

Survey for threatened glider species Southern Greater Glider and Yellow-bellied Glider in Styx River SF.

**An interim report prepared for the
North East Forest Alliance**

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2 December 2023

Introduction

Styx River State Forest has currently one area of active logging (Compartments 31, 32, 33, 36, 38, 41 and 42) with an operational area of 484 ha. Adjacent is another area in current planning for logging (Compartments 43, 45, 46, 47 and 48) with an operational area of 831 ha.

Field investigations were carried out on two occasions in August 2023 to assess likelihood of some threatened fauna species. The main species of interest were Southern Greater Glider (*Petauroides volans*), Yellow-bellied Glider (*Petaurus australis*) and Hastings River Mouse (*Pseudomys oralis*). Spotlighting was undertaken for the two glider species and habitat assessment was undertaken for Hastings River Mouse.

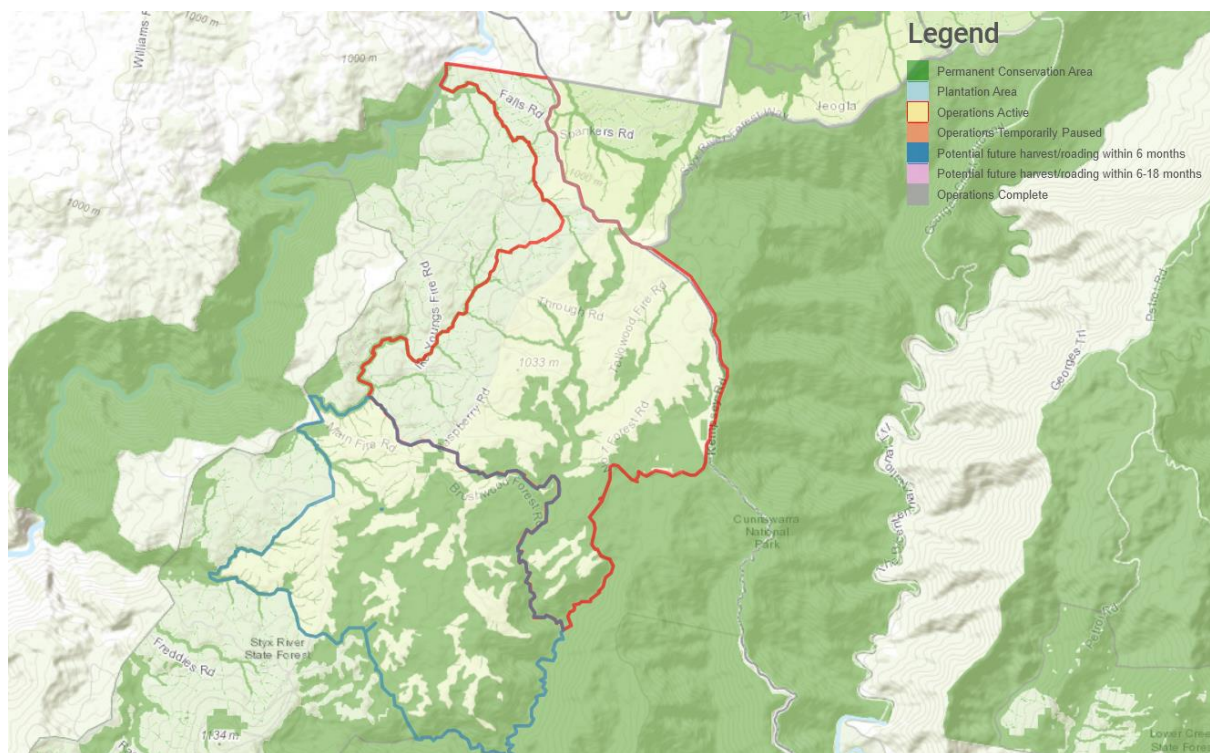


Figure 1 Styx River SF showing active compartments (red outline) and planned compartments (blue outline).

Results

A total of 24 Greater Gliders were observed. Three den trees were located. A den tree was recorded if a Greater Glider was present or emerging from a hollow-bearing tree shortly after dusk. Three Yellow-bellied Gliders were observed.

Significant areas of potential Hastings River Mouse habitat were located. Other threatened fauna observed included a Spotted-tailed Quoll and a Parma Wallaby. Fauna sightings are shown in Table 1.

Table 1 Results of spotlighting and opportunistic sightings Styx River SF August 2023.

Species	Date	Easting	Northing	Notes
Parma Wallaby	27/08/2023	416581	6605310	
Spotted-tail Quoll	13/08/2023	418577	6608911	Daylight observation
Short-eared Possum	27/08/2023	418834	6609001	
Short-eared Possum	27/08/2023	417847	6608294	
Short-eared Possum	13/08/2023	420205	6609468	
Yellow-bellied Glider	27/08/2023	419081	6608967	Two individuals seen
Yellow-bellied Glider	13/08/2023	419754	6609451	seen
Southern Greater Glider	27/08/2023	416739	6605479	
Southern Greater Glider	27/08/2023	416960	6605996	
Southern Greater Glider	27/08/2023	417952	6608506	
Southern Greater Glider	27/08/2023	418352	6608703	
Southern Greater Glider	27/08/2023	418421	6608796	
Southern Greater Glider	27/08/2023	418845	6609007	
Southern Greater Glider	27/08/2023	419037	6608993	
Southern Greater Glider	27/08/2023	419265	6609312	Den tree
Southern Greater Glider	27/08/2023	419267	6609321	Four individuals in close proximity
Southern Greater Glider	27/08/2023	419320	6609349	Den tree
Southern Greater Glider	13/08/2023	419674	6609464	Two individuals seen
Southern Greater Glider	13/08/2023	419730	6609489	
Southern Greater Glider	13/08/2023	419756	6609440	
Southern Greater Glider	13/08/2023	419767	6609459	Den tree
Southern Greater Glider	13/08/2023	419820	6609456	
Southern Greater Glider	13/08/2023	419922	6609465	
Southern Greater Glider	13/08/2023	420059	6609475	
Southern Greater Glider	13/08/2023	420061	6609474	Two individuals seen
Southern Greater Glider	13/08/2023	420389	6609413	

Discussion

Gliders

In the active Styx River SF spotlighting was undertaken from the public road and within Simmos Fire Road in compartment 41 (which was not closed at the time). A 1 km transect along Simmos fire Road yielded 11 Greater Gliders, one Yellow-bellied Glider and one Greater Glider den tree in approximately 45 minutes. In the planned harvesting area, 13 Greater Gliders and two Yellow-bellied Gliders were observed as well as two Greater Glider den trees.

No glider den trees are notated on the Harvest Plan for the active area, although it is noted that logging has yet to commence in the western part of the area, so possibly Broad Area Habitat searches as required by the *Coastal Forestry Integrated Operations Approval* (CFIOA) may not yet have occurred for some parts of the active area. However, logging is well underway in the eastern part of the approved active area, so the lack of any recorded glider den trees is concerning considering the apparent density of gliders in Styx River SF.

Greater Gliders

A search of BioNet shows 313 records of Southern Greater Gliders in the whole of Styx River SF. The results of the present survey indicate that the area still maintains significant populations and pockets of high to very high densities for the species. Records from BioNet and the present survey are shown in Figure 2. The Harvesting Plan signed off in 2009 for the nearby compartments 513, 514 and 585 documented a Greater Glider density of greater than 1 per ha.¹

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https://www.forestrycorporation.com.au/_data/assets/pdf_file/0020/440732/StyxRiver513_514_585_HP.pdf

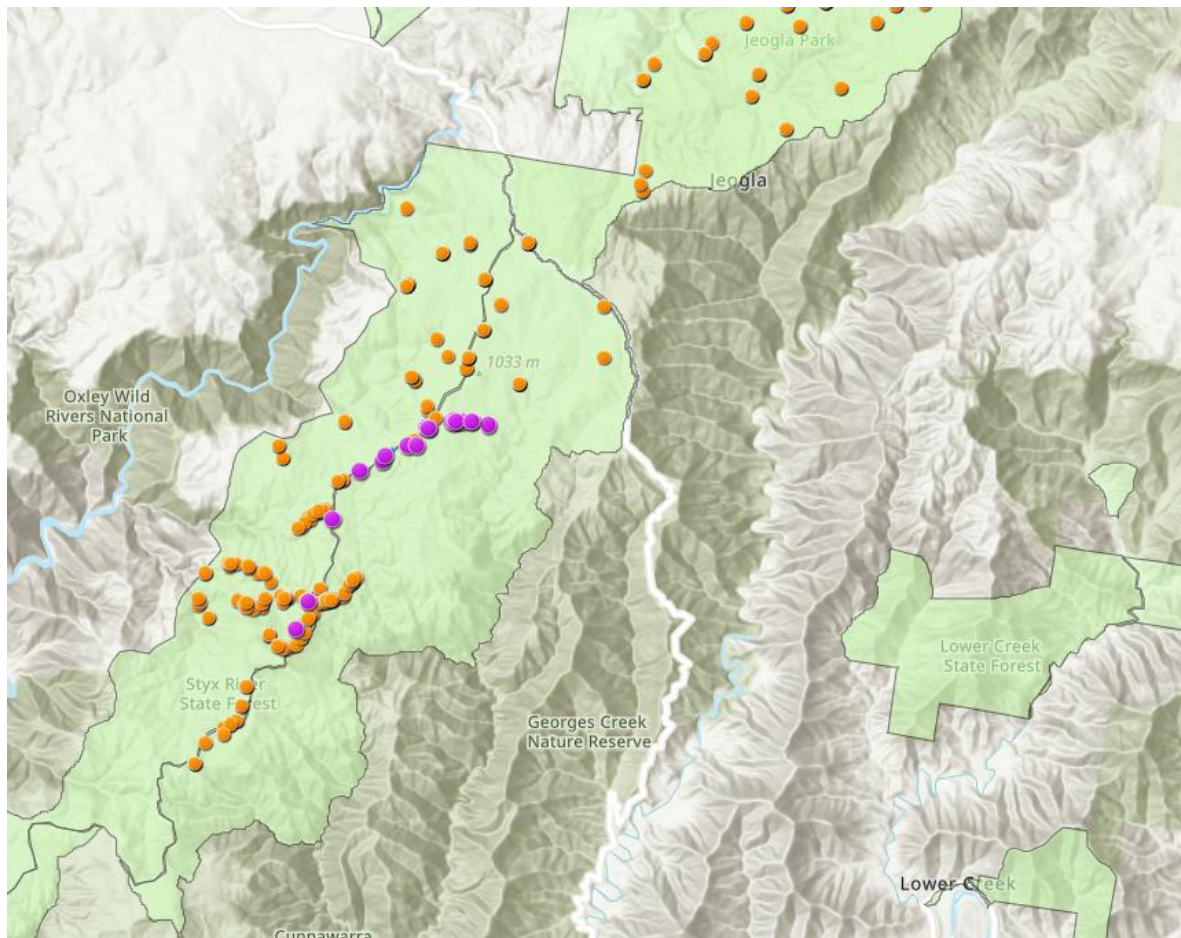


Figure 2 Distribution of Southern Greater Glider records in Styx River SF, BioNet records in orange, present survey records in purple.

Yellow-bellied Gliders

The BioNet records for Yellow-bellied Gliders reveal a surprising dearth of records, with none in Styx River SF. There are records in the Kunderang, New England NP and Carrai areas, all of which are connected by forest cover to Styx River SF. The tall wet eucalypt forests of Styx River would be expected to support Yellow-bellied Glider populations. This survey confirms their presence in Styx River and it is expected that further survey would yield more records. Three individuals were sighted, with two of those being together in a single tree (Simmos Rd records). Figure 3 shows the observations.



Figure 3 Recorded observations of Yellow-bellied Gliders in Styx River SF.

Prescriptions

Current prescriptions under the *CIFOA* do not include any requirement to take account of the presence or distribution of either of these nationally endangered glider species. Rather, the prescription relies on locating den trees (and sap feed trees in the case of Yellow-bellied Glider) and implementing a 50m exclusion zone. In addition, 8 hollow-bearing trees are to be retained per hectare as habitat trees. In the event that 8 hollow-bearing trees are not available, other trees may be substituted.

The retention of hollow-bearing trees (and den trees, if recorded) is postulated by the *CIFOA* to encompass the requirements for sustaining the threatened glider species. There are around 70 species of hollow-dependent fauna in north-eastern NSW which are all in varying degrees of competition for the available hollows.

Den trees

It is clear from examination of FCNSW's survey track log data and from BioNet records in active logging areas that virtually no meaningful attempts to locate den trees are being made. Track log survey data reveals virtually no logging of survey assessments taking place after

dark. Since the only way to discover a glider den tree is to spotlight within the first and last hours of darkness, the lack of night-time track log indicates that FCNSW does not in fact search for glider den trees. The lack of BioNet records in the preceding years and months for a number of logging locations indicates, logically, that since FCNSW do not search for glider den trees they do not find them.

In an area with high glider density, such as Styx River SF, it has been shown that with correct methodology, detecting of den trees is relatively straightforward. The present study discovered three den trees over two spotlighting periods. These are shown in Figure 4.

Other notable observations of threatened fauna include a Spotted-tailed Quoll. This was a daylight observation where the quoll came out of the planned logging area in late afternoon. It is likely that its den may be nearby. A Parma Wallaby was also seen. The Parma Wallaby and Quoll records are included in Figure 4.



Figure 4 Greater Glider den trees (red stars), Spotted-tailed Quoll (blue star) and Parma Wallaby (purple dot) observations in Styx River SF.

Conclusion

Styx River is a key stronghold for Southern Greater Gliders. Spotlighting revealed a seemingly discontinuous distribution, but pockets of high density were evident. In particular the 10+ Southern Greater Gliders together with two Yellow-bellied Gliders observed in a 1km transect on Simmos Rd indicated a very important 'hotspot'.

The current FCNSW approach to survey for den trees can only be assumed to be purposeful avoidance. As a consequence, Southern Greater Gliders and Yellow-bellied Gliders will be directly killed during logging operations. Surviving gliders will face lack of feed trees and hollows. Lack of planning for recruiting future hollow-bearing trees will also see this resource diminish further. The current approach to management of threatened glider populations is a steep trajectory towards local extinctions.