



## Quarterly Update No 18 ... October 2019

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Greetings - it's spring newsletter time!

### *Top of everyone's mind - Water*

It is (or should be) common knowledge that Australia is the driest inhabited continent on planet Earth where, "[o]n average, only 12 per cent of rainfall flows into rivers...compared to 39% for Europe and 52% for North America."<sup>1</sup> Yet, Australia has been described as one of the world's thirstiest countries where "per capita water consumption averages 100,000 liters per person".<sup>2</sup>

According to the Bureau of Meteorology's *Water in Australia* report, "[t]he estimated total volume of water abstractions across Australia was...7 per cent higher in 2017-18 than the figure reported for 2016-17."<sup>3</sup> About 19 per cent of total abstractions were provided for urban water supply, an increase of 2 per cent while agricultural use accounted for 72 per cent of the total abstraction, an increase of 9 per cent from 2016-17. The context for these figures includes below-average rainfall and streamflow conditions in the east of Australia, drought in the Murray-Darling Basin and a decline in public water reserves.<sup>4</sup>

The major source of water for use in cities is surface water, for example, from rivers, lakes and reservoirs. Groundwater tends to be used more for agriculture and, more so, during drought or periods of water

restriction. During 2016-17, groundwater extractions for agriculture increased by 37 per cent.<sup>5</sup>

According to the BOM's report, "[c]ompetition for water resources is growing, with increasing demands from agricultural, urban, industrial and environmental sectors." We now hear frequent reports and predictions of regional towns, particularly in New South Wales and Queensland, restricting water use or running out of water.

Rainfall variability in Australia is shaped by the interplay of three climate modes (e.g El Niño southern oscillation, the Indian ocean dipole and the southern annular mode) AND the exacerbating influence of additional greenhouse gases due to human activities.<sup>6</sup> Availability of water and the implications for livelihoods and, indeed, survival resonate with the effects of these climate forces.<sup>7</sup>

With a highly variable climate and population and development pressures, water security will depend on a suite of measures including science-driven water management policies and programs, addressing greenhouse gas emissions and greater acceptance of engineering solutions (e.g. recycled water). At the least, we could all do with being better informed about our local catchments and supply and demand challenges.



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<sup>1</sup> McCormick, Bill (2013) *Water*, Parliament of Australia [https://www.aph.gov.au/About\\_Parliament/Parliamentary\\_Departments/Parliamentary\\_Library/pubs/Briefing\\_Book44p/Water](https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/Briefing_Book44p/Water)

<sup>2</sup> National Geographic (2019) *Failing Rains and Thirsty Cities: Australia's Growing Water Problem* <https://www.nationalgeographic.com/environment/2019/08/partner-content-australia-water-problem/>

<sup>3</sup> Bureau of Meteorology (2019) *Water in Australia 2017-18* <http://www.bom.gov.au/water/waterinaustralia/>

<sup>4</sup> *Ibid.*

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<sup>5</sup> *Ibid.*

<sup>6</sup> <https://www.environment.gov.au/climate-change/climate-science-data/climate-science>

<sup>7</sup> <https://www.unwater.org/water-facts/climate-change/>

### Further reading of interest ...

<https://theconversation.com/the-role-of-water-in-australias-uncertain-future-45366>

<https://www.climatechangeinaustralia.gov.au/en/>

<https://www.abc.net.au/news/2018-08-14/southern-annular-mode-and-how-it-affects-our-weather/10106134>

<https://www.theguardian.com/australia-news/2019/oct/11/climate-change-partly-to-blame-for-early-bushfire-season>

Cho, R. (2011) *From Wastewater to Drinking Water*

<https://blogs.ei.columbia.edu/2011/04/04/from-wastewater-to-drinking-water/>

Chamberlain, A with Galletly, J. (2019) *Fresh insights for managing our most limiting resource - water. It's not just the drought*, p. 2, Unpublished paper.

### Continuing our members' stories "Why conservation matters to me"

... by LUCI member Suzie Nicholls



As a child my interests were gardening, farm animals, breeding finches and parrots, bird watching, showing poultry, native animals and going to national parks and I don't

think my interests have changed very much as an adult. I wanted to be a park ranger and, in Natural Resource Management jobs, I worked with Bridled nail-tail wallabies, Yellow-footed rock-wallabies and baiting dingos. But then I was introduced to ideas about landscape management and holistic property management on properties in south west Queensland. I worked with Companies that did land manager education in holistic property management and holistic grazing.

It's exciting to now own a piece of land where I can use the knowledge I have

gathered from the courses I have attended over the years.

So I care because I can see so many issues happening locally and a lot of species under pressure, and also landscapes that are highly modified. But what can one person do to make any difference?

My partner and I have bought this small property at Rockmount and look forward to implementing some of the ideas I've gathered from the last 20 years of working. We hope to be able to grow our own food, meat and, of course, honey to supply ourselves plus maybe to sell some. I will be attempting to balance conservation on our property with production. Production is easy and, in a "national park" type management, so is conservation. I see lots of people saying "why aren't farmers doing more for the environment?" It is quite easy to say that, but to combine the two is a bit more difficult.

I'm faced with the fact that I may never have a perfect Semi-evergreen vine ecosystem because it's been cleared in the past and then grazed for many years. Now I have cleared lantana along the boundaries to repair fences and my sheep graze the paddock in a controlled managed method (I try!). So while I may not regenerate the original vegetation, I am aiming to improve the soil with holistic grazing methods which should increase soil carbon, and also allow native plant species to increase. I want to monitor the outcomes and my impacts on the property and see what works, or doesn't and if I can have a functional ecosystem with production.

I think the term "conservation farming" should now be considered old school as I think the time has passed for that, we now need to be "regenerative farming" and improving what we have. I think we need to aim for improving soil health by increasing native grass species with managed grazing from stock. Being on the side of a hill, at the head of the catchment, soil loss is constant and, maybe, natural but it is also

accelerated with any disturbance of vegetation. Monitoring and managing feral animal and plants to reduce their impacts will be very important to us on our small piece of the Lockyer Valley and to encourage others across the landscape to do the same, as control can not be done in isolation.

I'm so glad I have found LUCI and its welcoming members! It's wonderful to be part of this diverse but likeminded group of people and to be working together towards conservation goals in the Lockyer Valley.

Interested in \* native wildlife and their habitats \* managing biodiversity on your property \* learning more about the environment through bushwalks and workshops with like-minded others? Then **consider joining LUCI** - only \$5 per annum [lucatchmentsinc@gmail.com](mailto:lucatchmentsinc@gmail.com)

### *LVRC community environment grants*

LUCI was successful in the latest round of LVRC Community Environment Grants. Our existing Threatened Species Monitoring program focusing on the Glossy Black Cockatoo and our planned Koala and Black-breasted Button-quail projects will receive a boost from funds to purchase additional remote wildlife cameras and GPS devices. With LUCI now engaging with UQ's Wildlife Science students, we hope to have more volunteers in the field and aim to increase our fauna surveying on members' properties.

Funds were also granted for our "Conserving Native Grasses and Grassy Habitat in the Lockyer Valley" project. This project will be mentored by Dr Darren Fielder of Redleaf Environmental who will facilitate two public workshops to increase understanding of our local native grasses and help initiate a landholder field project to identify and collect native grass

specimens, create a herbarium and produce a field identification booklet.

We are grateful for the support provided by Lockyer Valley Regional Council to landholders and community groups committed to understanding and conserving the Lockyer Valley's native flora and fauna.

### *Upcoming events ...*



- ☛ **Lockyer in the Wild Nature Photography Exhibition 2019** plus presentation of awards at **5:30pm, Friday 1<sup>st</sup> November Stockyard Creek Community Hall**. Stay on for the Hall's monthly barbeque. A second exhibition will be held at the Ma Ma Creek State School from 6<sup>th</sup>-13<sup>th</sup> November.
- ☛ Annual **Glossy Black Project workshop with Dr Guy Castley** (Griffith University) to review project progress and findings. **Saturday 2<sup>nd</sup> November, 10:00am-12:30pm** at 2 Archer Crescent, Preston. Bring morning tea to share, tea and coffee provided.
- ☛ **LUCI AGM and General Meeting and Christmas Sausage Sizzle** will be held at **11:00am, Sunday 8<sup>th</sup> December, 35 Rosier Road, Iredale**.  Draft agenda, nomination forms for election of office bearers and 2018 AGM/GM minutes will be emailed to members and supporters. Agenda suggestions and further information please contact [lucatchmentsinc@gmail.com](mailto:lucatchmentsinc@gmail.com)
- ☛ Call for expressions of interest in a **Hidden Vale Wildlife Centre tour** <https://hiddenvalewildlife.uq.edu.au/> Likely to be early in the new year, numbers will be limited so get in early and register your interest at [lucatchmentsinc@gmail.com](mailto:lucatchmentsinc@gmail.com)

### September 22<sup>nd</sup> Spring Special Interest Walk

Twenty two enthusiastic LUCI members and supporters joined LVRC's Martin Bennett and Land for Wildlife's Deb Metters for the Spring Walk on a Rockmount property, thanks to generous landholders Jim and Jill. The walkers started out in a patch of Semi-evergreen vine thicket (SEVT) progressed through a Yellow Box and Ironbark Eucalyptus area and finished the walk in another patch of SEVT.



Exploring a patch of SEVT at Rockmount with Martin Bennett.

The different vegetation communities provided a great learning experience for the walkers with a number of "firsts" in flora identification and, the bonus, a sighting of a koala. Martin's flora highlights included the *Condonocarpus attenuates* (Bellfruit tree), *Bracychiton x turgidulus* (Scrub Bottle tree), *Rhinerrhiza divitiflora* (Raspy root orchid) and *Alectryon pubescens* (Hairy fruited birds eye or Hariy Boonaree).



Raspy root orchid (*Rhinerrhiza divitiflora*)

Deb Metters recorded 24 bird species for the morning including Scarlet Honeyeater, Striated Pardalote, White-browed Scrubwren, Speckled Warbler, Eastern Yellow Robin and Mistletoebird. On just the small part explored of the 500 acre property, the biodiversity was impressive.

If you're looking for an easy to read, richly illustrated online resource on Woodland birds and their habitats of south-east Australia including south-east Queensland, have a look at...

[http://www.birdlife.org.au/documents/WL-Woodland\\_ID\\_booklet\\_v7\\_web\\_1.pdf](http://www.birdlife.org.au/documents/WL-Woodland_ID_booklet_v7_web_1.pdf)

### October 13<sup>th</sup> Property Planning Group meeting

Sixteen people attended the event at Tricia Walton and Roxane Blackley's Rockmount property. The day commenced with Roxane describing their property and the history of their tenure, the vegetation communities on the property and their use of the land. Part of the property is used for grazing while Tricia and Roxane have restoration plans for an extensive SEVT area on the property.

Roxane highlighted lantana control as their main focus in weed management. The lantana tends to flourish in an area posing a high fire risk and Trish and Roxane use controlled burns as their main method for dealing with lantana. The general consent was that any desirable regeneration plans were restricted currently by the drought.

A discussion ensued on aspects of fire as a management tool noting that consideration needs to be given to type of vegetation community and fire regime guidelines relating to frequency, seasonality and intensity. Fire management planning and what to do in the event of fire were also discussed. Topics included fire trails, knowledge of high risk areas on the property, fire hose couplings on water tanks, and a list of "who to call". Roxane advised landholders to have a property map, which

can be handed to the Fire and Emergency Services coordinator on his/her arrival in the event of a fire.



Some of the landholders and guests at the October Property Planning meeting.

Guest at the meeting was UQ Wildlife Science student Shania Watson who talked about her Honours research program. Shania's research will extend studies currently being undertaken at UQ's Hidden Vale facility. Her study involves training brushtail possums and brush-tailed phascogales to use microchip-automated pet doors on nest boxes in the wild. The main application of Shania's research will allow for targeted supplementation of food or shelter in the wild and to provide a small safe haven unreachable by predators. Her research will include sites on a LUCI member's property and will provide LUCI with information about the home range of the animals involved.

### *LUCI fauna surveys*

We have been very fortunate to have students from UQ's Wildlife Science program join us in the last couple of months. Following a LUCI presentation to members of the Wildlife Students Association, to date, six students have joined LUCI members on either our Glossy Black project surveys or our Koala scat surveys.

The feedback from students about their experience has been positive. For LUCI, the extra assistance in the field with measuring trees and recording data and keen (younger) eyes spotting scats have been most

welcome. LUCI is working to continue this association with students through (a) providing fieldwork opportunities for students on LUCI projects and (b) matching students wishing to undertake research on private properties with landholders willing to provide access to their properties.

### *Toowoomba Field Nats walk*

A couple of LUCI members took up the invitation to join the Toowoomba Field Naturalists on their flora walk in the Helidon Hills. Led by Martin Bennett, the walk followed two tracks into Lockyer national Park heading off Seventeen Mile Road, north of Helidon.



Tracks well worth visiting in Lockyer National Park off Seventeen Mile Road.

Despite the dry weather, in general, the vegetation was in reasonable condition with the understorey in some areas resembling a beautiful and diverse native garden. Martin identified the REs we traversed as Endangered RE 12.5.6 and Least concern REs 12.9-10.5 and 12.5.1 (for descriptions of these REs type in the foregoing IDs at <https://apps.des.qld.gov.au/regional-ecosystems/>).

Martin's highlights of the walk included the following species: *Petrophile canescens* (Conesticks), *Eucalyptus planchoniana* (Planchons stringybark), the threatened *Caustis blakei subsp. macrantha* (Koala fern) and *Caustis flexulosa* (Curly wig).

Check out the Field Nats' next walk at <http://toowoombafieldnaturalists.blogspot.com/>

### Of interest...

**Healthy Land and Water 2019 Report Card Results.** Find out how south-east Queensland's waterways and catchments are rated for ecosystem health and why Lockyer Valley's condition has gone from "D+" in 2015-2018 to "D" in 2019.

<https://reportcard.hlw.org.au/>

**Feral pig research.** New research tracking feral pigs indicates the animal doesn't venture that far from reliable food and water sources, which puts a different light on control strategies. Of particular interest is that a quarter of the feral pigs tested during the research project had leptospirosis! Read more at...

<https://www.abc.net.au/news/2019-09-29/game-changing-research-into-feral-pigs-helps-farmers-face-pest/11551018>

**A bit of history.** An interesting read from 60 years ago (thanks Hugh Krenske), **Soils and land use in the Toowoomba Area, Darling Downs, Queensland** by C.H. Thompson and G.G. Beckmann. (1959). A detailed look at land use and its impacts, common trees and plants at the time and (surprise?) highlighting problems of erosion and saline seepage. The authors draw attention to the need for soil and water conservation measures - 60 years ago!

<https://publications.csiro.au/rpr/download?pid=legacy:3011&dsid=DS1>

### Local plant profile

**Atalaya salicifolia...by LUCI member Karen Gruner**

We have all witnessed much loss during the current drought: wildlife suffering from starvation and thirst, grassed areas turning to dust, even mature trees browning and defoliating. There is, however, one species that has remained green and healthy throughout all of the dry months - the Brush Whitewood (*Atalaya salicifolia*).

*Atalaya* is a genus of the soapberry family, (phylum *Sapindaceae*) which includes *Dodonaea* (Hop Bush), *Harpulia* (Tulipwood),

*Cupaniopsis* (Tuckeroo), maples, and Lychees, to name a few. The whitewood component of the common name refers to the pale rough bark of the trunk of the dry rainforest tree.



Bark of *Atalaya salicifolia* (photo by Martin Bennett)

At maturity, the Brush Whitewood will reach around 10m in height, although my neighbour tells me that he has a specimen which has far exceeded that. I think he's a lucky duck because the species is very slow growing, so his tree must be very old.

The juvenile leaves have a lovely feature - the rachis, the stem of the leaf, is winged. You may have also noticed this characteristic with *Flindersia collina* (Leopard Ash). As the leaves age the wing tends to narrow. The foliage is always green and is quite dark when grown in part shade.



Foliage of *Atalaya salicifolia* (photo by Martin Bennett)

The flowers are small and white occurring in large clusters. *Atalayas* are flowering now and the trees growing along roadsides really stand out. The nectar is a good food source for bees and other pollinators.



Flowers of *Atalaya salicifolia* (photo by Martin Bennett)

What follows are cream/brown coloured winged seeds which are also very showy when produced. New trees can be propagated by fresh seed. I've just seeded a whole lot of them in an old foam box.

Brush Whitewood grows everywhere on my property. Most of the trees are around 2m tall and I believe that they do sucker which means that they will form a series of natural groves. They have proven to be extremely drought hardy, growing in full sun to part shade and can make a very nice shade tree.

[www.tanglewoodnatives.com.au](http://www.tanglewoodnatives.com.au)

### ***The wonderful world of Mistletoes*** **...by LVRC's Martin Bennett**

Mistletoes are hemi-parasitic, which means they are not harmful to trees but live in a symbiotic relationship with them. If the tree becomes stressed it will "drop" the mistletoe. A tree that is dead with lots of dead mistletoes indicates the tree had a severe immune system problem and also put the mistletoes at risk.



*Korthalsella breviararticulata* (previously *K. taenoides pendula*). Photo Martin Bennett.

Considered a keystone species, Mistletoes should be revered as the species feeds 40 species of birds, countless Butterflies and other insects with nectar. The Mistletoe fruit also provides food for some mammals and nests for some possums. An important, valuable species not one to fear.



*Amyema gaudichaudii*. Photo Martin Bennett.

Mistletoes can occur in combination. For example, on the recent LUCI Spring Walk we observed a Jointed mistletoe (*Viscum articulatum*) growing on a Flindersia mistletoe (*Amyema lucassii*) growing on a Leopard ash tree (*Flindersia collina*).



*Amyema lucassii*. Photo by Martin Bennett.

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

*Planning processes of interest...*

Lockyer Valley Regional Council's Natural Resource Management Strategy and Plan <https://lockyervalley.engagementhub.com.au/natural-resource-management-strategy-plan>

Toowoomba and Lockyer Valley Escarpment Mountain Bike Master Plan 2019-2026 <http://www.tr.qld.gov.au/about-council/news-publications/media-releases/13907-have-your-say-on-escarpment-mountain-bike-plans>

QPWS is in the process of reviewing the Dwyers Scrub Conservation Park Management Plan, which is now over 10 years old. If you would like to comment on a draft of matters for consideration contact [lucatchmentsinc@gmail.com](mailto:lucatchmentsinc@gmail.com)

*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!*

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Newsletter Editor Diane Guthrie 0413 333 681

How did you go on the Knowledge Test?  
(Photos by Diane Guthrie and identification by Martin Bennett)  
- *Lomatia silaifolia* (Crinkle Bush)  
- *Daviesia villosa* (Prickly pea)  
- *Melichrus urceolatus* (Urn heath)

*Test your knowledge...*

Do you know the common and/or scientific names of the following? (Answers at bottom)

