CITIZEN SCIENCE GRANT

FINAL REPORT 2022

Prepared by
Shania Watson and Ben O'Hara

Little Liverpool
Range Initiative

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ABOUT US

The Little Liverpool Range extends approximately 62km to the north of the Great Dividing Range. The range is home to a variety of native species of national, state and local significance including koala, brush-tailed rock-wallaby, powerful owl, glossy black cockatoo and swamp tea tree. With large areas of intact remnant vegetation, the range also provides essential habitat connectivity to Main Range National Park and the Great Eastern Ranges.

Linking these habitats provides wildlife with important corridors for dispersal and a refuge from the threats associated with urban development and climate change. Recognising the importance of this landscape, the Little Liverpool Range Initiative (LLRI) was formed in July 2016 with a goal of ecologically preserving the range through education and coordinated management actions.

The initiative is comprised of landholder and community representatives, local councils, natural resource management groups, research institutions, and conservation organisations who work collaboratively to coordinate land management efforts at a regional scale, ensuring the natural beauty, wildlife and landscapes of the Little Liverpool Range are maintained for future generations.

To achieve this vision, the Little Liverpool Range Initiative aims to:

- ✓ Protect existing habitat
- ✓ Facilitate land stewardship
- ✓ Restore degraded habitat
- ✓ Support locally rare and threatened species and
- ✓ Increase community awareness of the Range's ecological and cultural significance

Fig 1. LLRI members enjoying an informative morning discussing the local koala populations and finding out how they can help this species persist across the landscape.

Fig 1. LLRI Boundary
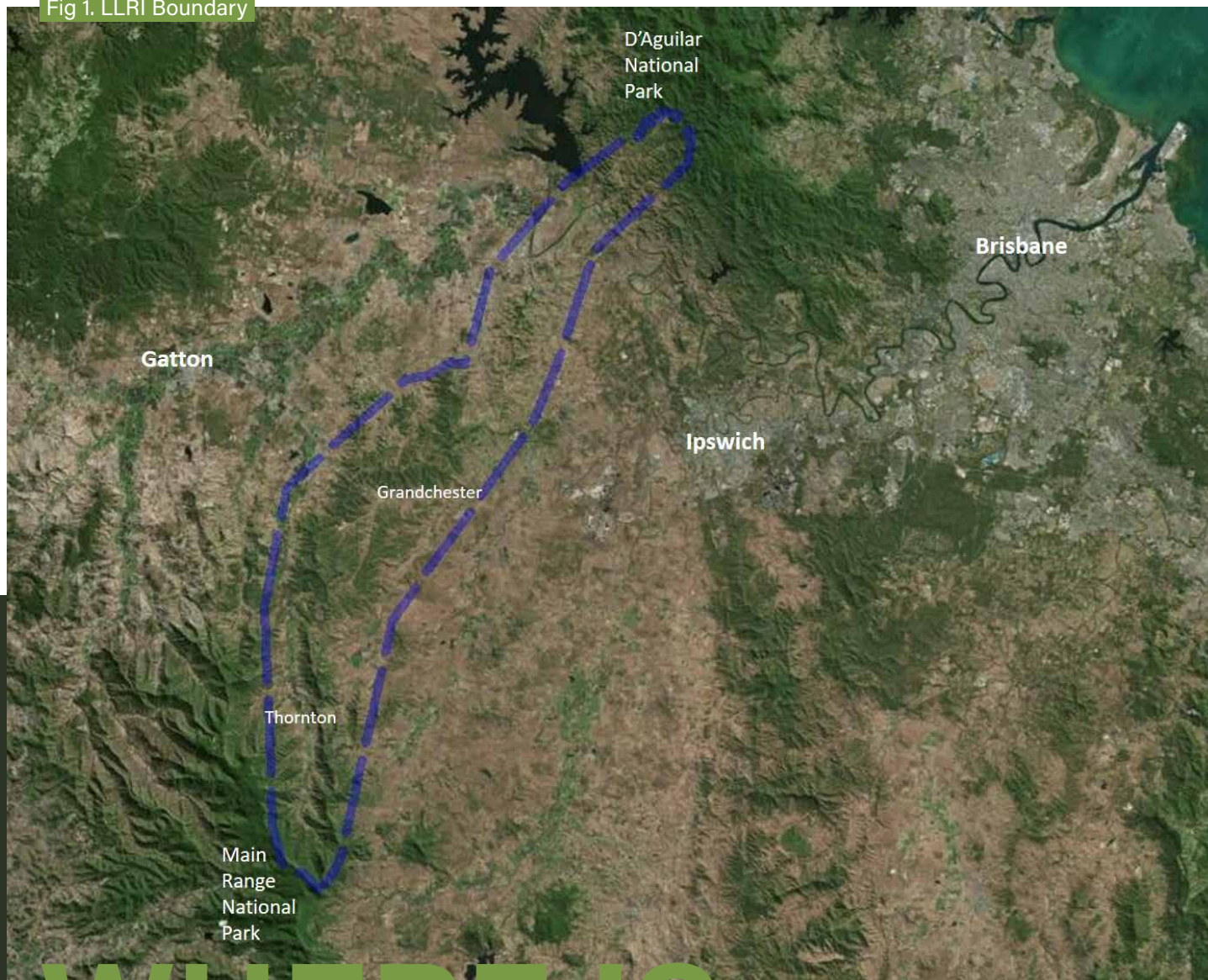
WHERE IS THE LLR?

With large areas of intact remnant vegetation primarily occurring on private land, the LLR is home to a variety of species of national, state and local significance including koala, brush-tailed rock-wallaby, powerful owl, glossy black cockatoo, and swamp tea tree.

The diverse and stable vegetation communities found across the Little Liverpool Range supports habitat connectivity to Main Range National Park providing wildlife with an important corridor for dispersal and a refuge from threats associated with urban development.

Preserving the health, connectivity, size, and resilience of this habitat will provide species with an improved opportunity to adapt to changing climatic conditions and ensure the continuation of ecosystem services that are vital for agricultural productivity including pollination, disease control, water quality, and soil stability.

WHO ARE OUR MEMBERS?

RAISING AWARENESS OF CITIZEN SCIENCE IN THE RANGE

Our citizen science project aimed to improve the knowledge of biodiversity in the Little Liverpool Range. With 27 active properties participating in the Little Liverpool Range Initiative we are starting to build a well established wildlife corridor across the LLR.

Members have deployed camera traps and audiomoths on their properties and are frequent attendees to our educational workshops. Ongoing engagement and networking with our members has increased their environmental knowledge, pro-environmental attitudes and pro-environmental behaviour. Engaging with members regularly develops a community who motivates one another to continue in their fight against environmental weeds, pest animals and other environmental threats.

Workshops across 2021 and 2022 were designed to assist members in identifying both native and pest fauna. Each workshop presented ways in which members can get involved to help support our threatened species through coordinated on ground management actions. Members learnt from experts in their respective fields on species requirements and how to become involved in citizen science projects.

Table 1 – Education Events in 2021/2022

Workshop	RSVPs
Community Consultation Workshop	12
Fauna ID and Management	25
Glossy Black Cockatoo	10
Great Restorations workshop in conjunction with 25 years of Enviroplan	23
Koala Habitat Restorations with Healthy Land and Water	27

2021 PHOTO COMPETITION WINNERS

Winner of the 'Landscape' Category - "Moody" by Karmen Butler

Winner of the 'Fauna' Category - "Australian King Parrot in Garden" by Tony Andreata

Winner of the 'Flora' Category – "Paper daisy" by Jill Robertson

CITIZEN SCIENTISTS IN ACTION
COLLECTING DATA ACROSS THE LLR

Historically, there is a lack of flora and fauna species data across the LLR. Therefore we endeavoured to increase our knowledge of native and introduced species.

We were able to achieve this by conducting iNaturalist competitions across 2021 where we have added 3000 additional records since the beginning of the project. Invertebrates were our most well documented group across the iNaturalist competitions which is also reflected in the number of invertebrates recorded outside of the competition duration.

There remains a lack of recorded pest fauna across the Little Liverpool Range, eventhough we have many in-person sightings. Into the future we will investigate more effective ways to engage landholders to record such sightings. Pest fauna management is often unsuccessful unless it is on a large scale, therefore we are aiming to increase the number of engaged landholders who would like to undertake coordinated management of pest fauna.
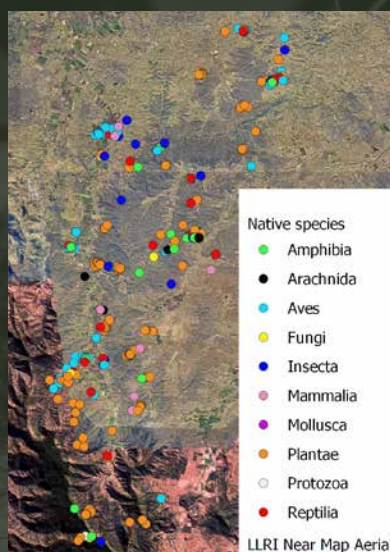

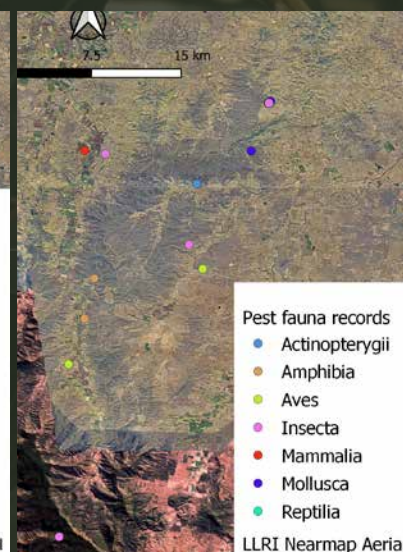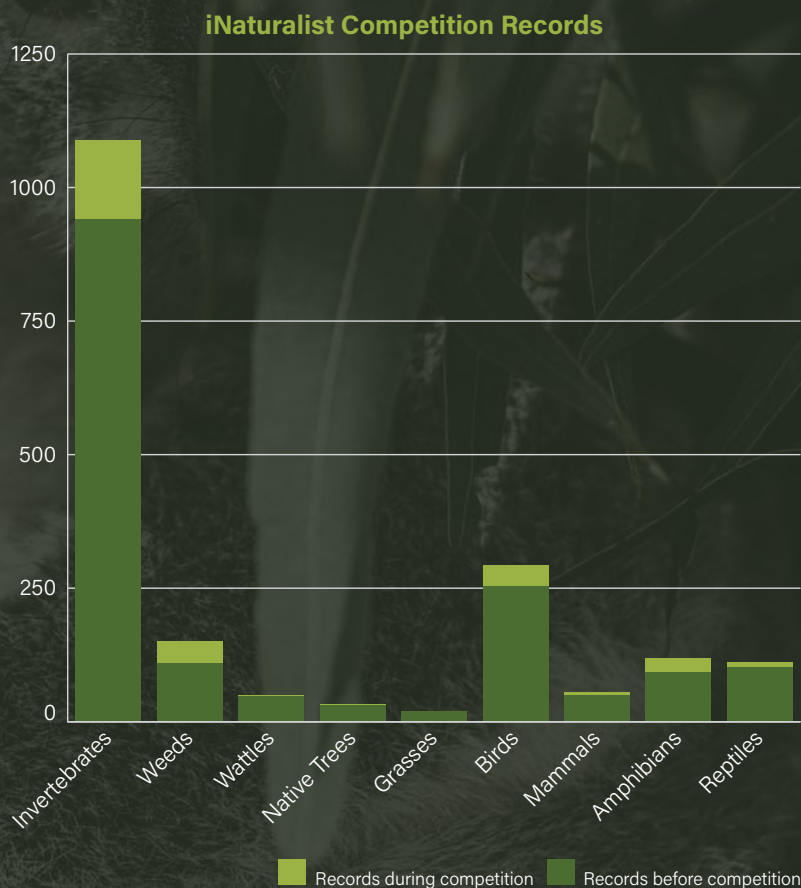Fig. 2. iNaturalist Native Species Records Since January 2021

Fig. 3. iNaturalist Pest Fauna Records Since January 2021

iNaturalist Competition Records

Records during competition   Records before competition

SOCIAL MEDIA PROGRESS

Since the beginning of 2021 we have seen 623 new species of flora and fauna recorded on iNaturalist. 32 new members have joined our iNaturalist group with the goal of documenting species presence across the Little Liverpool Range.

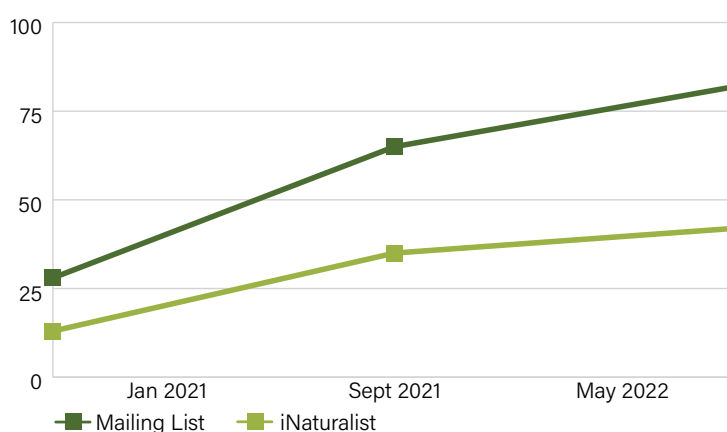Documentation of species on iNaturalist feeds directly into the Atlas of Living Australia where the public are able to see the value and diversity across our important wildlife corridor.

Social Media Data

Facebook — Instagram
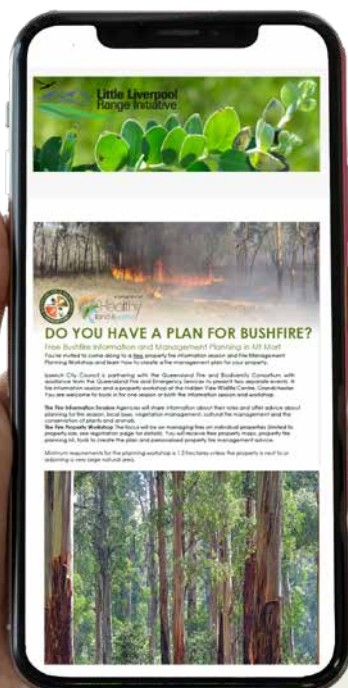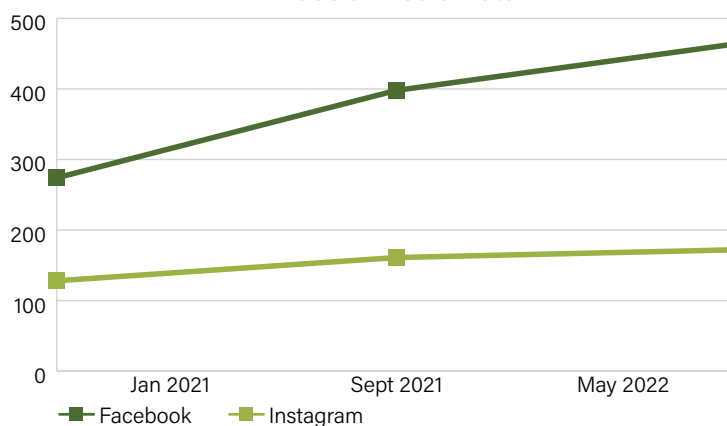
Mailing List & iNat Members

Mailing List — iNaturalist

"Connecting people, landscapes and ecosystems to conserve local and regional biodiversity for future generations."

RECORDING SPECIES ACROSS THE RANGE!

4458
iNaturalist Observations

1376
Species identified

45
iNaturalist Members

31
Cameras deployed

23
Audiomoths deployed

Devices were successful in identifying threatened and locally significant species including: koalas (*Phascolarctos cinereus*), Powerful Owls (*Ninox strenua*), Brush-tailed phascogales (*Phascogale tapoatafa*) and squirrel gliders (*Petaurus norfolcensis*)

Fig 6. Camera trap confirms presence of foxes on a private property (right), Acoustic recording of a fox screaming, two frogs calling and dogs howling (left)

25
Active Properties

6
in Lockyer Valley
Regional Council

18
in Ipswich
City Council

Fig 7. Squirrel Glider (*Petaurus norfolcensis*) captured zooming up a narrow-leaf ironbark (*Eucalyptus crebra*)

Fig 8. Brush-tailed phascogale (*Phascogale tapoatafa*) captured on camera in the LLR

MEETING OUR EXPECTED OUTCOMES

Regional approaches to threat management and land stewardship contributes to positive biodiversity outcomes

MAJOR FINDINGS

- ✓ Creating a landscape scale initiative assists in developing a community focused on the restoration of a landscape

- ✓ Communities with a shared vision are more successful in providing successful outcomes

- ✓ Members often noted that workshops assist in motivating them to continue in controlling pest flora and fauna while trying to support native species. The current over abundance of weeds and pest animals can often be overwhelming making it difficult for individual landholders to persist in their control. Having a supportive community reinvigorates their drive to conserve their properties.

Citizen Science increases environmental knowledge, pro-environmental attitudes and pro-environmental behaviour

MAJOR FINDINGS

- ✓ As shown in this report, the records of species across the LLR has increased by more than 3000 since the beginning of this grant. An increased knowledge of species presence and distribution allows scientists and decision makers to more effectively develop management projects into the future. With ongoing monitoring efforts we can create a robust database of species presence and abundance.

- ✓ Through social media and workshops, the LLRI is promoting pro-environmental attitudes and behaviours across 4 local government areas. Social media posts are often focused on providing education and bringing awareness to significant species or conservation groups in the area.

- ✓ By participating in our citizen science projects (through camera traps, audiomoths and iNaturalist) members grow in their ability to correctly identify species. Knowing what species are on their property often develops a sense of stewardship for these species.

WHERE TO FROM HERE

Improving pest fauna data collection and management

- ✓ It was difficult to engage the older demographic in long-term monitoring projects. As the demographic is older, it is often difficult for members to conduct frequent monitoring of species across their properties.We developed pest fauna monitoring guidelines, project and data collection sheet with minimal interest (only 2 properties interested, only one property has deployed cameras). There appeared to be interest in being part of this project at the Fauna ID and Management workshop, however following the workshops members did not express their interest. We will continue to pursue as an initiative beyond this point and into the future.

- ✓ Recording major pest species, e.g. dogs, foxes, cats and pigs comes with its challenges without widespread deployment of cameras, therefore further resourcing may be required. Into the future, we are planning to conduct scat collection and identification training where scats will be sent for genetic analysis.

Improving data collection

- ✓ Conducting competitions has shown us that engagement and results are highly dependent on the target species or group and the presence of these species/groups on their property.

- ✓ To effectively use data collected from this project in future management projects we will need to have a more robust database of records. At this stage records are highly skewed towards taxa that are widespread, with less of a focus on those species that are more cryptic. Alternate ways of recording cryptic/rare species will be investigated in the future including the use of acoustic records and targeted searches.

Fig 9: Mick Drews via iNaturalist Pobblebonk

INTERESTED TO KNOW MORE?

CONTACT

Shania Watson or Ben O'Hara

E littleliverpoolrange@gmail.com

P 0419 547 684

www.llri.com.au