



Quarterly Update No 17 ... July 2019

Officially, it's still greetings in winter!

Climate impacts on biodiversity...

Recently, the University of Melbourne reported on several case studies highlighting the emerging link between recent climate change and its effect on terrestrial biodiversity.¹ The case studies involve species ranging from cushion plants on Antarctic islands that have become threatened due to drier and more variable conditions, heat damaged eucalypts in Western Australia and damage to eucalypts on the Cumberland Plains due to climate-induced changes in the frequency and severity of insect outbreaks.

Due to the interdependencies between animal and plant species, climate impacts on one species can significantly affect other species. The report cites an example of plant adaptation to climate change which is occurring now involving "changes in the timing of reproduction to more favourable periods".² The timing of the flowering of orchids is observed to be shifting in response to warming temperatures and out of synchrony with the flowers' pollinators.

Predictions made more than a decade ago by James Cook University researchers about the effects of increased mean temperatures and frequency of heat waves on native wildlife in the tropical north are being borne out.³ Four ringtail possum species and 13 bird species in Queensland's World heritage rainforests have moved to higher elevations to escape warmer temperatures. This migration, which has led to some decreases in population sizes, has

occurred in "only a fraction of the temperature change that we will experience over coming decades."⁴

The Queensland Government has produced a climate change adaptation strategy⁵ with a program for multiple sectors to take action. But what can we expect for ourselves and the biodiversity of the Lockyer? A Climate Change Risk Assessment undertaken by Ipswich City Council covers the areas of Ipswich, Lockyer Valley, Somerset and Toowoomba.⁶ Climate projections include: average temperature increases of around 1.2 degrees to 2030 and around 4.2 degrees on average by 2070; less average annual rainfall but an increase in extreme rainfalls; increased hail days; and 20% more drought months by 2030 and 40% by 2070.

Currently, Lockyer Valley Regional Council is developing a Natural Resource Management (NRM) Strategy and Action Plan for the region in consultation with community. This process provides an opportunity for discussion and planning around projected climate change scenarios and potential impacts for the Valley and proactive responses - not just for the benefit of people but for the protection of the Valley's precious biodiversity, for which there is only one voice - ours.

For species adaptation and to safeguard biodiversity "intact forests ... offer a variety of complex structures [that] can reduce the severity of extreme climate events."

¹ <https://pursuit.unimelb.edu.au/articles/tracking-the-climate-threat-to-australia-s-unique-ecosystems>

² *Ibid.*

³ <https://theconversation.com/as-climate-changes-animals-move-fast-to-escape-the-heat-18511>

⁴ *Ibid*
⁵

https://www.qld.gov.au/_data/assets/pdf_file/0017/67301/qld-climate-adaptation-strategy.pdf

⁶

https://www.ipswich.qld.gov.au/_data/assets/pdf_file/0018/11088/climate_change_risk_assessment.pdf

LUCI Breakfast 26th May

Forty three adults and 5 children attended LUCI's annual breakfast to hear Steve Cupitt, Crossroads Rural and Environment, talk about property audits and the use of drone technology. An environmental scientist with a rural background, Steve takes an objective, metrics approach to property audits, which assesses not just the condition of the land but scores other factors such as the state of chemicals storage and condition of the buildings. The audit provides landholders with a very comprehensive assessment of the property including shortfalls and areas for improvement.



Steve Cupitt, guest speaker at LUCI's annual breakfast, talks about property audits and the use of drones.

Steve provided a demonstration of drone technology which allows him to view areas of a property that can not be accessed as easily on foot or by vehicle. Drone footage is an efficient way to gather a bird's eye view of a property and pick up finer features. Steve talked about the importance of preparation of drone flight plans and the risks involved in using drones, which was graphically displayed in a series of photographs showing bodily injuries caused by drones. Of interest was the point that a commercial pilot's licence is needed for night drone flying.

Have your say in the development of LVRC's NRM Strategy...register at <https://lockyervalley.engagementhub.com.au/natural-resource-management-strategy-plan/news/update-1-july-2019-first-workshop-outcomes>

Property Planning Group 16th June

The quarterly meeting of the PPG was attended by seven sets of landholders, LVRC's Environment Officer Martin Bennett and Catchment Officer Chris Hoffman and Dr Darren Fielder of Red Leaf Environmental. We also welcomed guests Anthony and Kristy Statz who are embarking on a large-scale riparian restoration project on their farm.

Reports and discussions on members' property management ranged across the following topics: setting realistic work targets and timelines; the value of sectioning the property for weeding and restoration work; having baseline records of where you're starting from (with both flora and fauna) and monitoring changes in these records over the years; focus on consolidating existing "good" value vegetation first; lantana currently serving as substitute habitat for a range of woodland birds and providing a nursery for native revegetation; noticeable effects of drought on trees such as she-oaks; treatment of cats claw and madeira vines; the damage caused by neighbours' cows escaping into remnant and revegetation areas; and the need for fauna surveys and the value of bio-acoustic monitoring.

The practical session involved Dr Fielder leading the group in a native grasses identification exercise. It was an amazing exercise in demonstrating that we are often



oblivious to what is going on under our noses (in this case our feet)! In no time at all, Darren had shown the group, and named, 21 native grass species in about a one hectare area.

Dr Darren Fielder leads the Property Planning Group and guests in a native grasses identification exercise.

Any landholder interested in protecting or improving the biodiversity on their property is very welcome to join the Property Planning Group. The group meets on a quarterly basis on a Sunday morning to discuss their aims for their property and the results they are achieving, learn from each other and share morning tea. (*See Upcoming Events for next meeting details.*)

Connecting with other groups

Just as larger and better connected tracts of vegetation make for healthier, viable habitats, better connected and larger networks of people working together make for a stronger voice for native habitats and wildlife. To this end, LUCI has been reaching out to other groups to learn and look for opportunities to collaborate.

From north...

Hinterland Bush Links (HBL)⁷ Coordinator (Susie Duncan) and Project Officer (Sue Brieschke) were LUCI's guests on the 2nd and 3rd of July. Launched in 2011, HBL assists landholders to protect and maintain their bush blocks and create habitat connections between neighbours and, ultimately, with wildlife corridors.

Of note is the planned approach to landscape connectivity that HBL is following. Susie was able to show LUCI members landscape maps with areas targeted for regeneration to enhance habitat connectivity. These aerial maps also provide a tool for monitoring progress in connecting remnant and restored bushland areas in the landscape.



Discussing Lockyer's remnant vegetation map with HBL and LVRC representatives

Another of HBL's work methods of interest to LUCI landholders is their Roving Restorers group. These HBL volunteers assist landholders in their target areas to manage weeds and revegetation on their properties. The *Managing Your Place* section on HBL's website is well worth a read.

Recently, LUCI made contact with Carolita Fuentes, President of Friends of the Forest in Somerset Region, and looks forward to meeting with Carolita and group members in the near future.

...to south

Judith Roland, President of Tamborine Mountain Landcare (TML), invited LUCI members to visit TML's landscape and learn about their work. On Friday 19th July, eight LUCI members and LVRC's Martin Bennett made the trip to a very different landscape where the overwhelming impression was of lush green vegetation, shadowy walkways under thick tree canopies, moist air and spring fed creeks.



LUCI members and LVRC's Martin Bennett visiting Tamborine Landcare Park with TML President.

The group's primary strategy, the Corridors Regeneration Project, involves members in weeding and revegetation activities across 15 council-owned parks/reserves and working with private landholders to expand and connect existing areas of rainforests. After 16 years, TML has 150 members and supporters.

Judith led our group on walks through TML's weeding and regeneration projects at three of the reserves in which they work - Tamborine Landcare Park, Ohia Court and Areca Gully. The extent of weeding and revegetation work and the astounding plant

⁷ <http://www.hinterlandbushlinks.org/>

growth in a few short years in the sites we looked at was very impressive.

TML has produced a number of publications on their flora and fauna and run a very successful second-hand bookshop as a fund raising strategy.

Updates on ongoing projects...

Friends of Dwyers Scrub Project

Madeira beetles have been ordered from Gympie Landcare and, on arrival, will be released in the SEVT areas to combat the Madeira vine.

Glossy Black Cockatoo Project

One of the concerning observations in our six monthly surveys of the GBC feed trees is the increasing number of dead and dying she-oaks in our sample sites, many with splitting trunks. It is quite likely that this trend is due to the current drought although some stands of trees were observed to have fallen following prolonged high winds.

With a view to improving, over the long term, supplies of feed trees in the landscape for the GBCs, LUCI is planning to collect local seed from *A. littoralis* (Black she-oak) and *A. torulosa* (Forest she-oak) for propagation and eventual planting in strategic areas across the landscape.

We are looking for mature, unopened cones from the Black and Forest she-oak species. When collected, unopened cones should be placed in a paper bag and stored in a dry place. Please let us know if you have she-oaks on your property and are interested in helping with this seed collection venture by emailing lucatchmentsinc@gmail.com

Important number: Wildlife carers Kath and Steph 0410 334 661 (available 24/7)

Lockyer in the Wild Nature Photography Competition 2019

It's on again...the chance to showcase and promote the diversity of flora, fauna and fungi in the Lockyer Valley. With thanks to major sponsor Lockyer Valley Regional Council and local sponsors Roxane Blackley Maps and Apps for Land Management, Sandy Creek Environmental and Lockyer Valley Toyota, there will be **multiple cash prizes to be won** in both the Open and the Primary School categories. Awards will be



Photo: Al Young

presented by LVRC Mayor, Ms Tanya Milligan, at an Exhibition of photos on Friday 1st

November at Stockyard Creek Community Hall. The Exhibition will be held in conjunction with the Hall's monthly community barbeque.

So, put on your walking shoes, grab your camera and head into the bush for that prize photo. Make it a family event.

Entry forms will be available from Monday, 5th August from Gatton and Laidley libraries, Council Offices in Railway Street and the [LUCI website](#)

Treating tree pear in Redwood Park

...by Hugh Krenske (President, Friends of Escarpment Parks)

In 2011, the Friends of the Escarpment Parks Toowoomba Inc. commenced working in the dry rainforest of Redwood Park on a regular basis. Although the occasional velvet tree pear was present, it did not concern us greatly. The eucalypt forest adjacent to the highway from the entry gate down to Gatton Creek was home to several koalas and some large infestations of velvet tree pear, many of which were up to 4 metres high.

Our first attempt at controlling the tree pear was to use the stem injection method using 100% glyphosate and tomahawks to make shallow cuts into the trunk of the pear. This produced mixed results. The cuts caused the trunk to weaken and the top part of the tree pear collapsed before the branches and leaves had completely died. Anything that touched the ground regrew. We resorted to *Access* and diesel to kill the resultant regrowth.



We changed our stem injection method to using cordless drills with 5mm wood bits to make several shallow holes angling down in the trunk about 7 to 10 mm apart. We did this near ground

level and another set about 1 metre up the trunk. The holes were immediately filled with glyphosate using squirty bottles. This produced a much better result, with most of the trees staying upright as they died.

In both methods, we had most success when the sap was flowing - after rain.

Despite this success, tree pear seedlings are still appearing. Even in the dry conditions that we are having they seem to appear overnight. Our treatment here is to use a small handsaw and regularly remove and bag them.

Cultural Heritage of the Lockyer *...by LVRC's Environment Officer Martin Bennett*

The Cultural Heritage (CH) I would like to talk about is the local indigenous one. The groups indigenous to the Lockyer are Yuggera, and Uragapul and the Western Wakka Wakka of Toowoomba. We are lucky in the Lockyer Valley to have at least 3 Petroglyph (Rock Carvings) sites; one at Chalk Mine Road and the other two sites have been kept secret. A fascinating record

of indigenous life can be seen in these Petroglyphs including ceremony, emu prints (emu being long extinct from this area), hunting scenes, meetings of people, camps and the animals they hunted.

Numerous other CH things to look for include: flakes used as cutting tools and flaked of a Core stone, both can be found today; rock wells, which were most likely natural formations in the rock with evidence that they were worked to be bigger and covered with rocks to preserve the water; and axe and spear sharpening grooves usually in rock formations in the creeks in which the axe head was simply dipped and ground away in the rock groove.



Other CH clues to look for are birthing trees, baby trees, scar trees, or trees used to make things such as a small Coolamon (vessel for carrying things), a shield or a canoe.

Examples of scar trees



Trees had to have the right bark and were often put over a fire to take out the moisture and, for example, make the bark curl up, which is perfect for a Coolamon.

Other uses of natural materials involved wonderful weaving material like Mat rush (*Lomandra*), which was turned into string and made into bags and fish nets, and Bootlace plant (*Wikstroemia*) which was another string making fibre.

Lockyer Creek Revegetation Project - Cahill Park and Beavan Street...by Chris Hoffman, LVRC's Catchment Officer

Planting at Cahill Park and Beavan Street revegetation sites has been completed with a total of 14,500 tube stock planted. Species planted are native to the riparian areas of the creek and include river oak (*Casuarina cunninghamiana*), weeping bottlebrush (*Melaleuca viminalis*), black tee tree (*Melaleuca bracteata*), Sally wattle (*Acacia salicina*) and forest red gum (*Eucalyptus tereticornis*).



View of the Beavan Street planting site, showing installation of tree guards

Both sites are now in maintenance following successful control of a range of woody weeds (tipuana, leucaena, Chinese elm, lantana) and exotic grasses (panic grass, elephant grass and bamboo grass). Soil moisture conditions are generally good, following recent rainfall, however supplementary watering will be on-going to ensure plant survival. Next round of site monitoring will be in August.



View of the Cahill park planting site, following successful installation of tube stock plants

These sites will act as demonstration areas to show to members of the wider community how riparian areas can be restored and revegetated and the positive changes that occur as a result of these works. To arrange

a site inspection, please contact Chris Hoffmann at Lockyer Valley Council.

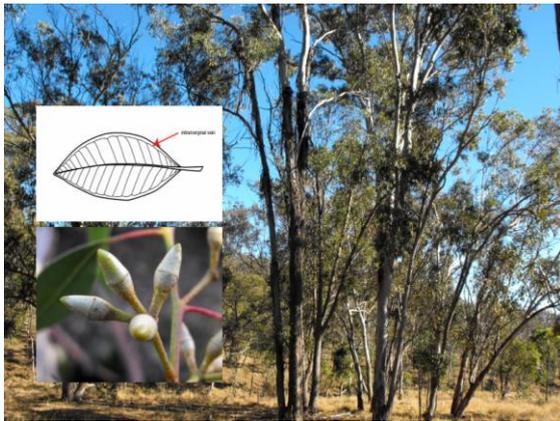
Upcoming events ...



- ☞ **National Threatened Species Day 2019 Saturday 7th September, Lake Apex.** LUCI is working with other conservation groups, UQ Wildlife Students Assoc and a local school to organise an information display and activities morning at Lake Apex to raise awareness of Lockyer's threatened native fauna and flora. Details yet to be finalised but updates will be available on the [LUCI website](#) Keep the date in mind and put Lake Apex in your diary.
- ☞ **Spring Special Interest Walk, Sunday 22nd September.** A walk with LVRC's Environment Officer Martin Bennett through a treasure trove of plant diversity in mixed ironbarks and yellow box forests and SEVT on basalt. Remember to bring...hat, walking shoes, drink bottle and morning tea to share. Arrive 7:30am for an 8:00am start. Property directions available when you get in early and **confirm your place** (numbers limited) with Peter 5462 6841 or email lucatchmentsinc@gmail.com
- ☞ **Property Planning Group meeting Sunday 13th October, 9:30am-12:30pm.** Landholders Trish and Roxane will provide an update on their planned SEVT restoration project. Discussion topic for the meeting will be fire management. LVRC's Martin Bennett and Chris Hoffman will be on hand for advice. Bring morning tea to share. New members welcome. Directions to Trish and Roxane's place available on RSVP to lucatchmentsinc@gmail.com

Local Regional Ecosystem 12.8.14
...by Martin Bennett

RE 12.8.14, thin-leaved Stringybark, Grey gum, Yellow box +/- Blue gum, and Pink bloodwood open forest on basalt soil, is a common ecosystem in the surrounding hills of Mt Whitestone, Fordsdale, Rockmount, and Egypt areas. The most dominant tree I come across in this system is Yellow box, with scattered Blue gum, Pink bloodwood, Ironbark, and Forest she oaks. Yellow box at times is confused with Blue gum but some tell-tale differences include the Yellow box's long hanging bark strips that stay there for months, the flower buds have a round cone-like cap and much smaller leaves, and also each leaf has an intramarginal vein.



Remember...

LUCI has two Splatter guns available for loan to members in their lantana management. Contact Paul for further information 0429 880 144.

LUCI is keen to hear about your wildlife sightings and native flora discoveries...the more we know about the native flora and fauna in our landscape, the better we can plan and manage our conservation efforts. Send photos/recordings with date and GPS locations to lucatchmentsinc@gmail.com

Test your knowledge of tree fruits and seed pods...

(Answers overpage)

Do you know the common and/or scientific names for the following?



Photo by Martin Bennett



Photo by Diane Guthrie



Photo by Diane Guthrie



Photo by Jocelyn Wilson

Of interest...

Have you seen or heard the mighty Powerful Owl in your area? Are you interested in helping to build a better understanding of this elusive bird? Then you might be interested in participating in Birdlife Australia's Powerful Owl Project.

The Project is looking for volunteers to undertake citizen science tasks to investigate the bird's distribution, breeding behavior and success, diet, habitat characteristics and mortality and injury rates.⁸



Source
<http://www.birdsinbackyards.net/species/Ninox-strenua>

The Powerful Owl (*Ninox strenua*), Australia's largest owl, is listed as *Vulnerable* in Queensland. A carnivore, the Powerful Owl eats mainly medium to large tree-dwelling mammals, such as the Ringtail Possum, and sometimes small ground-dwelling mammals such as small marsupials.⁹ Its usual habitat is in large patches of forest but evidence shows the Owl does use the urban setting where remnant bushland is close by.

⁸ <https://birdlife.org.au/projects/powerful-owl-project>

⁹ <http://www.birdsinbackyards.net/species/Ninox-strenua>

To date, very few records of the bird have been registered with WildNet for our Lockyer Uplands landscape. If you think you have heard or seen a Powerful Owl contact powerfulowl-bris@birdlife.org.au to find out more about the project.

Here's a sample of the Powerful Owl call from the Birds Australia website.

[Female Powerful Owl](#)

[Male Powerful Owl](#)

Do you have a photo or item of interest for the newsletter? Or concerns that you would like LUCI to consider? Then send us an email with your photo or item and...remember...

Stay connected, it's healthy!

If you do not want to be included on the email list for this newsletter please let us know at lucatchmentsinc@gmail.com.
Newsletter Editor Diane Guthrie 0413 333 681

How did you go on the fruits and seeds test?
(First three answers thanks to Martin Bennett.)

- *Sterculia quadrifida* or Peanut tree or Red-fruited kurrajong
- *Elaeodendron australe* or Red olive berry
- *Ficus rubiginosa* or Small-leaved Moreton Bay fig
- *Harpullia pendula* or Tulipwood seed capsules (thanks Jocelyn Wilson)