

SQUIRREL GLIDER HABITAT RELIEF PROJECT

BACKGROUND & BRIEFING



HUNTER COMMUNITY ENVIRONMENT CENTRE



To educate and inform
the community about
biodiversity and the
need to protect it.



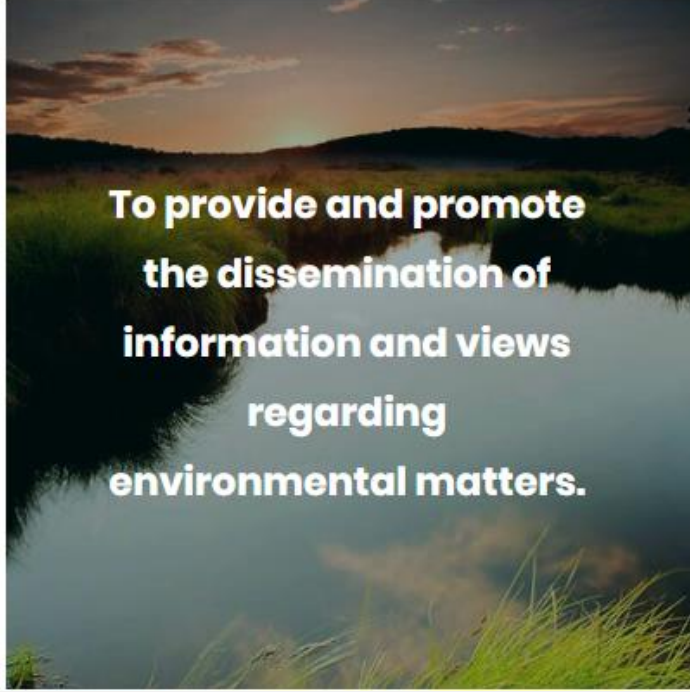
To promote and assist
cooperation, sharing of
resources and
coordination of
activities amongst
environment and
community groups.



To maintain a
community
environment
information, resource
and advocacy centre.



To protect and conserve
ecological processes,
genetic diversity and
the natural
environment.



To provide and promote
the dissemination of
information and views
regarding
environmental matters.

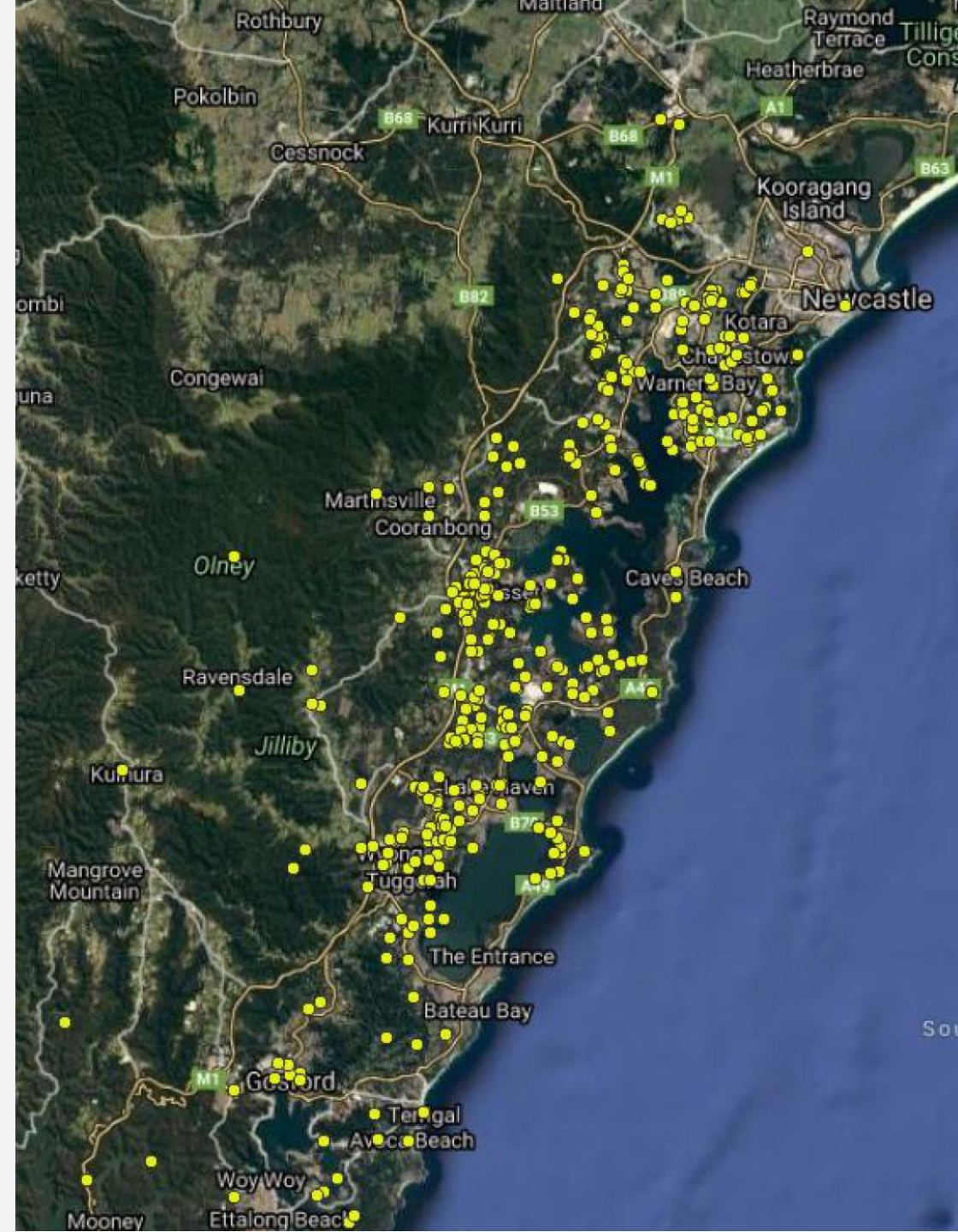
INTRODUCING THE SQUIRREL GLIDER

- The Squirrel Glider, *Petaurus norfolcensis* is one of five genus of “flying possums” native to Australia.
- Measuring around 45 - 50 cm from head to tail, with a body of around 20 - 27 cm.
- Arboreal and nocturnal, these marsupials are reliant on established hollow-bearing trees for habitat in dry sclerophyll forest and woodlands. Sightings data suggests a preference for habitat below 100m of elevation.
- Preferring a 3-5cm hollow entrance diameter to exclude predators, this species frequently change nests, therefore need multiple den trees within their home range.
- Commonly mistaken for the smaller and more adaptable Sugar Glider, *Petaurus breviceps*.
- The Squirrel glider is omnivorous, eating insects like cicadas, sap, nectar and pollen of acacias, banksias and flowering eucalypts.
- The distinctive "patagium" can carry the glider 32m and up to 50m.

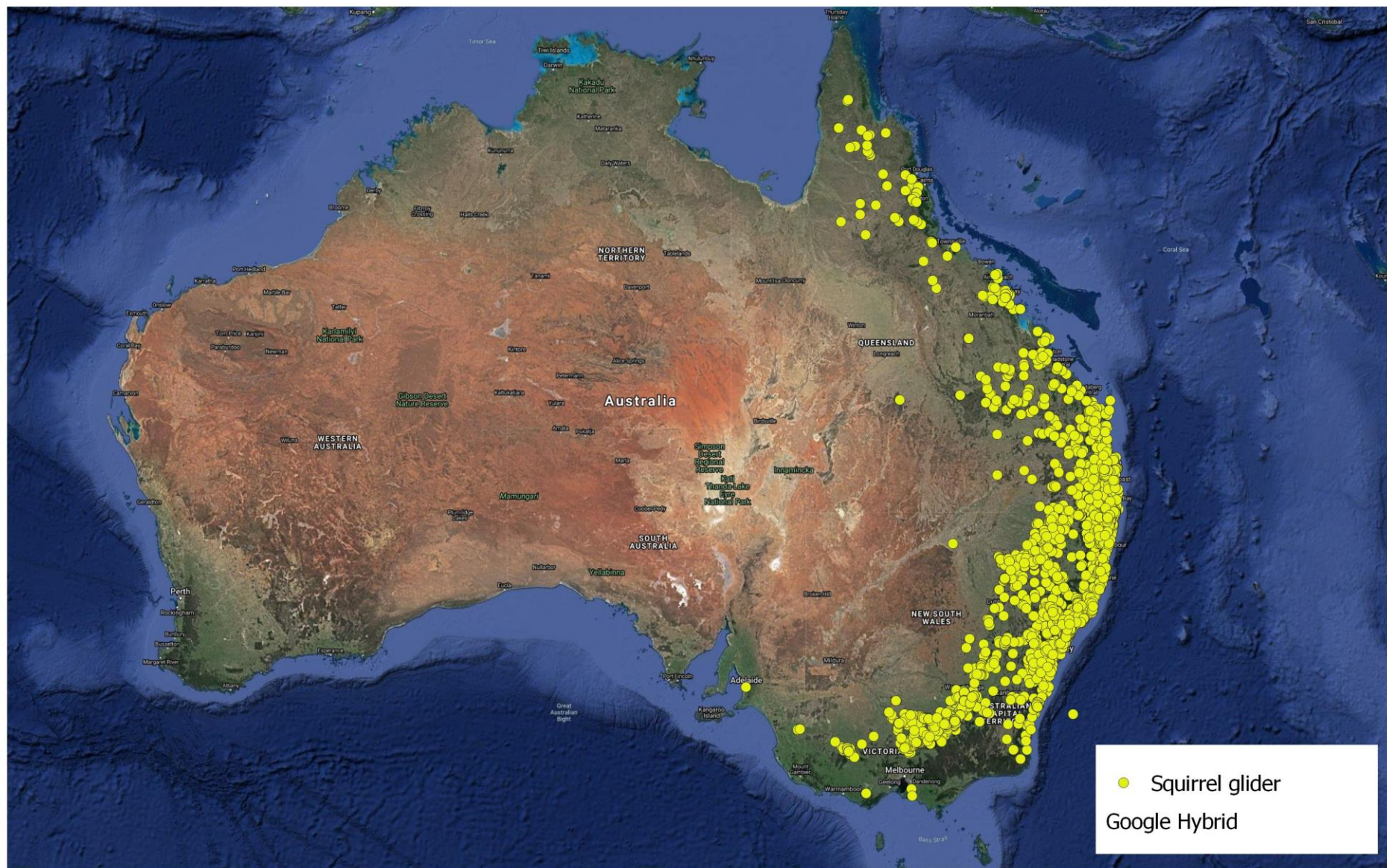


DISTRIBUTION

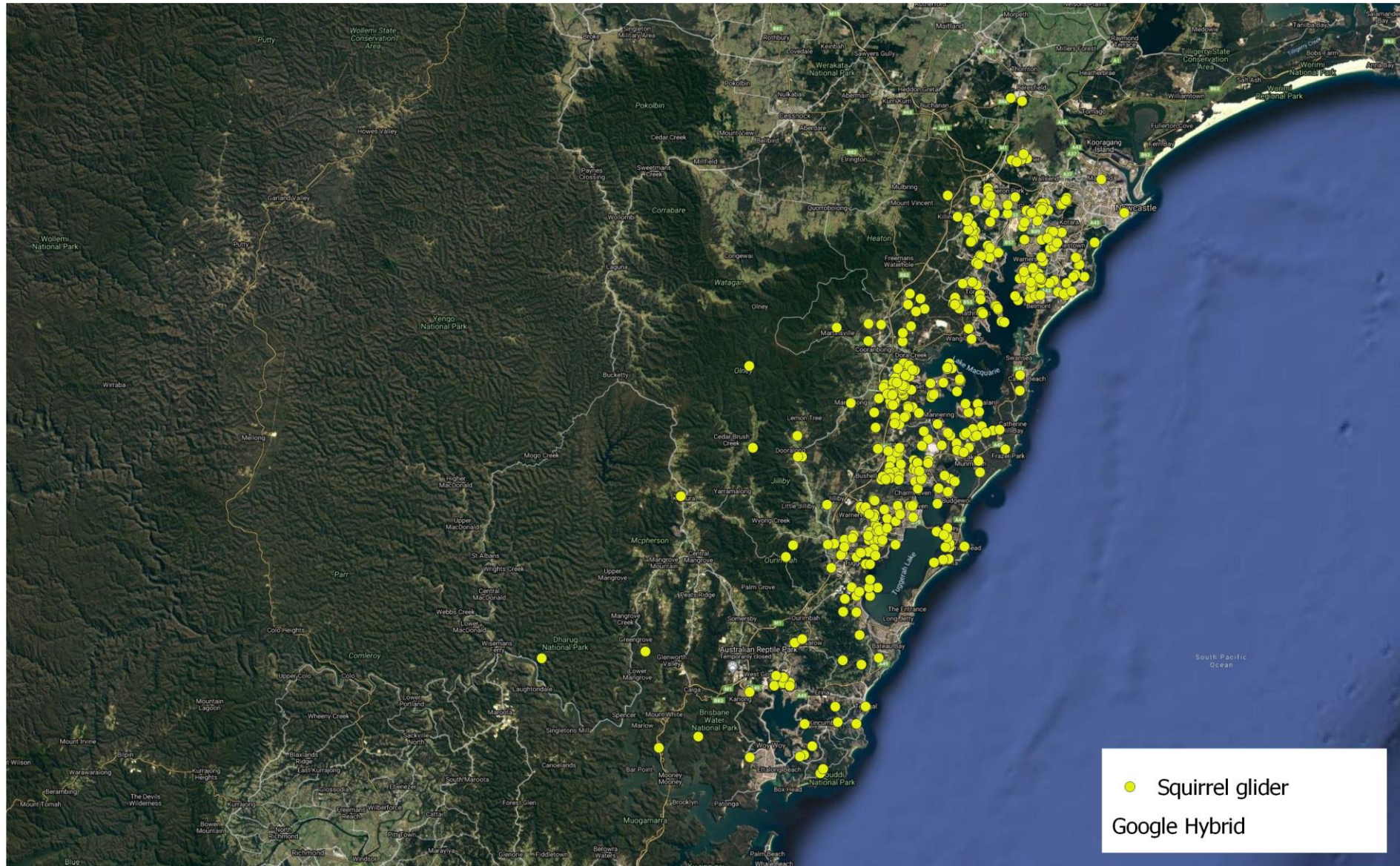
- Populations are present from Queensland down to Western Victoria, with rare sightings recoded in South Australia.
- While subject to flux, the largest population clusters or “hot-spots” have been documented in Queensland’s Clarence Valley region and Wyong in the Central Coast
- Morrisset, Eleebana and Valentine in Lake Macquarie are known to house local populations, providing important habitat that connects to Glenrock via the Awabakal Nature Reserve.
- In Newcastle, Blue Gum Hills, Blackbutt Reserve and Glenrock Reserve and the primary habitat areas, which are heavily fragmented.



Squirrel Glider Sightings in Australia



Squirrel Glider Sightings in Newcastle, Lake Macquarie and Central Coast LGAs






STATUS AND THREATS

- Listed as Vulnerable in NSW under the *Biodiversity Conservation Act 2016*, not listed nationally under the *Environmental Protection and Biodiversity Conservation Act 1999*
- Habitat fragmentation resulting in isolated populations, degradation of habitat including loss of hollow-bearing trees and food-tree understory are key threats to short and long term longevity
- Other key threats include: Inappropriate fire regimes, reduction in food resources due to drought, mortality due to entanglement on barbed wire, occupation of hollows by exotic species, mortality due to collision with vehicles, predation by exotic predators, changes in spatial and temporal distribution of habitat due to climate change, competition from feral bees
- In a highly urbanized area like Newcastle, habitat is heavily fragmented with little to no connectivity remaining.

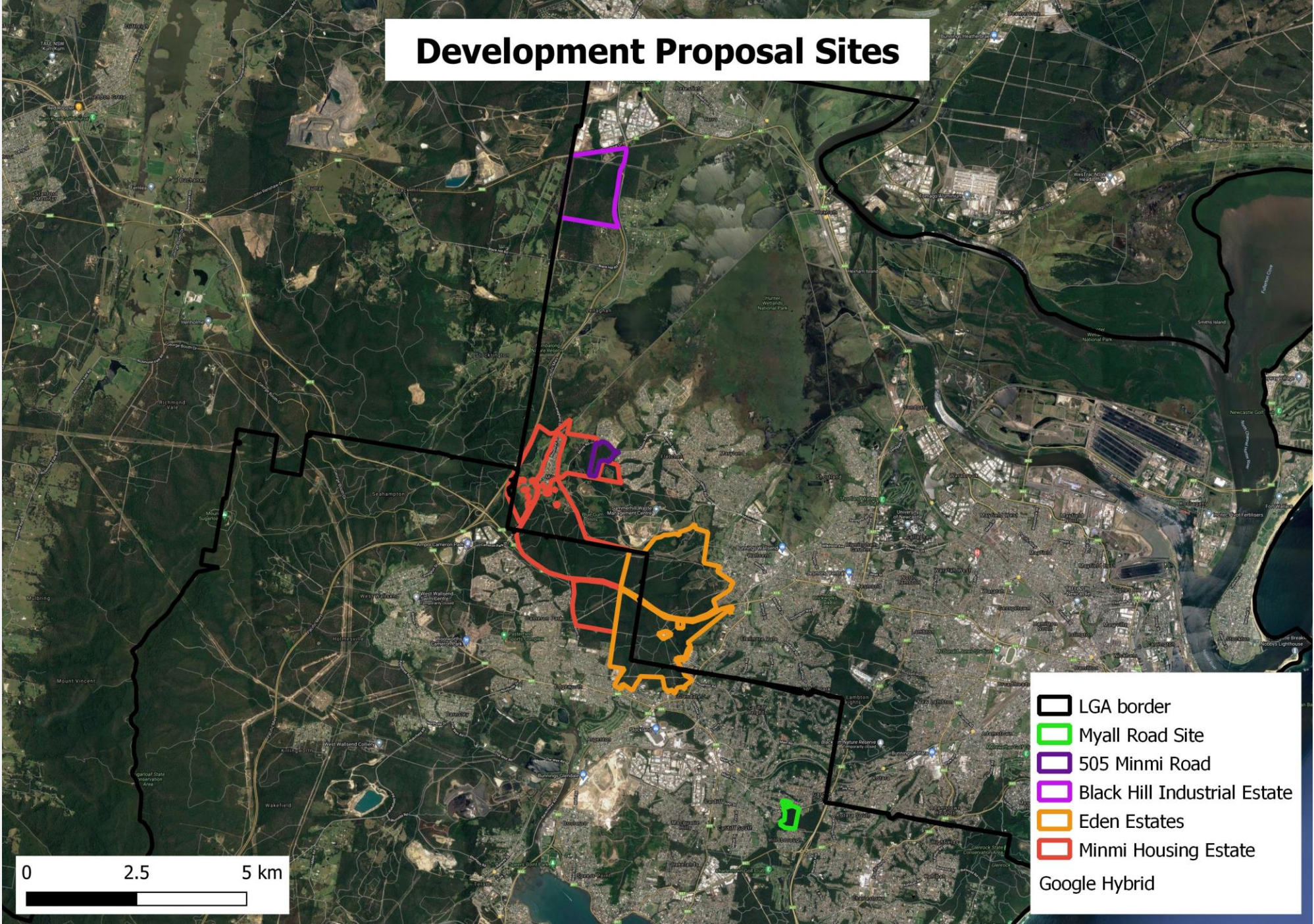


Squirrel Glider Habitat in Newcastle and Lake Macquarie



-  LGA border
- Squirrel Glider Habitat
 -  preferred
 -  observed
- Google Hybrid

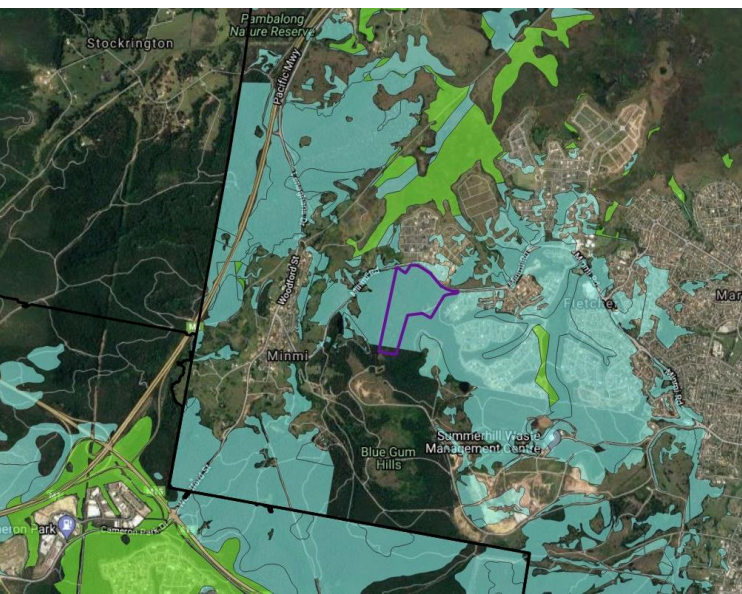
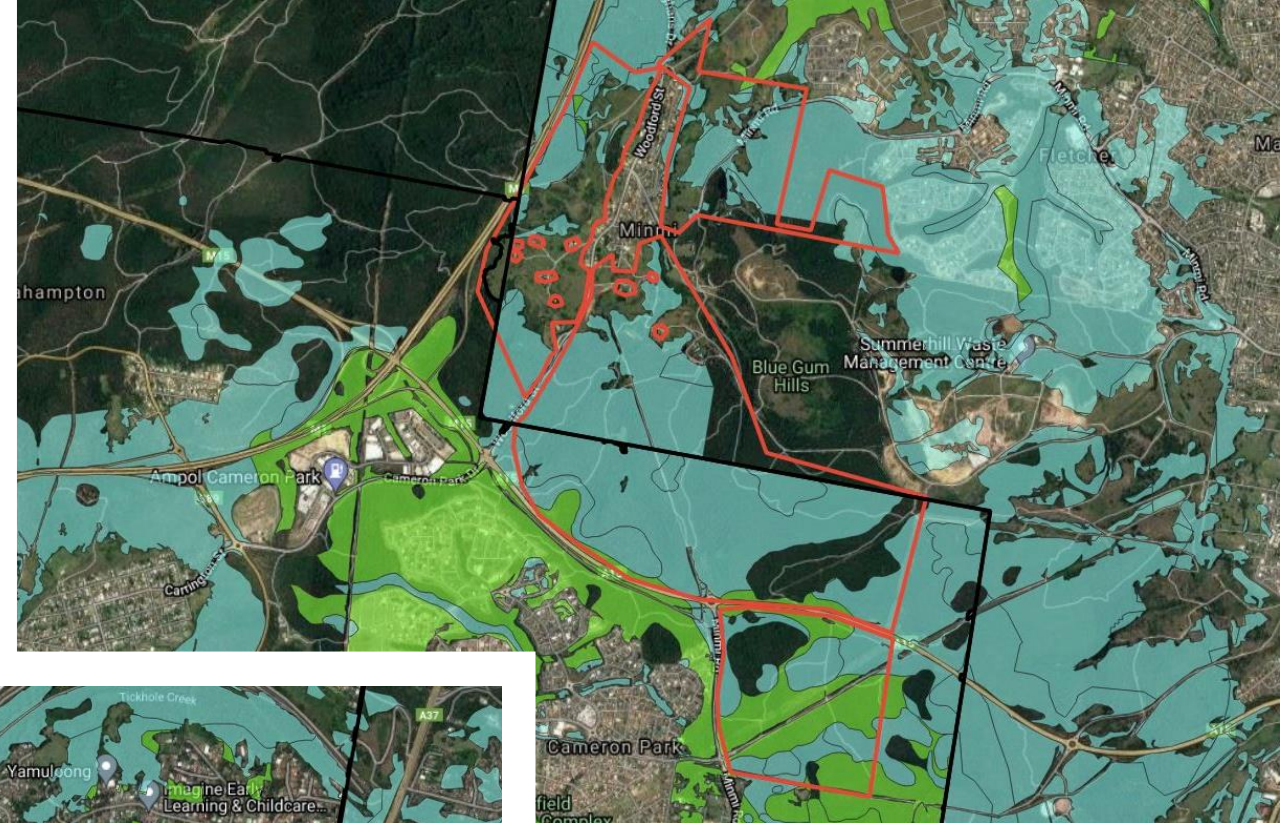
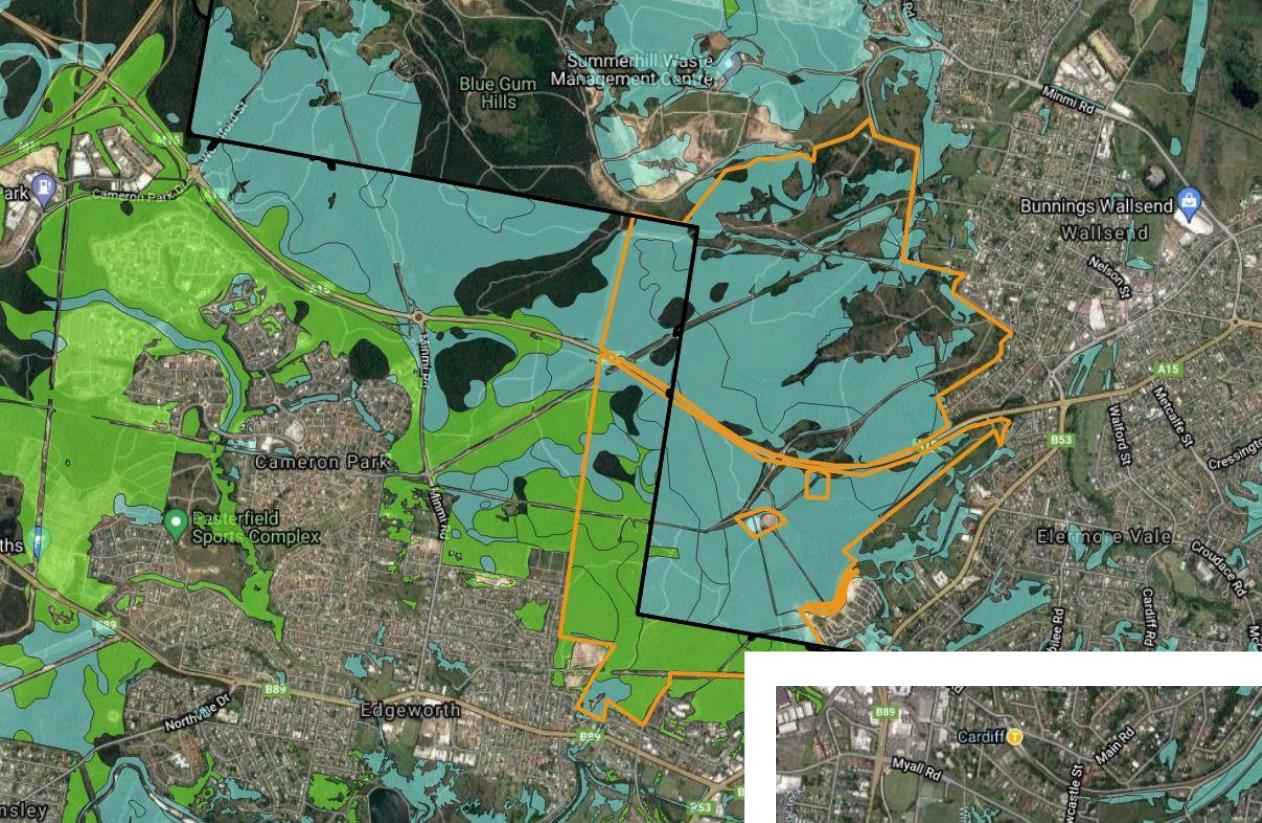
Development Proposal Sites

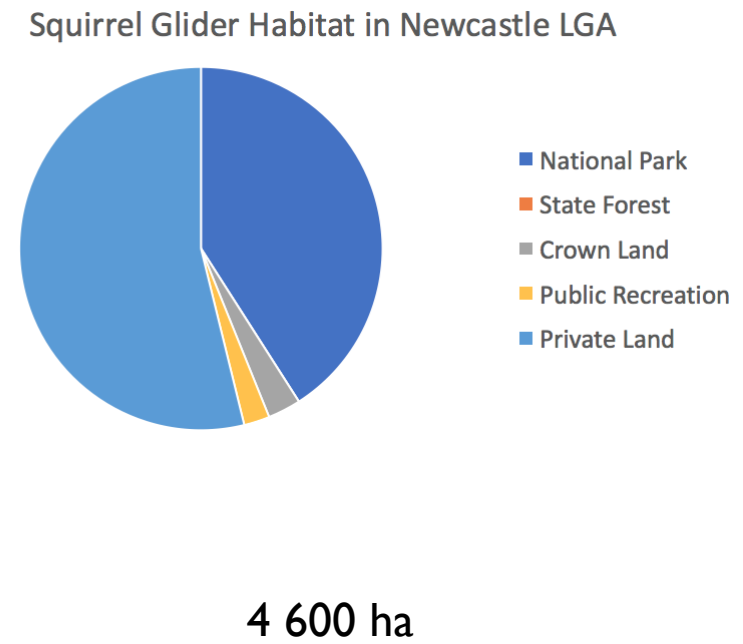
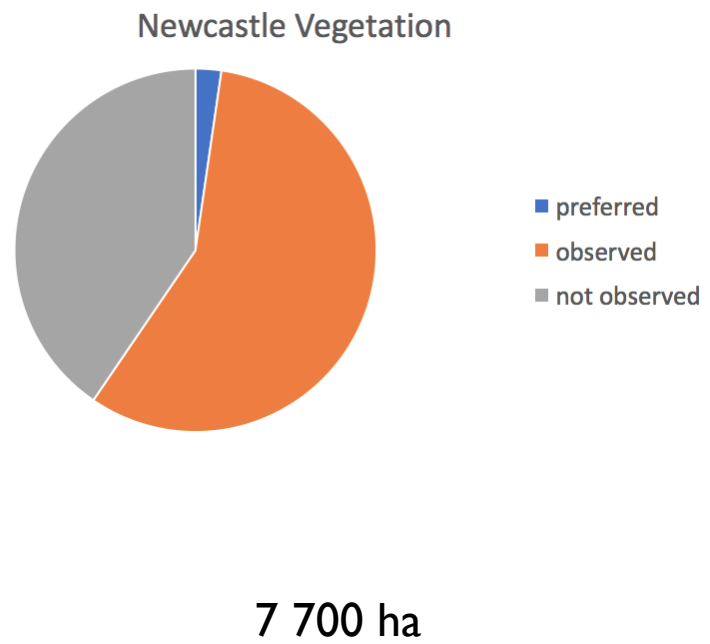
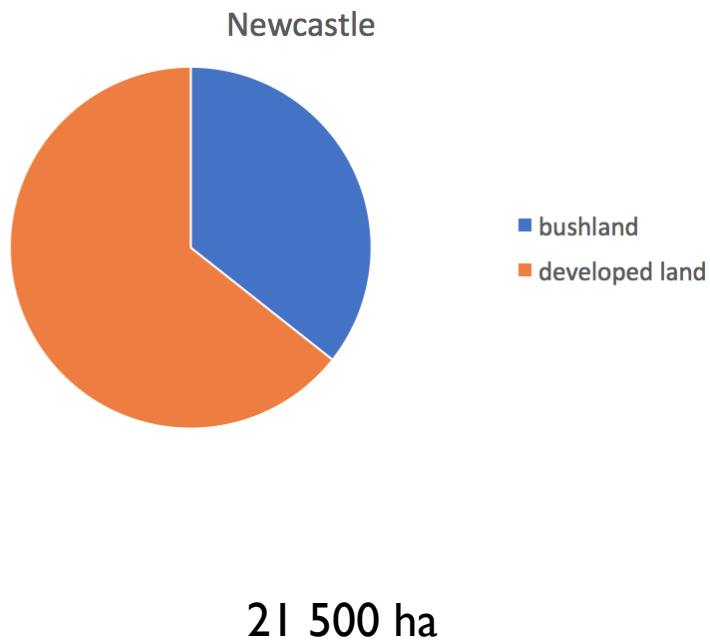


- ▭ LGA border
 - ▭ Myall Road Site
 - ▭ 505 Minmi Road
 - ▭ Black Hill Industrial Estate
 - ▭ Eden Estates
 - ▭ Minmi Housing Estate
- Google Hybrid

0 2.5 5 km

~1350 ha





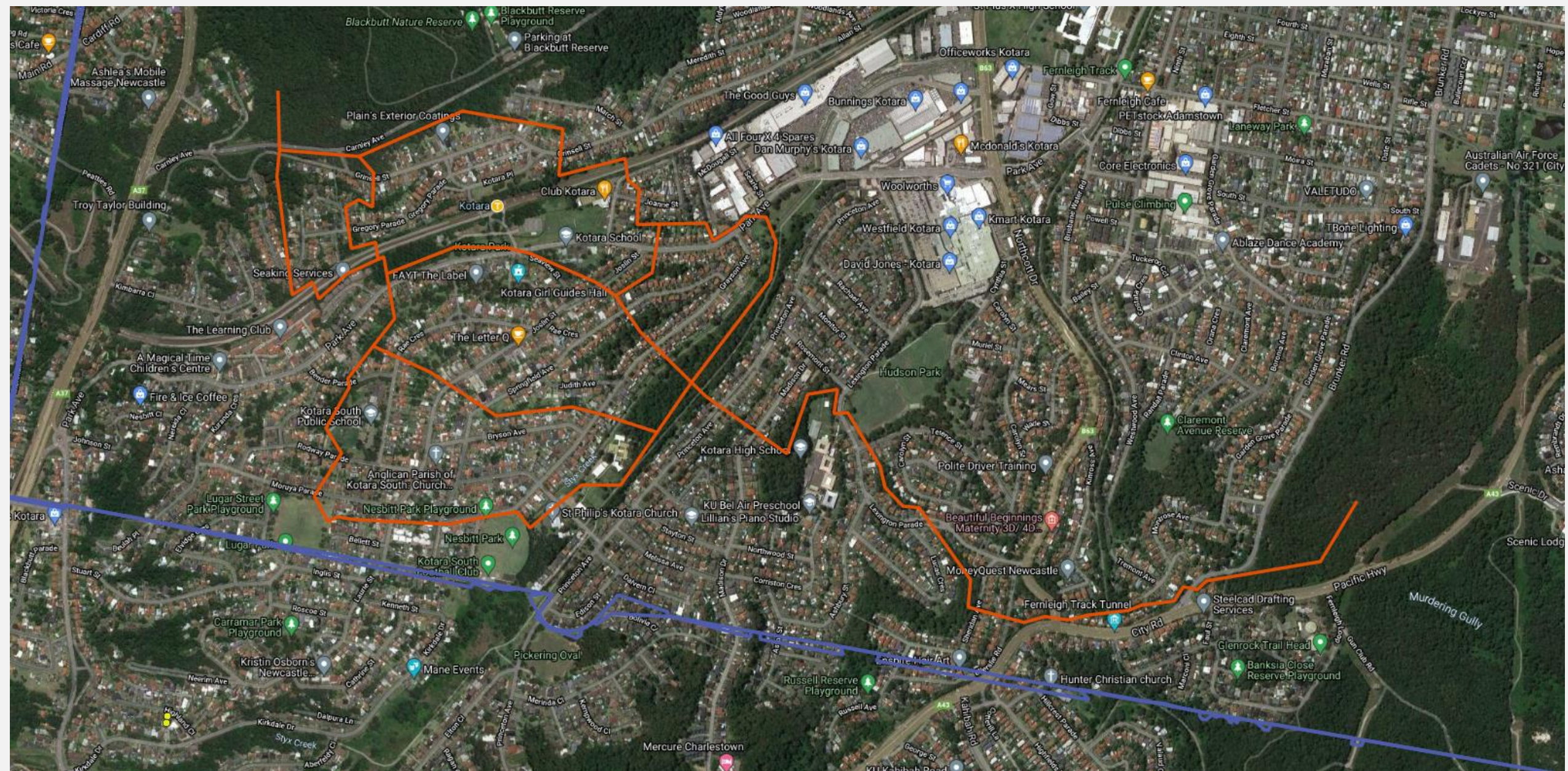
CORRIDORS: FUNCTION AND STANDARDS FOR FUNCTIONALITY

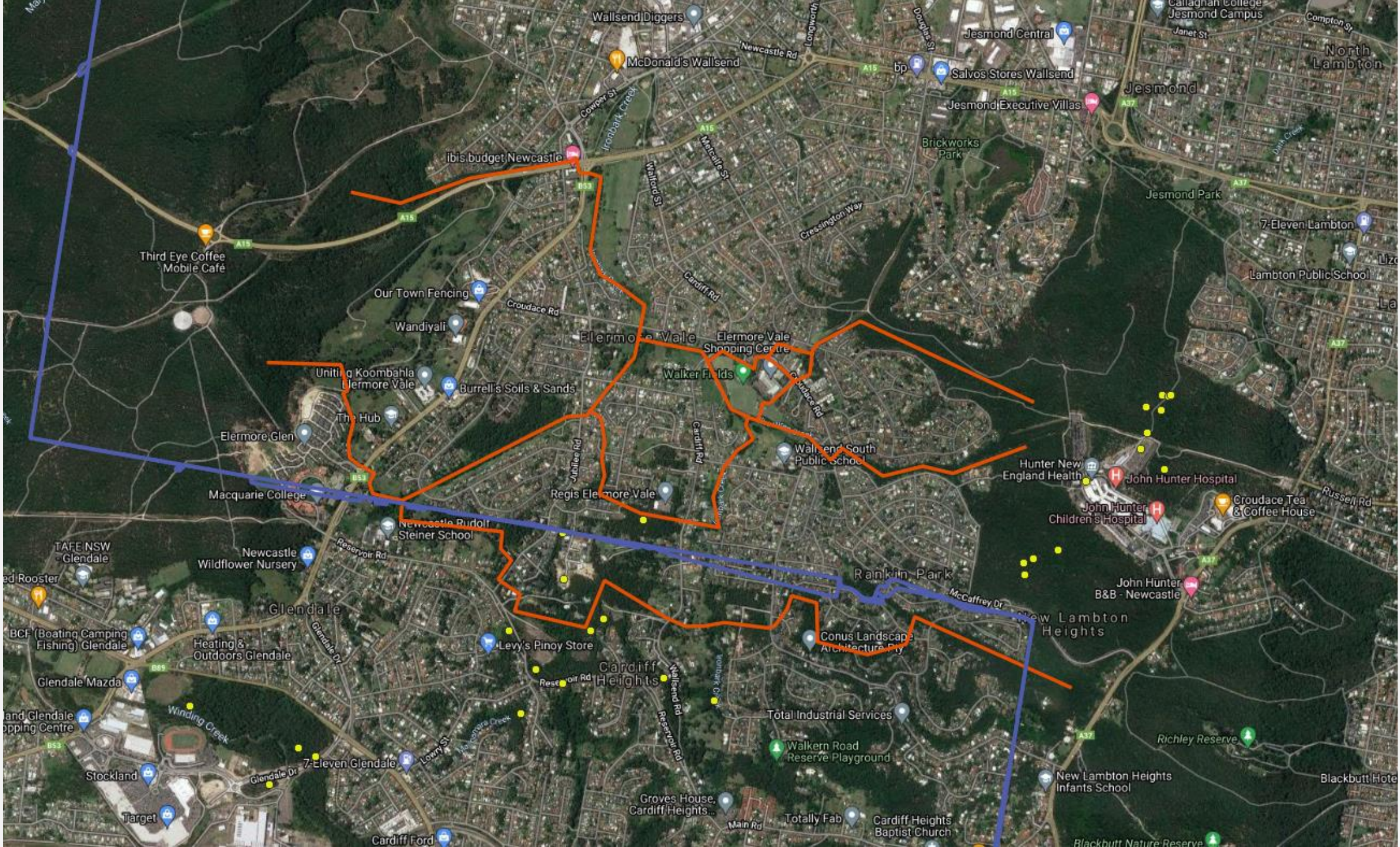
- Fragmentation degrades habitat quality
- Small fragments still important for connectivity

4.3.1 Minimum Corridor Requirements

The following design criteria should apply for habitat corridors for Squirrel Gliders:

- i Movement corridors should be not more than 1 km long without incorporating a node of >4 ha in size, the minimum patch size occupied by a Glider.
- ii Movement corridors should be wide enough to provide for maintaining ecologically viable vegetation communities and to be self-sustaining ie to allow recruitment of trees by natural regeneration. This would generally require a minimum width of existing native vegetation of 100 m to 150 m, or whatever width of vegetation remains, not <20 m. While isolated individual trees or corridors of <20 m wide have the potential to provide habitat connectivity in the short-term, they are not likely to be ecologically viable in the long-term without on-going management, and are at serious risk of disturbance. The minimum recommended corridor width for the Wyee Study Area is 40 m.
- iii Road crossings in movement corridors should be designed to maintain tall trees or, "glide poles", on roadside verges and vegetation in median strips.
- iv Movement corridors should link Major Habitat Fragments and larger Minor Habitat Fragments with high density glider populations with a minimum of two corridors, one entry and one exit corridor.





Wallsend Diggers

McDonald's Wallsend

Jesmond Central

Salvos Stores Wallsend

Jesmond Executive Villas

ibis budget Newcastle

Third Eye Coffee Mobile Café

Our Town Fencing

Wandiyali

Elmore Vale

Elmore Vale Shopping Centre

Uniting Church Koombahla Elmore Vale

Burrell's Soils & Sands

Walker Fields

The Hub

Elmore Glen

Macquarie College

Regis Elmore Vale

Walker South Public School

Hunter New England Health

John Hunter Hospital

John Hunter Children's Hospital

Croudace Tea & Coffee House

John Hunter B&B - Newcastle

Rankin Park

New Lambton Heights

TAFE NSW Glendale

Newcastle Wildflower Nursery

Glendale

Levy's Pinoy Store

Conus Landscape Architecture Pty

Cardiff Heights

Total Industrial Services

Walkern Road Reserve Playground

Richley Reserve

New Lambton Heights Infants School

Blackbutt Hotel

Red Rooster

BCF (Boating Camping Fishing) Glendale

Glendale Mazda

Land Glendale Shopping Centre

Heating & Outdoors Glendale

Stockland

Target

7-Eleven Glendale

Cardiff Ford

Groves House, Cardiff Heights

Totally Fab

Cardiff Heights Baptist Church

Blackbutt Nature Reserve

- Squirrel Gliders have limited ability to disperse across urban or agricultural land. Although capable and willing to cross open habitat on occasion (e.g. to reach heavily flowering trees), they more typically require sufficient connectivity of tree cover within their maximum gliding distance (70 m: van der Ree 2002; van der Ree et al. 2003). They are therefore susceptible to habitat fragmentation and hence population fragmentation.
- The larger body size of the Squirrel Glider versus the Sugar Glider means that the latter can persist in habitat fragments where food resources are too low for viable Squirrel Glider population
- The Squirrel Glider has been identified as a useful umbrella species for corridor design and integrated conservation and development planning in fragmented coastal landscapes (Smith et al 2002; Fallding and Smith 2008).
- The Squirrel Glider requires hollow-bearing, floriferous eucalypt open forests and woodlands with a Banksia or Acacia shrub layer, that provide den sites in tree cavities and a good winter supply of nectar.

PROJECT AIMS & TACTICS

Provision of additional habitat and food sources for Squirrel gliders	<p>Independent research and consultation with an ecologist to inform placement of nest-boxes and food-trees</p> <p>Series of habitat installation days in key areas nest-boxing and tree planting</p>
Raise community awareness of the Squirrel Glider and threats to the species within the LGA	<p>Community outreach program aimed at engaging “corridor communities” in upcoming habitat installation days and workshops, spotlighting</p>
Gather field data on local Squirrel Gliders and the status of habitat/connectivity	<p>Trail camera footage, on-the-ground observations, spotlighting and project documentation will inform a body of work to be compiled over the course of the project and make public</p>

PROJECT TIMELINE & TASKS

March

- 1 First meeting and briefing
Scouting corridors for potential habitat sites
- 2 Consultation/workshop with an ecologist on proposed habitat sites
Finalise habitat relief project details (locations, dates, materials needed, promotion etc.)
- 3 Resolve and post project info-flyers to launch community outreach drive
- 4 Place order for nest boxes & food trees, purchase trail cameras
Follow up calls to outreach targets to promote first planting day (combined with second meeting/briefing)

April

- 1 HABITAT INSTALLATION DAY and nest-box workshop - Glenrock
- 2 HABITAT INSTALLATION DAY and nest-box workshop - Glenrock
- 3
- 4

PROJECT ROLES & TASKS

Climbing	Scouting and tree-climbing for nest-box installation
Tree planting	Planting and tending to food-trees
Trail camera keeping	Install, monitor and retrieve footage from trail cameras
Documentation	Maintain a map/documentation of nest-box and food-tree locations, as well as any corridor/habitat or sightings data
Community engagement	Initiate and maintain contact with community outreach targets and project participants to inform and engage them in the project as it unfolds
Social media	Create and share photos, videos & updates with community, public and project audiences via HCEC's social media platforms (facebook/Instagram/twitter) and project webpage
Design	Design project promotional material (digital and print) as needed over the course of the project
Admin/Budget	Oversee project spending and budget Purchase equipment as required

FURTHER READING & RESOURCES

- <https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10604>
- <https://www.environment.nsw.gov.au/savingourspeciesapp/project.aspx?ProfileID=10604>
- <https://www.australiangeographic.com.au/topics/wildlife/2019/07/a-guide-to-all-27-species-of-australias-possums-and-gliders/>
- <https://www.environment.nsw.gov.au/topics/animals-and-plants/native-animals/native-animal-facts/gliding-possums>
- <https://australian.museum/learn/animals/mammals/squirrel-glider/>
- [Further assorted research papers found here](#)



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THANK YOU!