

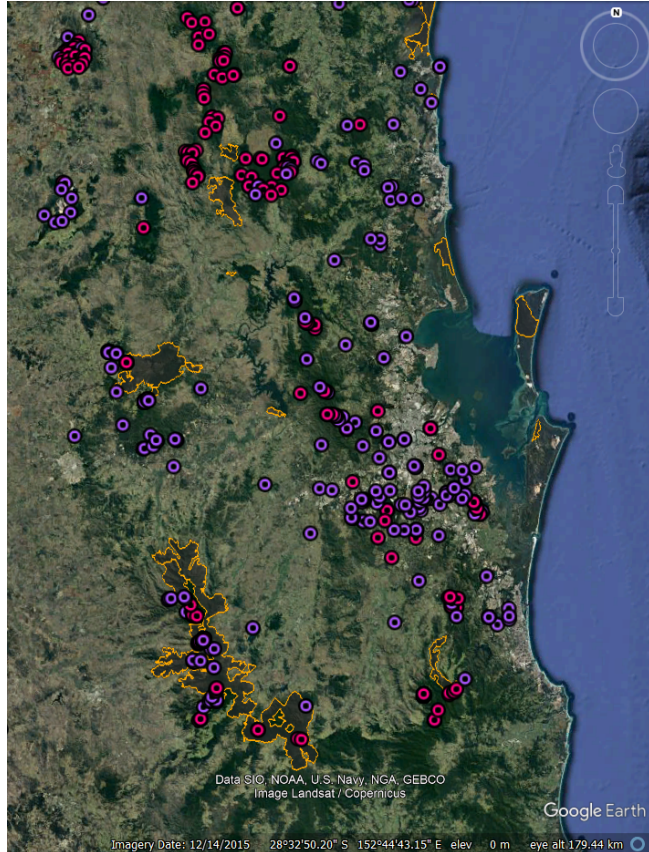


Understand the drivers  
of site occupancy by  
Greater gliders and  
Yellow-bellied gliders  
in south east  
Queensland



Building the **prosperity, liveability,**  
and **sustainability** of our 'future region'

# Background



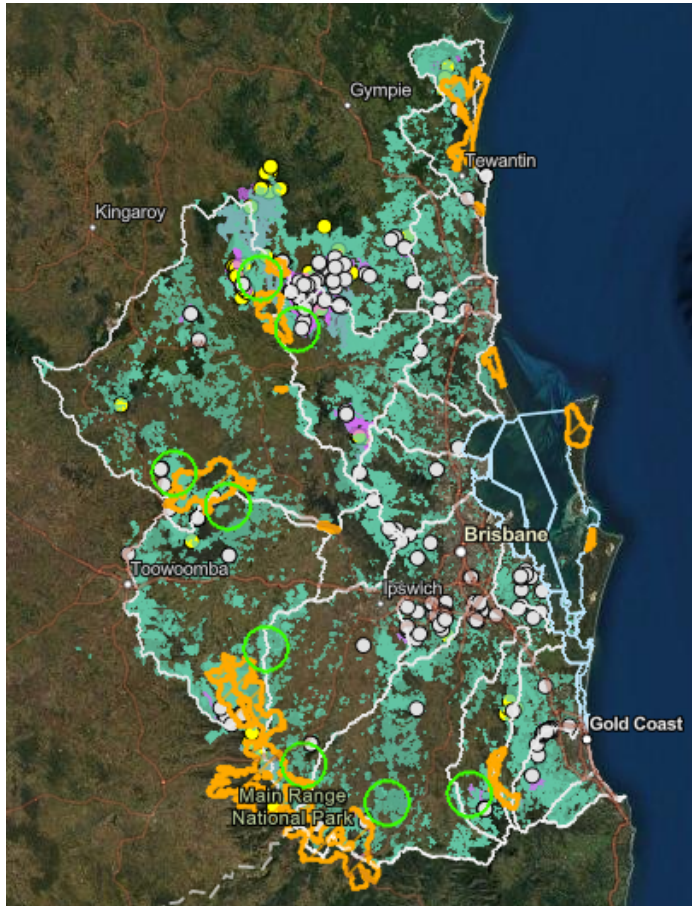
- **Greater & Yellow-bellied glider identified as national priorities for 2019-20 bushfire recovery by Australian Government**
- **Consultation with species experts, e.g., Teresa Eyre Q.DES & Wildlife Qld / Qld Glider Network regarding SEQ priorities**
- **\$110k project to develop habitat mapping for both Glider species (Oct 2021)**
  - Identify remnant and regrowth habitats
  - Investigate use of LiDAR and other data sources to predict the occurrence of mature, hollow-bearing trees
  - Ground-truth mapping through targeted surveys

# Project Status



- Literature review, expert panel formed
- Draft mapping developed for both species (Q.DES & HLW) & focal areas identified
- EOIs sought from private landholders (SEQ LfW)
- Habitat assessment & survey method determined
- First round surveys completed (WQ/QGN)
- Results assessed & mapping revisions recommended
- Extension sought to 30 December 2022
- New survey sites identified
- Second round surveys underway

# Draft mapping



- **Expert working group**
  - Q.DES (Eyre, Sanderson, Trent) WQ/QGN (Revie, Boswell, Cecil), NDL (Lyons)
  - Existing mapping of greater glider (Eyre *et al.*)
  - New mapping for yellow-bellied glider (HLW Mooney)
- **Species data trawl – WildNet, ALA, Q.DES, WQ**
- **Literature review & Multi-regional Working Group**
  - Remnant vegetation mapping (Q.DES regional ecosystems)
  - Preference for dry, mixed eucalypt open forest
  - Key habitat species, e.g., *C. citriodora*, *Eucalyptus moluccana*, *E. tereticornis*, *E. crebra*, *C. intermedia* and *E. portuensis*
  - Greater glider a focus in NSW and Victoria, trialling habitat modelling
- **Intersect high precision species records (500m or less) with remnant vegetation**
- **Review & determine survey priorities**

# First Surveys

- **Site selection**

- Landholder engagement
- Property selection & access negotiation
- Properties with large areas of potential habitat

- **Seven sites assessed – species, habitat**

- one greater glider
- no yellow-bellied glider
- wet weather, one acoustic survey

- **Few large trees**



#### Other HD wildlife

Common brushtail possum

Sugar glider

Squirrel glider

Australian owlet-nightjar

#### Other wildlife

Tawny frogmouth

Koala

Brown tree snake

Ornate burrowing frog



# Habitat assessment

- 50m x 100m transects
- Vegetation structure: layers, height, species
- Trees >20cm DBH: DBH, height, canopy, growth stage, hollows, fire damage

Site No.	1	2	3	4	5	6	7
Trees > 20 cm DBH (#)	123	67	104	61	92	65	106
Total Hollows > 10 cm (#)	25	1	3	0	0	0	0
Live Hollow Trees (#)	23	1	5	0	0	0	0
Dead Hollow Trees (#)	11	1	1	0	0	0	1
Ave Height > 20 cm DBH (m)	17.09	18.9	19.11	15.05	16.01	7.51	18.9
Ave Growth Stage > 20 cm DBH	1.79	1.85	1.69	0.6	0.79	0.91	1.71
Trees > 30 cm DBH (#)	57	43	61	21	31	33	60
Trees > 39.6 cm DBH (#)	29	18	33	2	8	19	29
Density > 30 cm DBH (#/ha)	114	86	122	42	62	66	120
Density > 39.6 cm DBH (#/ha)	58	36	66	4	16	38	58

## Guide to Greater Glider Habitat in Queensland (Eyre et al. 2022)

- Large tree DBH  $46.2 \pm 6.5$ cm
- Density large trees / hectare  $32.1 \pm 11.6$ cm
- Habitat includes feed trees >30cm DBH





# Key learnings (so far)



Photo: Josh Bowell

- Wet weather & short project timeframes are challenging
- Accessing & using spatial data takes time, money & processing power
- Collaboration delivers better outcomes
- Remnant vegetation does not equal habitat, ground-truthing critical to improve mapping
- Many areas of forest surveyed too young to support large hollow bearing trees
- Identifying mature forests critical to understand status of gliders, and priorities for protection, restoration, expansion, connectivity and revegetation
- Remote methods being trialed may provide some answers



# Next steps

- Investigate using the glider detection dog
- Complete surveys & review results
- Refine mapping with expert panel
- Present to ESA-SCBO 2022 Conference, Glider Symposium, Nov 2022
- Make mapping available



**Thank you**

