



Lichens - Oakley Creek's bush bling

Have you ever looked closely at a lichen with a magnifying glass? You may see a miniature world of mushrooms and other fruiting bodies if the weather is just right - this is because lichens are made up of a fungi and algae community sandwich. Under a microscope, it looks like the fungal partner is the primary beneficiary of the lichen partnership, with its hyphae (thread-like feeding part) growing into the energy providing photosynthetic algal cells - however, there are some algae species which have not been found anywhere except in lichen.



Photos: W. John



Lichen enthusiast and taxonomic specialist, Dr Dan Blanchon, Unitec, recently lead an informative guided walk along Oakley Creek. He noted that New Zealand is a hotspot for lichen biodiversity, with around 10% of the world's species. Amazingly, so far there are no known weed lichens here. Describing lichen as nature's bush bling, Dan noted that lichen biodiversity is an excellent indicator of ecosystem health. Lichens are leaky - when it rains, soluble nitrogen leaches out, fertilising the area below. They are poikolohydric, absorbing water and releasing it slowly, humidifying forest. When lichens absorb air or water pollution, however, they are unable to actively excrete the toxins - so only the very few lichens which can tolerate toxins will be present in a degraded environment.

Likewise, lichen biodiversity is low in restoration areas. Colonisation depends on the dispersal stages of both the particular algae and fungus species landing together, with suitable conditions for growth. Most lichen spread is downwards from existing colonies, thanks to gravity.

Lichens can be pioneering organisms, breaking down rocks to form early soils. Look out for an orange halo around colonising lichen on basalt, which forms because basalt is high in iron. Dan was particularly enthusiastic about the Oakley Creek gabion wall as an excellent habitat for lichens (- it is excellent for spiders too, as seen during our guided spider walks). Lichens can also grow on long lived leaves, such as taraire, tawa, totara and kauri, as well as on bark.

Did you know?

- Some lichens fluoresce under UV light
- Lichens provide a habitat for many invertebrates
- Most lichens have green algae as their algal partner, while others have cyanobacteria
- Lichens which have cyanobacteria as a component can fix nitrogen, absorbing and processing it from the air
- Lichens are communities of fungi and algae, but are named taxonomically by their fungal component
- Common names for lichens can be very poetic, such as gold dust lichen, specklebelly lichen, pebbled pixie cup lichen, devil's matchstick lichen, maritime sunburst lichen ...
- Lichens which grow on pohutukawa trunks also grow on oak trees
- As many as 40 different species of lichen have been found on individual old mangrove trees
- The distinctive banding on kahikatea trunks is caused by different lichens battling for territory.
- Lichens can be used as dyes

For more information about lichens see:

http://www.landcareresearch.co.nz/_data/assets/pdf_file/0008/84689/Lichen_poster_A3.pdf

Creek contributes to classroom chemistry ...

Over the past few weeks, Level 3 chemistry students from Mt Albert Grammar School have been collecting water samples from the creek to monitor how oxygen levels in the water change with increasing distance downstream from the waterfall. This was performed by taking each water sample, then adding manganese and iodide solutions, which locked in the oxygen until the samples could be taken back to the laboratory for titrating. The results will be finalised soon.

Success with funding - thank you!

We have recently been granted funding by The Trusts Community Foundation towards the project co-ordination, and from the Lion Foundation for administration expenses plus tear drop flags - to mark the way to our working bees and general promotion. This funding is greatly appreciated.

Community Volunteer Awards

Friends of Oakley Creek Te Auaunga has been presented with an Albert-Eden Local Board Community Volunteer Award in the Community Group category. This award is in recognition of the service given to the community:



Award ceremony guest speaker, Clair Hobi, Conservation Volunteers, David Smith, Oakley Creek volunteer who nominated us, and Wendy John.

Photos: Auckland Council

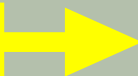
"Friends of Oakley Creek have succeeded in transforming a derelict and unknown stream valley in West Auckland into a city oasis of native forest beauty and calm. The Chair, Wendy, works tirelessly to co-ordinate the group's activities and promote understanding of the ecosystem. Her wonderful warmth and spirit help to draw people to the group and keep them involved."

Volunteer and member, Margaret McConnell also received an award for all of the time she puts into helping at Oakley Creek and the wider community, removing weeds (especially moth plant) and rubbish.



From left: Helga Arlington, Albert Eden Local Board, David Smith, Wendy John, Eddie McIntyre, John Allen and Lee Corrick, Albert Eden Local Board. Friends of Oakley Creek volunteers, Eddie and John also received individual awards to recognise their significant contribution.

This role would look good on your CV!



Dates for your diary

Bring your family and friends - and spread the word about our regular sessions on the first Sunday of each month:

Sunday, 6th September, 10.00am: Community Planting
Meet on the west side of the creek, downstream from Waterview Glades. Wear sturdy footwear. This planting is funded by the Well Connected Alliance as part of SH20 motorway mitigation.

Saturday, 19th & Sunday, 20th September, 9.00am: Rodent Monitoring

Sunday, 4th October, 10.00am: Community Working bee

Sunday, 1st November, 10.00am: Community Working bee

See www.oakleycreek.org.nz or contact Wendy John, by email: info@oakleycreek.org.nz or phone: 815 3101 or 027 232 6454, for more information.

10th Anniversary AGM

At our recent AGM, officers were elected as follows:

Chairperson, Wendy John; Secretary, Dominic Hutching; Treasurer, Jane Shand. Leslie Haines, Helen Mellsop, Adrienne Stanton and John Stevenson were elected to the Committee.



10th Anniversary Celebration Cake - a very sweet waterfall ...

Photo: W. John

The guest speaker was consulting ecologist, Shona Myers, who was one of our expert witnesses for the Waterview Connection / SH20 motorway hearings. Her topic was *Biodiversity - how are we doing at national and regional level?* Shona reported on some examples of good news - the Queen Elizabeth II Trust has recently registered its 4000th covenant, while DOC now has 1/8th of public conservation land under pest control. However, she noted that overall it is difficult to answer the question, due to significant variability in collected statistics and a lack of policy direction. Those present were very interested in Shona's overview of the legislative framework at both national and local levels.

Fundraising volunteer needed: we need someone to take over this role please - keeping track of funding opportunities and deadlines, and writing grant applications. Help is available while learning, if needed. Contact Wendy, ph 815 3101.

Oakley Creek Restoration - the next 10 years

Two new documents, the Oakley Creek Review Report and the Oakley Creek Restoration Plan 2015-2025 are now finalised and available on our website <http://oakleycreek.org.nz/resources/plans-and-reports/>. These reports have been prepared to assess progress to date and to plan for the next stage in the restoration of the lower reaches of the stream. Te Ngahere was contracted by Auckland Council to write the reports, and Wendy John made a significant contribution towards their completion. When forwarding the reports, Auckland Council Senior Biodiversity Advisor, Miranda Bennett noted: "It really is a privilege to work with such a passionate, dedicated group of volunteers as FoOC."

New hinaki bridge over Te Auaunga

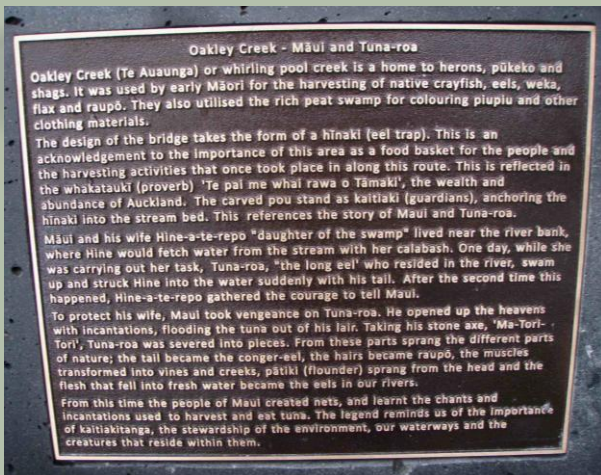
Wendy John attended the blessing and opening of a stunning new pedestrian and cycle bridge over Oakley Creek in War Memorial Park (off Gifford Avenue), Mount Roskill. Also known as the Eel Trap Bridge, this culturally enriched, architectural, 20 metre long footbridge forms part of the wider Dominion Road parallel cycleway project, led by Auckland Transport. The concept for the bridge was developed by Beca in close collaboration with six iwi groups, the Puketapapa Local Board and Auckland Council Parks.



The design of the bridge reflects the shape of a traditional double-headed Maori hinaki or eel trap. It not only creates a unique user experience and leaves the local community with a bridge it can be proud of, but it also helps teach and share Maori culture with the local and regional communities.

The bridge embraces the craftsmanship of traditional Maori weaving patterns for eel traps traditionally used along Oakley Creek. The pavement surfaces, alignments, pou, lighting and interpretive signage (in both Te Reo and English), in combination with the bridge, showcases the cultural story of Tuna-roa.

Photos: W. John



NatureWatch Workshop

Friends of Oakley Creek Te Auaunga committee members attended a recent workshop on using New Zealand's bio-recording website <http://naturewatch.org.nz/>. Over time, we hope to use this site to gradually build up a comprehensive record of the biodiversity in and around the stream. Anyone can contribute by uploading their photos of plants, animals, fungi and other organisms taken at Oakley Creek. Observations without photos can also be made, if you are certain about the species name.

We will be able to live stream subsets of data onto our website, as has been done, for example, by the Fungal Network of NZ <http://www.funnz.org.nz/>, so keep a lookout!

Other NatureWatch projects you may like to follow (or to assist by logging your own observations) include:

Te Papa <http://naturewatch.org.nz/projects/spiders-with-te-papa>;
Auckland Museum <http://naturewatch.org.nz/projects/pourewa-kepa-bush-bioblitz>;
Zealandia <http://naturewatch.org.nz/places/zealandia--3>;
Tiritiri Matangi environmental education activities <http://naturewatch.org.nz/projects/tiritiri-matangi-island>;
resources especially relevant to Tangata Whenua <http://naturewatch.org.nz/projects/taonga-taoka-species>;
marine e.g. <http://naturewatch.org.nz/projects/intertidal-zone>;
freshwater <http://naturewatch.org.nz/projects/freshwater-habitat>;
and terrestrial environments, including pests <http://naturewatch.org.nz/projects/pest-plants-weeds-of-nz>.

Have you spotted the kereru?

The native trees planted along Oakley Creek are beginning to reach sufficient maturity to attract kereru. There have been several sightings of a pair of kereru hanging out along the creek at Harbutt Reserve lately, which is very exciting!

Take a look at <http://kererudiscovery.org.nz/> which promotes all things kereru, including lists of species to plant in your garden to encourage your own personal visits by kereru.

Howlett Esplanade new path and planting



Photo: A. Stanton

As noted in the last newsletter, work has been undertaken at Howlett Esplanade by the Well Connected Alliance, and the walkway is now open. It is one of the Waterview Connection mitigation projects, and is adjacent to the tidal area of Oakley Creek, at the Waterview Inlet. The walkway has been a while 'in the making', with part of the hold up being the difficulty in obtaining eco-sourced plants, appropriate for the area. An enormous amount of rubbish - 11 truckloads - was removed before work could begin. Further planting is planned for next season. Thanks to Auckland Council and Albert Eden Local Board, as well as the Well Connected Alliance, for a tremendous improvement.



New alignment of the tidal stretch of Oakley Creek, beside the new SH16 Cycleway Bridge. Photo: W. John

Monitoring and pest control



Bird monitoring

Jo Hathaway, Helen Mellsop and Michelle Gordon (from left) helped out with our annual bird monitoring on the creek, as part of the Landcare Research Garden Bird Survey.

Photos: W. John

Lizard monitoring

Tonkin & Taylor ecologist, Kieran Miller and volunteer Himeleia Mataitusi checked the ACOs (artificial covers) for presence of native copper skinks, during the recent monitoring in the Lizard Management Area.



Another one down - thanks to Powell St Sustainable Neighbourhood possum control.



Take a look at ...

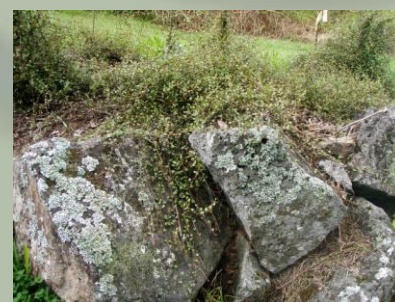
[The nature of wellbeing: how nature's ecosystem services contribute to the wellbeing of New Zealand and New Zealanders](#) by L. Roberts, A. Brower, G. Kerr et al. 145 p.

This report brings together research on wellbeing and ecosystem services, focusing principally on the services that come from indigenous ecosystems in New Zealand. Until now, much of the work of ecologists has focused on the supply of ecosystem services, while that of economists has focused on the demands for ecosystem services, both marketed and non-marketed. However, there has been little focus on what is driving our demand for ecosystem services - a desire for enhanced wellbeing.

Lichen Links

Can you match these lichen growth forms with their characteristics? Check your answers at the end of the newsletter.

Fruticose	paint-like, tightly attached to substrate
Foliose	stringy
Crustose	flat, lobed, partly unattached from substrate
Leprose	jelly-like
Gelatinous	3D, shrub-like
Filamentous	powdery
Byssoid	thread-like



Muehlenbeckia complexa in the Lizard Management Area (and some more lichen ...).

Photos: W. John



Freeland Reserve Planting Project



Before the community planting, Specimen trees were planted by Wildlands.

Friends of Oakley Creek Te Auanga recently co-ordinated an exciting planting project in the upper catchment at Freeland Reserve, on behalf of the Puketapapa Local Board. A total of 335 plants were put in the ground by the community and contractors, including 30 specimen trees. It is great to see this work happening in the upper reaches of Oakley Creek, complementing and assisting the restoration projects downstream, improving the water quality.



Committee member Helen Mellsop tested the ground for basalt, while working on the planting design.



Puketapapa Local Board members helped out: Michael Wood (right) - who worked with his son, Daniel, and Harry Doig (below) - with his planting partner.

Photos: W. John



Thanks to Auckland Council and arborists from Asplundh, the Oakley Creek Walkway private forest now has some 'habitat stacks' and 'insect motels' - the very latest in real estate trends!



Take a look at ...

<http://www.landcareresearch.co.nz/science/portfolios/enhancing-policy-effectiveness/srdm/land-management> to see graphical presentations of the results of the last Rural Decision makers survey of rural landowners and others, on topics such as their use of nitrogen reduction methods, stream fencing, wetlands construction, effluent system upgrades and much more ...

Wildlife encounters



From left: Nursery web spider, *Dolomedes minor*, *Gambusia* pest fish; blackbird's nest in plane tree.

Photos: W. John

July Matariki Community planting in the Mahoe Rock Forest

Planting in one of our Remnant Mahoe Rock Forest areas in Harbutt Reserve was very challenging – lots of rocks (surprise, surprise) and tree roots to contend with, but we got through the main planting within an hour. So, we had to bring the snacks out early, while some of us started laying out the rest of the plants. It was a bit chaotic for a while, but everyone chipped in and we got all 450 plants in the ground.

Thanks to the 22 volunteers who helped out on the day, including some of our regulars – Margaret, Arthur, John Allen, Tony, some not-so-regulars, and quite a few 'newbies', who had seen the notice about the planting in the local paper / website etc.



St Peter's College student Caleb and his dad, Derek Wong.



Local volunteers, Pat Scriven and Craig Watson

Photos: W. John

Oakley Creek fungi: Coprinopsis in the Lizard Management Area (below left and centre) and black bird's nest fungi, by the litter trap.



More on mahoe – Oakley Creek rock forest stats and history

The Waterview Connection Project Assessment of Terrestrial Vegetation Effects (Boffa Miskell / Bioresarches, July 2010) identified a small area of rock forest along Oakley Creek, described as:

"a tiny thicket (around 700m²) of remnant rock forest situated at Harbutt Reserve, growing on a basalt boulder tumble immediately above the west bank of Oakley Creek... The remnant at Harbutt Reserve contains some 50 or so mahoe, together with an abundance of emergent exotic trees and a very weedy ground cover. The mahoe range in height between 6-9m, with the majority (>60%) being between 10-20cm dbh (with the largest (single-stemmed) specimen measuring 28cm dbh).*

Given the maturity of the mahoe trees here it is likely that they are naturally occurring and represent a vestige of the historic rock forests of Auckland. Hence, despite the exotic emergent trees present here (and the conspicuous presence of exotic trees in the canopy), this small remnant is considered to be Valued Vegetation."

As a result of reading this document and an approach by Friends of Oakley Creek, the Albert Eden Local Board organised for an assessment of the upper parts of Harbutt Reserve to be investigated for other areas of remnant mahoe rock forest. A further five areas were identified and, since 2012, the local board has been supporting weed control and restoration of this important ecosystem.

* dbh - diameter at breast height

Weed Watch

This section of the newsletter features details about weeds that threaten the native plants along Oakley Creek. You can help by tackling these at the stream and in your garden. In this issue:

Acanthus mollis, Acanthaceae – bear's breeches



Bear's breeches en masse and as seedlings, at Phyllis Reserve, Oakley Creek. Photos: A. Stanton



Thank you to Weedbusters for providing the following information:

Bear's Breeches

Acanthus mollis

Family

Acanthaceae (acanthus) Family

Also known as

Oyster plant, bear's foot plant, sea holly

Where is it originally from?

S.W. Europe

What does it look like?

Leafy, erect perennial herb to 120 cm, with thick roots and large, glossy, strongly lobed, dark green leaves (up to 50 x 30 cm) on long leaf stalks (10-50 cm) growing from the root crown, or on shorter stalks (2-5 cm) growing from the vertical flowering stem. Numerous partly tubular flowers with one white petal and a large purple 'hood', with purple or brownish veins, are held at the top of the stem in a spike, with lower flowers maturing first (October to April). Many dark brown, flattened oval seeds (to 1 cm long) are produced in individual capsules (3-4 cm long) from November to May.

Why is it weedy?

Tolerate moderate shade, forms large clumps, and spreads rapidly in disturbed ground, covering large areas.

How does it spread?

Seed is spread by water and birds, and it also spreads by root fragments.

What damage does it do?

It can shade out small native plants in shady environments.

Which habitats is it likely to invade?

Riverbanks and roadsides in partial shade and pasture.

What can I do to get rid of it?

Dig out scattered plants (all year round): Ensure removal of all roots and dispose of roots and seedheads at a refuse transfer station. Leaves can be mulched.

What can I do to stop it coming back?

Monitor the site and treat any regrowth from root or seed.



www.weedbusters.org.nz



Bear's breeches



Bear's breeches



Bear's breeches

Out and about ...

Photos: W. John (unless stated otherwise)

The Powell Street Sustainable Neighbourhood community is continuing to make progress on the restoration of the land adjoining Oakley Creek, upstream from Harbutt Reserve. Their efforts include ongoing removal of rubbish, weeding / plant releasing, pest control and yet more tree planting.

Marin Adams and Lynley Rivers (right); Mark Paine (far right).



Auckland Council volunteers, Curtis and Patrick (left) took a day out from work to help with some much needed weeding on the creek.



Early childhood education centre, **Collectively Kids** had another successful planting session at the waterfall (right).



Conservation Volunteers (CVNZ) were joined by a team from **Auckland Tourism, Events and Economic Development (ATEED)** for a day on the creek (below). Thanks for a great effort.



The **Mt Albert St Judes Scouts'** site on the creek had another working bee with lots of young, willing helpers. The weed sample display table generated lots of interest.





The A Rocha / Haven (Kodesh) / Cradock St Sustainable Neighbourhood and friends did a great job of another planting - a new area on the creek, opposite Harbutt Reserve. It is so wonderful to see so many young children making a connection with the natural environment, too.

CVNZ also worked hard clearing weeds in the nursery (left) and Auckland Council Parks Volunteer and Biodiversity Co-ordinator, Sarah Peters (below, fifth from left) provided a very welcome morning tea.



A Rocha / Haven / Cradock St Community Tree Planting - June 2015



Environmental Science student, Maheeja Fernando and committee member, John Stevenson worked on the NIWA Water Monitoring project (left) near the litter trap.

The water clarity has been much improved, at times, recently (right).



Photo: A. Stanton



Many hands made light work at the June Community Planting (right).



At the May Community Working Bee, John Allen, David Smith and Himeleia Mataitusi were among the volunteers infill planting and weeding the *Muehlenbeckia* site in the Lizard Management Area (above and right).



New committee member, Leslie Haines worked with her Open Polytechnic horticultural students, studying the conditions of their planting site and making plans (below).



Lichen Links - solution

Fruticose	paint-like, tightly attached to substrate
Foliose	stringy
Crustose	flat, lobed, partly unattached
Leprose	jelly-like
Gelatinous	3D shrub-like
Filamentous	powdery
Byssoid	thread-like



We gratefully acknowledge the support of ASB Community Trust, WWF, The Trusts Community Foundation, The Lion Foundation and Auckland Council: Albert-Eden and Puketapapa Local Boards; Community Organisation Grants Scheme (COGS).

Next Newsletter Contributions and comments for the next newsletter are welcome - please send to info@oakleycreek.org.nz

New Members Welcome, Donations Too!

We welcome more members (\$10.00) and/or donations towards the work we are doing to protect and restore our wonderful urban 'taonga' - Oakley Creek Te Auauanga. Donations over \$5.00 are tax deductible. Contributions and gift plant orders can be made directly into our bank account: Friends of Oakley Creek - Kiwibank - A/c 38-9003-0978224-00 or cheques, made out to 'Friends of Oakley Creek', can be sent to: 4/65 Woodward Road, Mt Albert, Auckland 1025.



Chairperson: Wendy John Treasurer: Jane Shand Secretary: Dominic Hutching
 Committee: Leslie Haines, Helen Mellsop, Adrienne Stanton, John Stevenson
 Newsletter Editor: Adrienne Stanton

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