment, and they make plant care more difficult. This year we will be trialling hare-proof enclosures that would contain about twenty plants each. That would allow small patches of mixed species to be created. Given significant after-care by volunteers (mulch, fertiliser, possibly watering in summer), we hope that growth will be sufficient to allow the fence to be moved to a new site after 2-3 years.

On the coast things are going well. Marram is pretty much gone and spinifex and pīngao spreading. Raoulia is gradually expanding, although individual plants often suffer sudden die-back. *Poa billardieri* populations are expanding well. Horned poppy has been almost eradicated from most sites, and seed production stopped across the whole area. Regional Council spraying and volunteer hand-pulling and cutting are making inroads into the lupins. Spraying is also reducing the numbers of woody weeds such as gorse and boxthorn.

We were lucky enough to be awarded a DOC Community Grant late last year, after a heavily over-subscribed application round. Of interest to BotSoc members, this will enable us to:

1. Employ professional abseilers to continue eradicating karo and *Aloe arborescens* from the coastal escarpment
2. Shoot goats which have the potential to cause serious damage to coastal escarpment ecosystem

3. Erect a fence around a gully on the south coast that contains a small stream. That would ensure protection from stock trampling the best example of small-stream habitat at Baring Head. The stream runs from the lighthouse terrace over the escarpment as a waterfall, through a narrow gully, and then disappears into the ground on the back terraces of the beach. While it is affected by deforestation and grazing on the lighthouse terrace and that part of the stream dries out in summer, the lower part of the stream has been protected by steep sides and ongaonga, and generally has some seep moisture even when it is not running. It is known to have invertebrates such as forest dragonflies breeding in the seepages, suggesting significant stream health. Fencing is an essential first step to allow vegetation to be restored and other work done. It will prevent pugging of seepage habitat.
4. The Regional Council and the Friends are jointly engaging Matt Ward to survey and expand populations of rare plants. Work so far has focused on a number of terrestrial species, such as *Brachyglottis greyii* and *Metrosideros perforata*. The DOC funding will enable us to target a wider range of plants, including riverine turf species and coastal species, such as *Crassula kirkii* and *Pimelea* spp.

All this, and more, will be happening over the next six months. Once the 'lock-down' is lifted we would welcome involvement in the botanical work by the Society or members. We have accommodation to allow overnight trips. And, of course, any donation you may like to make will be put to good use.

Colin Ryder, Treasurer
Friends of Baring Head
rydercj@xtra.co.nz

Greater Wellington Regional Council Biosecurity

Pest plants

Over the summer season, Greater Wellington Regional Council's Pest Plants team have worked in Key Native Ecosystems (KNE) throughout the region, controlling a variety of weed species. This work is part of the management plans for each site, and ultimately assists in the restoration and robustness of native biodiversity at these sites. They have done aerial operations to control old man's beard / *Clematis vitalba* in the Wairarapa; boneseed / *Chrysanthemoides monilifera* subsp. *monilifera* and old man's beard (in conjunction with WCC) on Wellington's south coast and manchurian wild rice / *Zizania latifolia* in Waikanae. We used a drone to control boneseed on a cliff face south of Titahi bay. We controlled Chilean rhubarb / *Gunnera tinctoria* along the lower reaches of the Tauherenikau River. Biosecurity Officers have done many delimiting surveys throughout the region for woolly nightshade / *Solanum mauritianum*, moth plant / *Araujia hortorum*, senegal tea / *Gymnocoronis spilanthoides*, blue passionflower / *Passiflora caerulea* and purple loosestrife / *Lythrum salicaria*. Approximately 3,000ha has been intensively surveyed this year so far. The Proposed Natural Resources Plan (PNRP) has affected the information we provided to the public regarding weed clearance naer

streams, wetlands and waterways. Until the PNRP is fully adopted we have to work under the rules of both the older Regional Air Quality Management Plan and the newer PNRP.

Pest animals

The Biosecurity Pest Animal team has been busy in the region's various KNE sites over the last six months. A 1080 operation managed by GWRC's Bioworks department was done in late 2019 in the Wainuiomata water catchment. However, this had a lower impact on target pest animals than anticipated, prompting us to hand apply Striker rat baits through the entire Mainland Island.

We also did a mast response (Striker rat baits again) in East Harbour Regional Park. This was prompted by an increase in rat tracking in an extra monitor. Possum control programmes continue to keep possums at low density throughout our KNE sites. Regional Council managed areas have continued with ungulate control over summer.

Both of our GWRC Biosecurity department's teams (Pest Animals and Pest Plants) contributed to the above text.

*Katrina Merrifield, Biosecurity Advisor (Policy), Kaiwhakahaere
rerenga rauropi
Greater Wellington Regional Council - Te Pane Matua Taiao
1056 Fergusson Drive, PO Box 40847, Upper Hutt 5140
M: 021 417 739
www.gw.govt.nz*

To plant or not to plant

I often get asked "what should I plant in this reserve?" As the restoration advisor for Wellington City Council I assist as best as I can. The answer is not straight forward. Several questions relate to which reserve, its stage of growth, type of planting, who is planting - the questions are many.

One of the key questions is what plant species? To research this question I have looked at plant lists for various parts of the city's reserve network. For instance, Miramar has the original plant list by John Buchanan, 1872. Once this is updated with current plant names it provides a basis for answering which species. Was this really a definitive list? I suggest probably not as the area had been well disturbed before this list was written. Buchanan wrote *Art. XLVI – List of Plants found on Miramar Peninsula, Wellington Harbour, 25th September 1872:*

"The bush, which has no doubt at a very recent period covered the greater part of the hills, is now confined to a few gullies in the northern portion of the peninsula. Several of the following species are few in numbers, and none are large timber trees."

He then went on to note the existence of tōtara stumps, assuming they had been used in Maupuia Pā. Of course major disturbances from land clearance, burning, followed by farming, a large earthquake, draining the swamp area, roads, houses and other infrastructure have left only tiny remnants on Te Motu Kairangi.

Te Motu Kairangi restoration group have also researched the plant lists and explored the area extensively. They found the odd remnant tree, e.g., hīnau, kāmahi, kohekohe, along with an area of kiekie and supplejack. They noted the plant lists written by Wellington Botanical Society. Is this what should form the basis of what should be planted?

"*An Inventory of the surviving Traces of the Primary Forest of Wellington City*", was compiled for WCC by Geoff Park, Feb. 1999. This is comprehensive look across Wellington City identified any little traces of vegetation. He used the technology available at the time, studying the 1996 orthogonal aerial photo-maps and ground-truthing as many of the sites as possible. He developed criteria for what was to be included as primary forest based on inland and coastal sites, with a list of particular species indicating their absence or presence. Having read this document and compiled many smaller plant lists for areas across Wellington I have learnt what species should be planted in each reserve.

The "go to" list for many people has been the *Wellington Regional Native Plant Guide*, divided into ecological zones. Looking at this list there are several problems. Taken literally, one should be planting e.g., *Hebe elliptica* var. *crassifolia*, leafless lawyer, leafless clematis and various other species around all rocky foreshores. For the lay person who doesn't know the distribution of these species in Wellington, you would assume this is correct information. Again this is based on an assumption that the species were wide-spread in Wellington and the little relic populations of the above species once covered a much larger area. So who is correct?

Since the removal of most of Wellington's original forest, followed by farming and housing and, the establishment of the Town Belt and Outer Green Belt, we are left with small traces of forest, large tracts of pine and macrocarpa and about 100 years of māhoe regeneration in the areas set aside as reserve or in gullies that were too hard to farm or build on. Along with the regeneration and exotic forests is a major infestation of weeds of every type, the climbers being amongst the worst or some would argue that it is Darwin's barberry.

About 25–30 years ago, the first of the community groups interested in restoring areas of the city started. Southern Environmental Association (SEA), Trelisick Park Group, Forest and Bird, Manawa Karioi among many others. If you look at the area that SEA is restoring in Tawatawa Reserve, they have been improving the coastal forest surrounding the existing remnant. The tiny remnant of existing wharangi, ngaio and kohekohe exists next to a highly disturbed area of landfill and grazing. SEA has a plant nursery along with a very strict eco-sourcing policy of only collecting within 5 km radius of the reserve. On the other side of the hill Manawa Karioi have been restoring the valley from primarily a gorse, blackberry and grass site. Very little opportunity of bird-distributed seed exists on this side of the hill. Is it appropriate to plant an area such as this with suitably eco-sourced plants? If left alone, the likelihood of the blackberry reverting to native forest would be extremely low. Gorse is not such a problem - it acts as a nursery crop, allowing the native plants to rise through it.

One valley in Polhill Reserve has shown blackberry growth on aerial photographs for twenty years with little sign of reversion to forest. Brooklyn Trail Builders organised for the area to be sprayed, cleared and planted. Within two years it closed over. The extensive growth at the site has been assisted by a good seed-source from the surrounding reserve, aided by planting by Brooklyn Trail Builders. Within Polhill, there is a continuous cover of

native vegetation, a good bird population but also many weeds. This is another reserve where the hillsides were logged and farmed with probably tiny remnants left in gullies. A long-time local resident recalls when the hillsides were all in grass with cows grazing them. Now, there is a continuous cover of mostly māhoe regenerating forest. Is this the time to add podocarp trees?

Very few tall emergent native species exist across Wellington, with some in Ōtari, Khandallah Park and other small remnants. Is this enough to support our increasing bird population? The only other tall trees are exotic trees, mostly pine and macrocarpa, filling the emergent tree role. The problem is the exotic forest in some places is becoming senescent. Is planting podocarps across the city into the reserves where there is little bird activity the right thing to do? Kererū and kākā are distributing seed, although kākā tend to destroy the seeds. Over time the spread of the trees will certainly happen and community groups and WCC are increasing this rate by planting through the reserve network.

Another question is about the species being correct for the site. An interesting plant to discuss is *Rhabdothermus solandri*. Known from two populations in the Wellington area, Battle Hill Farm Forest Park, not on WCC land, and a small population in Makara, which possibly no longer exists. This is an example of a plant that should probably not be planted within the reserves. We need a way to send the correct information to groups to stop the potential of planting this species in the wrong place. Would the plant spread? It is probably highly unlikely that this species would ever cause a problem if planted in the reserves as it doesn't spread. A case could be argued that it is providing an ex situ population helping to preserve the species regionally. Again if this is the reason for planting the species, then it should be documented and a restoration plan for increasing it implemented regionally.

Planting seedlings dug up from home gardens is another source of incorrect planting. Pseudopanax hybrids are often planted, also karo and *Hoheria populnea* / lacebark. These species, which do not occur naturally in the Wellington area, are well-established throughout the reserves. We must inform groups that these species are not welcome additions to the reserves. I strongly suggest to groups to plant only locally eco-sourced indigenous native plants, with most of the groups planting plants from WCC's Berhampore Nursery. There is an element of amenity planting in some areas, but as areas like Mt Victoria are already highly disturbed, full of pest weeds and bordered by suburban gardens, these areas will never be pristine. Protecting our precious remnants of bush, and not planting within these areas is far more important. Protecting the edges of remnants with buffer plantings for wind protection and reducing the weed pests and animal pests will in the long-

term be far more beneficial, e.g., the large tracts of land such as the Churton Park reserves, which are largely rank pasture in the Outer Green Belt which lack connectivity. I see major benefit in planting these deserts of grassland with restoration planting as a temporary cover of the land. Nature will eventually take over these areas and produce the next forest once birds spread seed into these areas and weeds are controlled.

Overall, the amount of valuable work that community groups and Wellington City Council organise in our reserves with pest-animal control, weed control and planting is seeing a return of the forests to Wellington. We are protecting what we already have and adding value to the existing forests. When approached by a new community group which wishes to plant in an area, we visit the site, advise on weed control, assist with plant choices and how to go about the project. Our Urban Ecology team and the Ranger team work together assisting the groups towards the correct outcome.

Coming soon is a far more detailed planting guide for Wellington City Council land, broken into types of ecosystem with plant lists. This will provide a more detailed guide to planting in Wellington and will be down-loadable from Wellington City Council's web site.

Anita Benbrook
Biodiversity Specialist – Plants
Wellington City Council

Wainuiwhenua project, Kāpiti Coast

We look forward to reporting progress to BotSoc in the months after the 'lock-down' ends.

Ken Fraser
Ngā Uru Ora
Ken is also a member of Wellington Botanical Society and
Tararua Tramping Club

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Lea Robertson, Treasurer

TRIP REPORTS

16-22 January 2020: Lonsdale Park Camp, Tai Tokerau – Northland

Map: NZTopo50-AV28 Whangaroa
The 2020 Wellington Botanical Society summer camp was held near Matauri Bay in Northland. Our base was Lonsdale Camp Outdoor Education Camp (www.lonsdalepark.org), an excellent facility, which included a QEII covenant full of interesting plants.

Our first night started with a fantastic welcome and introduction by Thomas and Robyn, who are tangata whenua for Whangaroa. It was Thomas's ancestors who donated Lonsdale Camp to the youth of Northland in 1963.

We managed to cram a variety of sites into our week of botanising: from gumlands to pristine kauri forest and weedy forest remnants. Thanks to Maureen Young, Bill Campbell and Andrew Townsend for joining all our trips—their local expert knowledge and guidance greatly improved our experience. It was also great to be led

by Brad Windust in Paihia, Barbara Parris in Kerikeri and Theresa and Matt at Berghan Point/Whakaangi. Seeing the huge amount of work they are doing towards conserving our forests was very inspirational!

Thanks also to Bridie, caretaker at Lonsdale Park, for providing such a great facility for our stay, Rob and Patty Towl for keeping us very well fed with their wonderful catering, Richard Herbert for keeping track of the transport costs and Julia Stace who helped keep track of the food supplies. Thank you also to everyone who volunteered to write a trip report.

Lara Shepherd, Trip leader

We thank Lara for her organisational and leadership skills which made our summer camp a memorable experience.

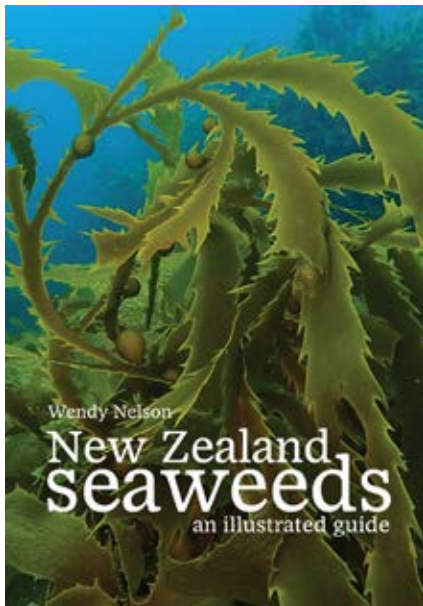
The participants

17.1.2020: Site 1. Lake Waiporohita

Map: NZTopo50-AU26 Waiharara
We travelled north from Kaeo through Mangonui and Cable Bay (Doubtless Bay) then turned right off SH 10 onto Inland Road and the Karikari Peninsula. We travelled north for 9 km, to reach Lake Waiporohita, one of only 12 dune lakes of this type in Northland.

The lake appears to be freshwater, but the number of estuary plants present suggest that it can be saline at times.

Bill Campbell, our local guide from Cable Bay gave us a plant list and Maureen Young of Warkworth (Auckland Botanical Society) spoke to us. Weeds of note were alligator weed (*Alternanthera philoxeroides*), a small sedge (*Cyperus polystachyos*) and montbretia (*Crocsmia × crocosmiflora*).



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What immediately struck me was the fine diversity of rushes and sedges. Most impressive was the sedge *Machaerina articulata* / jointed baumea with the segments more obvious on the dead stems.



A dainty *Machaerina juncea* with glaucous culms, each leaf along the culm tipped by a tiny sickle shaped mucro.

Another fine estuary sedge present, growing up to 2m was *Schoenoplectus tabernaemontani* / kuawa / lake club rush.



Schoenoplectus tabernaemontani / kuawa / lake club rush.

Some people paid close attention to much smaller plants down on the exposed pavement. A little further around the lake were the sedges *Eleocharis acuta* / spike sedge and the much larger *Eleocharis sphacelata* / kuta / tall spike sedge with internal partitions visible.

A fine morning's botanising, and a great start to the camp. As we bundled into the cars, we headed south again towards Lake Ōhia. Little did we know that we were being followed by the local guardians of Te Runanga ō Ngāti Kahu, but that's another story...

Jon Terry

17.1.2020: Site 2. Lake Ōhia

Our second stop on Karikari Peninsula was Lake Ōhia. A hot slog along a track overgrown with gorse eventually led us into the DOC reserve. Lake Ōhia is a gumland swamp and ephemeral lake with numerous threatened plant species.

The swampy edges of the track to the lake-bed revealed many treasures. Most showy was the large tongue orchid / *Cryptostylus subulata*, which is common in Australia but rare in NZ. We also saw *Spiranthes australis*, with its spiral of small pink flowers. The Nationally Vulnerable clubmoss *Lycopodiella serpentina* was conveniently growing beside the more common *L. lateralis*, allowing us to compare the characters that differentiate the two species.

Further into the reserve we were surprised to find the lake-bed completely dry with preserved kauri stumps exposed—these have been dated to 30 000 to 40 000 years old. Andrew and Bill had seen the lake-bed underwater in November. Had the water been released from the weir? The lack of open water meant we didn't see the Nationally Critical bladderwort *Utricularia australis* but we did see its exotic relative *U. gibba*.

While some of our group returned to the cars, others searched for the Nationally Endangered sedge *Schoenus carsei*. It was very difficult to distinguish from the surrounding sedges but Bill managed to locate a few plants.

Lara Shepherd

18.1.2020: Berghan Point / Te Whatu – QEII Covenant

Map: NZTopo50-AU27 Mangonui
A day of two parts

Part 1

Theresa and Matthew met us at the start of the private access road to their land. A short drive later, and after a brief unscheduled stop to admire the ferns *Loxsonia cunninghamii* and *Sticherus flabellatus*, neither found in our local area/s, we were out of the cars, over a gate and walking towards public conservation land on the flanks of the small maunga of Whakaangi. The red volcanic soil was very noticeable.



Loxsonia cunninghamii. Photo: Barbara Hammonds.

Some of the plants new to us yesterday reappeared, like the handsome *Dianella haemastica*, along with the weeds boneseed, gorse, *Aristea ecklonii* and *Hakea sericea*.

As we approached the PCL land we welcomed the shade from overarching forest trees and enjoyed the increasing diversity.

If we were confused about separating *Coprosma arborea* from *C. spathulata*, Maureen's handy identification tip is to check the backs of leaves—the former, especially on juvenile plants, are red. Another handy hint is how to distinguish between *C. macrocarpa* and *C. robusta*: run the leaf edge down your cheek—if it's smooth it's the former, if it's like sandpaper, it's the latter (although we weren't able to do the comparison because we didn't see *C. robusta*). And here's another tip, for *Meliclytus ramiflorus* and *M. macrophyllus*: leaves of the former have teeth almost down to the petiole while on the latter they stop well short (another comparison that had to wait for another day as we saw only *M. ramiflorus*). Another gem from Maureen is that *Cyathea dealbata* fronds in Northland are often green below, not white. We admired a plant of *Lygodium articulatum* displaying some of its distinctive fertile pinnae.

Soon after lunch we got the call to turn back. Taskmaster Leon had to be stern with one reluctant group (which included this author) keen to go further to see *Leionema nudum*. We had to make do with a small sample someone collected.

Part 2

By 1.30 p.m. we had all safely hurdled the gate and then drove on to Theresa and Matt's land on Berghan Point / Te Whatu) for the rest of our day. After some expert vehicle marshalling we were all parked and out of the cars.



Lygodium articulatum. Photo: Barbara Hammonds.

The views were wonderful: north to Surville Cliffs beyond Cape Karikari; below us, swirling seas; and to the east, a bay and headlands into the distance. Our hosts pointed out a line of grey on the headland across the bay: dead pōhutukawa killed by possums, in contrast to their regenerating bush, with healthy pōhutukawa thanks to possum control (by trapping).



Pōhutukawa killed by possums. Photo: Barbara Hammonds.

The land had been a pastoral farm until the late 1960s, with remnant forest in the gullies, and had been left to regenerate since then. It had likely been initially cleared by Māori 6–700 years ago.

An interesting find for me among the grasses on the open ridge was *Carex longibrachiata* (Australian sedge, introduced for grazing) with its distinctive groups of long thin culms.

After walking along the ridge

While waiting for everyone to arrive at the parking spot, we saw a pair of mating stick insects, one of several such pairs seen during the week.



towards the point, some of us went further with Theresa in an attempt to reach the headland. We were foiled by dense undergrowth. The more adventurous who headed down into the gullies did much botanising.

Apart from the brief stint in the undergrowth, or resting in small patches of shade, we were in blazing sun. The flat ridge dropped away steeply and was very exposed, with poor soils, as to be expected given

this area is known as Ranfurly Bay Scenic Reserve, managed by DOC. We entered it from the end of Campbell Rd near North Tōtara. Wairakau Stream Track is in Mangonui Forest.

After DOC's boot-cleaning station, a familiar procedure on our outings, we botanised up the clay road to the saddle and signposts, then into the valleys of Sherman Stream and lower Wairakau Stream to the fords and large pools. Several botanised as far as Lane Cove Hut. Some climbed the steep Kairara Rock / Dukes Nose. Conglomerate bluffs all around are andesitic fragmented rocks of the Wairakau Andesites.

The extreme dryness was evident, especially in the wilting leaves of the larger-leaved coprosmas. Canopy trees of kānuka / *Kunzea linearis*, tanekaha / *Phyllocladus trichomanoides*, tōwai / *Weinmannia silvicola* and rewarewa / *Knightia excelsa* towered above us, while below were common small shrubs, two species of gahnia and abundant ferns e.g., *Cyathea dealbata*, *Dicksonia squarrosa*, *Adiantum hispidulum*, *Diploblechnum fraseri*, *Lygodium articulatum* and *Sticherus flabellatus*. We were entertained by a California quail with chicks darting around. We listed kingfisher, grey warbler, waxeye, tomtit, and a fantail with white tail feathers. It was saddening to see smashed shell remains of *Paryphanta busbyi* / kauri snail dug up and devoured by pigs or rats.

We saw a few of the rare and at risk *Pseudopanax gilliesii*, endemic to the north side of Whangaroa Harbour, Northland and Hauturu / Little Barrier Island.

the topology. We were relieved to get back to the cars after our short adventure.

Barbara Hammonds

19.1.2020: Ranfurly Bay Scenic Reserve

Map: NZTopo50-AV28 Whangaroa
In the north-west arm of Whangaroa Harbour, Pekapeka Bay divides into several bays, the southernmost containing Lane Cove. Collectively,



Pseudopanax gilliesii. Illustration: Eleanor Burton.

Alseuosmia banksii, in the middle of its northern distribution, was plentiful along the clay path, with many plants fruiting, mostly green fruits and an occasional ripe red one. We listed *Melicytus macrophyllus* and toru / *Toronia toru*, typically showing reddish dying leaves.

On the track down to Wairakau Stream, we compared *Tmesipteris elongata*, *T. lanceolata* and *T. sigmatifolia* when we found all three close by. We also saw *T. tannensis*. We saw a huge pūriri with numerous moth holes, near a rock covered with bristle fern / *Trichomanes elongatum* and the bright green little succulent *Peperomia urvilleana*. At this point, we were delighted to see a thriving patch of the hydrangea-lookalike, the rare and threatened *Lobelia physaloides*, just above the stream. DOC's good pest control is evident.

At one point above the stream, we saw four *Astelia* spp: *A. banksii*, *A. solandri*, *A. hastata* and *A. trinerva* a few metres apart. We saw a *Bulbophyllum* sp. on a tanekaha trunk and other species that people noted in the lower stream area or hillside above the mangroves included the rare *Coprosma neglecta* with its orbicular leaves, *Melicope ternata*, and *Hymenophyllum flexuosum*. It was pleasing to see *Arthropodium cirratum* / rengarenga in its natural habitat, perched on the streamside conglomerate bluffs.

Michele Dickson

20.1.2020: Paihia School Road Track

Map: NZTopo50-AV28 Whangaroa

On this beautiful Northland sunny day, we were greeted by Brad Windust from Bay Bush Action at the start

of Paihia School Road Track. He described the pest, weed and animal controls here and the kiwi breeding success since trapping began. The possum residual-trap catch is now less than 2%, which is exceptional for this area. He explained the difficulty of weed control in the reserve because of the types of weeds found in the area and the lack of efficient methods. The plan for our group was to walk the track up to the lookout and return via a pest-control line.

The track began with a board walk through a small raupo / *Typha orientalis* wetland, with *Carex lessonii*, *C. solandri*, and an extensive cover of *Calystegia sepium* subsp. *roseata*, a native convolvulus often mistaken for an exotic species. The track then sidles on the true right slopes above the stream, through a forest of mature pūriri / *Vitex lucens*, tall tōtara / *Podocarpus totara* var. *totara* and rimu / *Dacrydium cupressinum*. There was a lot to botanise up the track in an understorey of abundant native seedlings and noticeable absence of exotic species. Dominant Northland species to note were *Weinmannia silvicola*, *Beilschmiedia tarairi* and *Coprosma arborea*, among the more widely distributed *Schefflera digitata* / patē, *Cyathea dealbata* / ponga, *Dodonaea viscosa* / akeake, *Brachyglottis repanda* / rangiora and *Knightia excelsa* / rewarewa. *Brachyglottis kirkii* var. *angustifolia* was also pleasingly abundant.

The track then enters an open forest of young kauri / *Agathis australis*, rimu, kāmuka / *Kunzea linearis*, with a ground-cover of *Lycopodium deuterodensum*, *Rytidosperma* species, *Gahnia setifolia*—covered with abundant orange seeds, and *Leucopogon fasciculatus*—some with very large glossy leaves. A ramarama-like *Alseuosmia* kept us all pondering—it was *A. banksii*. The large pale leaves of *Olearia furfuracea* stood out in this open habitat.

The group became quite spread out along the track with some being much slower than others. Most reached the lookout where the highlight was a dense cover of *Pittosporum pimeleoides*. Most of us returned via one of the trap lines, while a small group walked back down the track gathering the stragglers. Along the

trap line, *Leionema nudum* was the highlight for many BotSoccers, and its abundance and health was a particular highlight for Maureen Young and Andrew Townsend, our Northland botanists. We also saw an unusual stand of pure tanekaha (*Phyllocladus trichomanoides*).

At the car park, the group dispersed. Most returned to camp to botanise the surrounding bush remnant. Four of us—Darea Sherratt, Brenda Johnston, Owen Spearpoint and Pascale Michel—guided by Maureen Young, drove further up the road to botanise the Ōpua Kauri Walk. Our highlights on this walk were the seed capsules of *Pittosporum pimeleoides*, flowers of *Dracophyllum latifolium* and sporangia on the delicate *Schizaea dichotoma*. These species are typically associated with mature kauri forest. Other species we recorded included *Melicytus macrophyllus*, *Ackama rosifolia*, *Mida salicifolia* and *Toronia toru*.

In the afternoon a small group botanised the tōtara-dominant bush remnant at Lonsdale Park Camp. It was surprisingly diverse with many native species recorded. The highlight was finding a lone 4-m tall *Pseudopanax gilliesii* in fruit. There were 100 weed species present with climbing asparagus (*Asparagus scandens*) a particular problem.

We all enjoyed the day with exciting plant observations and positive impressions of the care being given to Paihia's forest.



Capsule on *Pittosporum pimeleoides*. Photo: Pascale Michel

Pascale Michel & Owen Spearpoint

21.1.2020: Puketi Scenic Reserve

Map: NZTopo50- AV28 Whangaroa
Puketi is an old growth forest inland from Kerikeri. We sampled the 21,000-ha forest at two locations. The first was the Mangianganga Kauri Walk, a calm cathedral of mature kauri and other swamp trees, with an incredibly diverse understorey. The 350-m board-walk impressed us, being beautifully-designed, well-constructed and wheel-chair accessible. Additionally, it helped prevent the spread of kauri dieback, while still allowing good views of the flora.

Advertised as a fifteen-minute walk, we spent two hours happily identifying plants. We had our first taste during our summer camp of old-growth kauri, with giants dotted along the boardwalk. Other notable sights included a *Dracophyllum latifolium* in full flower.

The second location was Puketi Nature Trail, about five minutes' drive away. After a thorough double-stop boot clean on stiff brushes then disinfectant spray, we descended into old-growth forest, with kauri, tōtara, rimu and other mature trees. *Syzygium maire* / maire tawake / swamp maire was also a highlight.

Already impressed with the kauri at Mangianganga, those at the Nature Trail were even more extraordinary in size and age. Lara observed that the kauri were old enough to have had moa rub against them!

We discussed the most reliable way to tell *Weinmannia silvicola* and *Ackama rosifolia* apart—the debate continues.

Alseuosmia banksii also caused us a challenge. It ranged from small upright shrubs to prostrate scramblers that seemed to be suckers. Other plants had a slight hint of blistering, similar to ramarama leaves.

The 'Fern-nantics' especially enjoyed the variety of ferns at both sites, with seven *Hymenophyllum* species, *Dicksonia lanata* subsp. *hispida* and *Schizaea dichotoma*.

Kate Jordan and Liam Townsend

22.1.2020: Kerikeri Valley tracks

Map: NZTopo50-AV29 Russell
Accompanied by Barbara Parris of Kerikeri Basin Weedbusters, Maureen Young from Auckland Botanical

Society and Bill Campbell, a local orchid enthusiast, we entered Kerikeri River Scenic Reserve opposite the historic Kemp House and Stone Store precinct. Barbara Parris, global fern specialist, after whom the *Blechnum parrisseae* is named, started a Weedbusters Group here in 2003, the very year that Weedbusters started in Australia and Aotearoa /NZ. They meet twice monthly to tackle weeds on a portion of this track. They also weed regularly on a cluster of nearby islands on other days. See *Further notes on the botany of some of the islands of Ipipiri (the Eastern Bay of Islands), northern New Zealand* in Auckland Botanical Society Journal Vol 70(2) December 2015.

It's very obvious where Weedbusters patrol. Beyond the old pump house the track is spectacularly weedy, some weeds familiar to Wellingtonians, some not. The worst weeds in the Basin are Taiwan cherry, monkey apple, loquat and jasmine. However there is no old man's beard here.

The group work on a steep, rocky slope, the face of an old lava flow. On the other side of the track a gentler slope goes to the river bank. Occasionally severe floods sweep huge logs down from Puketi Forest further up the catchment, wiping out old trees and new native growth. The last flood was 2007 and an even bigger one occurred in 1997.

Barbara explained that over 16 years her group has cleared huge areas of tradescantia, selaginella and kahili ginger, leaving the weeds to rot down in light-proof, moisture-proof, woven containers, on site. (Obtainable from Weedfree Trust info@weedfree.org.nz.) This has allowed native seedlings previously smothered to flourish and new seeds brought in by the big population of kererū and tūi to establish, creating an understorey without requiring any infill planting. Ferns also reappeared spontaneously on the rocky terrain once the weeds were eliminated. Our plant list from 2004 covered only native seed-bearing plants but on this day in 2020 we added an extensive list of ferns. Many of our group, being members of restoration groups in Wellington, spontaneously weeded as they walked. They quickly distinguished bangalow palm /

Archontophoenix cunninghamiana from nikau / *Rhopalostylis sapida* seedlings and removed them. Barbara counts the bangalow palms removed each session to record the effort being put in, which is useful for funding applications. Local gardeners are beginning to avoid planting the quick-growing bangalow palms and consequently nurseries are selling fewer of them. However she leaves Parramatta wattle / *Acacia parramattensis* standing although it was flowering copiously and no doubt seeding copiously, because it is useful here as a nitrogen fixer.



Removing bangalow palm seedlings. Photo: Julia Stace.

The recently upgraded track was very busy with tourists walking and locals jogging, under the broadleaf-podocarp canopy of kānuka and tōtara, kohekohe and pūriri, taraire and tawa. Flowering taurepo / *Rhabdothamnus solandri* occurred all along the track and there were patches of the quirky *Alseuosmia* to keep us guessing as to whether they were, or they weren't, *Alseuosmia*.

Trackside we got photos of the tradescantia beetle at work, nibbling away on the leaves, lurking at the growing point. This biological control occurs in Brazil where *Tradescantia fluminensis* originates. Although it was released in Wellington about ten years ago it hasn't become evident here yet.



A tradescantia beetle at work. Photo: Julia Stace

We crossed over the Kerikeri River on the bypass bridge and returned by the less developed South Side Track,

where we saw a large *Metrosideros albiflora* / large white rātā in bloom. Eventually we crossed back to the car-park via the foot bridge at the historic precinct after noting a pear tree planted in 1819 heavily in fruit there. Plant pears for your heirs, as the saying goes.

Maureen Young and Andrew Townsend had noticed an unusual ground-cover plant at the start of the track. A 20 m² patch with flowers also

occurs on this side of the river. Photos were put on to i-naturalist and a few hours later the plant was IDed by Jack Warden of Auckland BotSoc. as *Lobelia purpurescens*. What happens to it next remains to be decided...

Participants: Bev Abbott, Bill Campbell, Barbara Clark, Allegra Collins, Felix Collins, Gavin Dench, Michele Dickson, Marley Ford, Jenny Fraser, Julia Fraser, Ken Fraser, Bryan Halliday, Robin Halliday, Barbara

Hammonds, Jan Heine, Margaret Herbert, Richard Herbert, Chris Horne, Melissa Hutchison, Brenda Johnston, Kate Jordan, Allison Knight, Pascale Michel, Syd Moore, Leon Perrie, Darea Sherratt, Lara Shepherd (Leader), Barbara Simpson, Neill Simpson, Sunita Singh, Owen Spearpoint, Julia Stace, Jon Terry, Andrew Townsend, Liam Townsend, Sarah Wilcox, Maureen Young.

Julia Stace

7 March 2020: Makahuri, Te Horo

Several of us took the opportunity to travel by train to Waikanae, where we car-pooled and headed north to Te Horo. Drew MacKenzie met us at the gate of the former Marycrest Catholic Girls' High School and all 33 of us congregated in the chapel, a fine looking building. Some people had travelled down from Whanganui and Palmerston North. Drew and her partner Anthony Ryan bought the property three years ago having been won over by the two adjacent patches of original swamp forest including kahikatea, pukatea, tawa, kohekohe.

Pat Enright had visited in January and produced a species list to get us started. The first patch of forest had some splendid tall trees and a wetland area on the other side. It was easy to forget that we were so close to State Highway 1.

As usual my desire for the group to stick together for Health and Safety reasons had fallen on deaf ears, so the important social ritual of a group cup o' morning tea could not be observed. Small groups had scattered to the four winds. I could blame the youth of society for this shameful slide of moral values, but in the case of BotSoc, I can't. Luckily by lunchtime, some semblance of control had been re-established, and I could do a head-count. Only three were missing.

Later on in Patch 2, I was delighted to get a text from a new member to report that he had been botanically delayed in Patch 1 with his partner and Chris Horne. Now that's the sort of Health and Safety reporting that I'm talking about!

Back in Patch 2, we were pondering some strange wooden rungs bolted up the trunk of a kahikatea. They were ten metres up, with varying distances between the rungs. What could it mean? Stay tuned...

I thought I had found *Carex geminata*, but another botanist (Carol West?) made reference to a "geminata giant" (a new species?) whose seed heads are more clumped, and do not droop like *C. geminata*.

Finally, the wetland at the back of Patch 2 had a mosaic of species growing in the damp pan. The edges of the pan were infested with beggar's ticks (*Bidens frondosa*), which Owen Spearpoint spent some time enthusiastically pulling out.

Podocarp identification can involve bark pattern and colour. One difference between matai and miro is demonstrated by the colour on the underside of the bark—matai is light, miro is dark.

At the conclusion we discussed with Drew some suitable natives to be planting in the varied habitats, and which of the many weeds should be the priority. The two patches really are an amazing taonga to be protected by the new kaitiaki. Well done, Drew and Anthony.

Back to Health and Safety, I was checking through our 33 attendees, and found that quite a few had

departed the trip early, and signed out on the piece of paper in the chapel. Well done folks, except one person was missing. I had the cell-phone number though, so a quick call located the person on the train heading back to Wellington.

This all works well when we have cell-phone reception, but often we don't, so please be vigilant to let people know you are leaving early, so we don't have to go searching for you.

Participants: Margaret Aitken, Eleanor Burton, Robert Clegg, Mary Clegg, James Crane, Gavin Dench, Michele Dickson, Raewyn Empson, Pat Enright, Louise Farmer, Jenny Fraser, Julia Fraser, Ken Fraser, Bryan Halliday, Dianne Harries, Jan Heine, Chris Horne, Margi Keys, Pascale Michel, Sue Moore, Colin Ogle, Jim O'Malley, Mick Parsons, Leon Perrie, Hugh Robertson, Lea Robertson, Sunita Singh, Owen Spearpoint, Jon Terry (leader), John van den Hoeven, Carol West, Julia White, Sarah Wilcox

Jon Terry



The underside of matai bark (left) is light, whereas the underside of miro bark (right) is dark. Photo: John Terry.



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 2020 are:

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

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

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

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

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

Country membership \$.....

Student membership \$.....

Group / family membership \$.....

Donation \$.....

TOTAL \$.....

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

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

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

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

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

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

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

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

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

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

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