

## May Patterson

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**From:** system@acelo.com on behalf of Barry Arthur <barry.arthur@wsc.nsw.gov.au>  
**Sent:** Thursday, 21 June 2018 5:13 PM  
**To:** May Patterson  
**Subject:** Submission Details for company Wingecarribee Shire Council (org\_comments)  
**Attachments:** 266858\_Attachment 1 Proposed Quarry\_Aerial photo\_2018Jun21\_1711.pdf; 266858\_Attachment 2 NVM Benefits Map\_2018Jun21\_1711.pdf; 266858\_Attachment 3\_2018Jun21\_1711.pdf; 266858\_Attachment 4 Quarry in GWWC\_2018Jun21\_1711.pdf; 266858\_Final Sutton Forest Quarry EIS Submission V1\_2018Jun21\_1711.pdf

Confidentiality Requested: no

Submitted by a Planner: no

Disclosable Political Donation: no

Agreed to false or misleading information statements: yes

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2577

Content:

Thank you for the opportunity to make a submission on the EIS for this project. Please find attached a copy of the submission and relevant attachments.

Please note that Council reserves the right to make a follow up submission on related matters if new issues become apparent during continued reading of the EIS.

IP Address: mail.wsc.nsw.gov.au - 120.151.122.253  
Submission: Online Submission from company Wingecarribee Shire Council (org\_comments)  
[https://majorprojects.acelo.com/?action=view\\_activity&id=266858](https://majorprojects.acelo.com/?action=view_activity&id=266858)

Submission for Job: #6334 Sutton Forest Quarry Project  
[https://majorprojects.acelo.com/?action=view\\_job&id=6334](https://majorprojects.acelo.com/?action=view_job&id=6334)

Site: #2892 Sutton Forest Quarry  
[https://majorprojects.acelo.com/?action=view\\_site&id=2892](https://majorprojects.acelo.com/?action=view_site&id=2892)

# Submission to the Sutton Forest Quarry Project Environmental Impact Statement



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## Impact on Groundwater

1. The groundwater resource is a highly productive aquifer utilised extensively by local landholders and is an important part of this local community and economy. 43 registered bores were identified in a 2.4 km radius of the project (possibly misquoted throughout the EIS as a 24km radius) including 11 Industrial / irrigator users with entitlements of 457ML a year (according to data in the EIS). The median depth of these bores is about 35m (according to data in the EIS). Water levels in the bores range from 4m to 62.8m, with an average of about 22.7m.
2. The groundwater also supports groundwater dependent ecosystems some of which are listed as EECs both in NSW and Nationally.
3. Any loss of the integrity of this groundwater resource, or any degree of error in the modelling, could have a significant impact on other users reliant on this resource.
4. The EIS identifies the main risk and uncertainty associated with the assessment of the groundwater impact is the degree of heterogeneity of the aquifer system. In response, to manage this risk, the EIS proposes ongoing monitoring and reporting. If inaccuracies are found against the modelled impact, this will be too late for the other dependent users and ecosystems. Uncertainties about the impacts should be removed before any approval is considered.
5. One of the Director Generals Requirements (DGRs) was for the EIS to consider the maintenance of an adequate buffer between all excavation and the highest water storage structures. No consideration has been given to this. Rather, the project proposes to excavate more than 30m below the highest water storage structure.
6. Data for the groundwater modelling has been obtained from 9 boreholes across the footprint of the quarry. The EIS notes 4 of these boreholes were damaged, potentially causing vertical leakage errors in 20 months of results. When these boreholes were repaired in July 2014, data from these 4 sites showed a different trend compared to the remaining boreholes (and showed higher water level readings than the previous 20 month of monitoring). This would highlight the potential error in the previously 20 months' worth of data. Despite this, the potentially erroneous data still forms part of the EIS and appears to have been relied upon in the assessment.
7. One of the geological features of note in the EIS is a layer of shale interburden which was identified in three of the exploration holes in the quarry area and in many of the neighbouring water bores. The shale layer aquatard supports a perched shallow aquifer. The subsurface contour of the top of the shale in the local area was modelled as dipping to the south 'with the axis of a gentle south plunging anticline structure located just east of the drilled area', with the likely occurrence describe as 'meandering along deposited low points'. The extent or limits of the shale layer(s), and the potential interaction or linkage it has with other users of the aquifer has not been adequately considered in the EIS.
8. Council is also concerned that the EIS acknowledges the anisotropic conditions across the area (and identified with the pump tests) and the difficulty this provides in the analysis of the groundwater flows. Given the potential impact on other users of the resource, Council wants to be assured that all possible analysis is undertaken to increase the level of certainty in the groundwater predictions so that no impact can be guaranteed to all other users.
9. It is unclear what the relationship is between the water table levels identified in Figure 22 (Vol 1 Part 2) and Figure 21 (Vol 1 Part 2). The inferred contours and the slope of the water table do not correlate.

10. The groundwater model depicted in Figure 21 Vol 1 Part 2 includes groundwater data from GW43719. The bore data for GW43719 identified the presence of the shale interburden at this site and the groundwater height in this bore is likely to be influenced by the aquifer perched on the shale. It is unclear if the EIS is connecting 2 different aquifer systems in this interpretation, and whether the conclusions made about groundwater table level and slope across the model area can be relied upon. If a different cross section was depicted showing other water bores in the area, it is quite possible that a very different slope of the water table would be depicted.
11. It is noted that other users of the aquifer are accessing the groundwater at levels varying from 4m – 62.7m in depth with an average of about 23m. While modelling of the predicted drawdown identifies the potential drop likely to be experienced in the water table (interpreted SWL), it is unclear how this might be experienced by all groundwater users, given they are accessing the aquifer at such a wide range of levels.
12. Consideration should be given to what effect blasting will have on the remaining geological structures and if this is likely to create additional deformities that would have different permeability, hydraulic conductivity and water storage properties to the remaining sandstone. It is unclear how this might also affect the aquifer that is already anisotropic and whether the impact can accurately be modelled.
13. The DGR's requirement to demonstrate that water for the operation of the development can be obtained from appropriately authorised supply in accordance with the relevant Water Sharing Plan does not appear to have been addressed. It is felt that they have not adequately demonstrated this, particularly given the competition from other projects proposed in this region.
14. Council is concerned that the project has identified the Highlands Source water pipeline to Goulburn as a potential water source for the project. The Highlands Source water pipeline was proposed and developed to supply emergency water supply to the people of Goulburn during the drought of 2008 when its town water supply was at an extreme low. It was approved at a time when the people of Goulburn had responded to threat of loss of the water supply with the tightest water conservation measures and with impact to the environment and residents of the Wingecarribee Shire (acquisitions / easements / property impact). This water supply should not be diverted to an industrial use that is failing to obtain its water usage rights for predicted environmental impact and operational needs.

#### Groundwater Dependent Ecosystems

15. The DGRs required the EIS to identify any known or potential Groundwater Dependent Ecosystems (GDEs) that may be impacted by the proposal. It is felt that this has not been adequately covered in the EIS.
16. The EIS has not considered a potential wetland to the south of the site in the upper section of watercourse D. The feature is apparent on aerial photographs immediately to the south of the quarry at an elevation of approximately 640-645m. Council's fine scale vegetation mapping has identified this as potentially Montane Peatland and Swamp, a listed EEC in NSW (Map of this location included as attachment 1). Given its location, proximity and elevation, it is likely that this wetland is influenced by the aquifer(s) that are intended to be intersected by the quarry, and the potential impact must be adequately considered in detail.
17. The EIS has not considered any GDEs in watercourses A or D, including any terrestrial vegetation supported by shallow groundwater. Given the presence, proximity and elevations of the aquifer(s) identified on the site, it is likely that shallow ground water will be present

along these watercourses which may be supporting the ecosystems in these localities (Figures 7, 8a, and 8b Vol2 Part 9).

18. The EIS has not considered potential GDEs associated with outflows of the groundwater along the cliffs, although this is identified as potentially occurring as a "multitude of elevation - controlled springs" (Vol 1 Part 2).
19. The EIS identifies a potential impact on Long Swamp. However the description of the level of impact is generalised and not quantified (a requirement of the DGRs), using terms such as "no extensive loss" and "possible some fringing areas may be lost in the eastern most extent". It is hard to understand the area of that loss, the habitat value of that loss, the ecological consequences of that loss from this type of analysis.
20. Water data presented relies on only two water sampling events. This does not seem to be an adequate data set to quantify and characterise the existing condition of this State and Nationally listed EEC. There does not appear to be enough data to characterise what sources of water (groundwater) the swamp is reliant upon, or to consider the potential impact from adverse stormwater discharges, or from different chemistry or physical properties of an amended groundwater medium.
21. The EIS has not considered potential impacts on groundwater dependent ecosystems (GDEs) from the rehabilitation process. The rehabilitation of the site will create an amended geology and soil type and create different groundwater flows, chemical and physical properties. The EIS should have considered what the impact from this will have on the ecosystems linked to the groundwater.
22. Council is concerned about the potential surface water impacts from the operations. Council questions whether the sediment dams and water storage dams are adequate to intercept all anticipate flows (without overflows during high rain events) during the 30 year / 45year of the project.

### Biodiversity Impacts

23. The project site is located in a regionally important wildlife corridor called the Great Western Wildlife Corridor (GWWC). The GWWC is a key corridor in the Great Eastern Ranges Southern Highlands Link located between Bullio and Bungonia. The corridor is additionally recognised as a highly significant location for "consolidation" in the Office of Environment and Heritage NSW Native Vegetation Management Benefits Analysis maps (see Attachment 2).
24. The GWWC is described in the Wingecarribee Local Environment Plan (WLEP2010) as a Regional Wildlife Habitat Corridor and is mapped on the Natural Resources Sensitivity Map. The corridor is currently under review as part of the Green Web project and as more information and data are collected on threatened species and other flora and fauna.
25. The GWCC is a critical corridor for connectivity conservation as many threatened species including the Koala, Regent Honeyeater, Glossy Black-Cockatoo and other important ecological species utilise this corridor.
26. Regent Honeyeaters migrate along the GWWC on their annual migration from Victoria to their breeding grounds in the Burraborang, Hunter and Capertee Valleys. It is very important for them to have winter-flowering gum trees along their route. Fragmentation of habitat along the Regent Honeyeater migration route is a key reason this species is now critically endangered (less than 300 in the wild) whereas it's population was in the thousands as recently as the 1960s.

27. The Sutton Forest, Paddy's River, Wingello and High Range localities are where the GWWC is narrowest and highly fragmented and where conservation efforts need to focus. A number of conservation programs are currently active in the GWWC. They include NSW Saving our Species project "Glossies in the Mist", which is a collaborative project with OEH, NSW NPWS, Wingecarribee Shire Council, Local Land Services, Forestry Corp NSW, Australian Plant Society and Friends of the Glossies partners. A description of this project is attached (Attachment 3). Other projects concentrating on the area include the Southern Highlands Koala Conservation Project, and Council's Private Land Biodiversity Conservation Program (incorporating Land For Wildlife).
28. One example of the significance of the biodiversity value provided by this corridor is demonstrated through the local Koala population. The Southern Highlands Koala Conservation Project (SHKCP) is a joint project between Wingecarribee Shire Council and OEH. Research with this project has provided a high level of understanding of the Koala population in the Southern Highlands. The Koala population has been estimated at 3000, making it the largest Koala population in southern NSW and represents 10% of the States Koala population. An estimated 1,000 koalas are predicted to inhabit the GWWC. The SHKCP research has also identified that koalas in the Great Western Wildlife Corridor need a significantly larger area of primary habitat than koalas in the east of the Shire, meaning the Koalas rely on much larger areas of connected habitat in the west of the Shire. The SHKCP research has modelled Koala population density according to vegetation communities. Using this modelling it is predicted that the project site would support 2-3 Koalas. In addition, 23 tree species in the Southern Highlands have been identified during the SHKCP as being used by Koalas, which is significantly higher than the three local species currently included in SEPP44. This research will feed into amendments to the SEPP 44. Of these 23 species, 11 were identified as being present on the quarry project site. Informed by this research and predictive data, an inspection was undertaken by OEH and the EIS author during the exhibition period and the presence of Koalas (scratchings and scats) have been confirmed on the site. One of the significant factors leading to this is the large areas of connected habitat.
29. The NSW Government recently purchased a 401ha property at Tugalong Road Canyonleigh for Koala habitat, recognising the importance of this corridor for Koala conservation. Approval of the removal of habitat of the scale proposed with this project works against the efforts to conserve the integrity of the GWWC. Further recognising the critical importance of conserving Koala habitat in the Great Western Wildlife Corridor, the NSW State Government announced in May 2018 that over 8,500 hectares of Koala habitat would be set aside as new Koala Reserves in Jellore, Belanglo & Meryla State Forests.
30. The EIS makes the conclusion that the proposal would represent a significant impact to threatened species. The project proposes to remove approximately 63 Ha of forest and woodland, including numerous hollow bearing trees and dead wood or dead trees that would exacerbate an existing key threatening process. The site contains known and potential habitat utilised by at least nine identified threatened animal species, including the Glossy Black-cockatoo and Koala (both mentioned above).
31. Identifying the significant impact to threatened species has triggered the need for the applicant to pursue biodiversity offsets. Council is concerned that the offset approach does not adequately remove or allay the concerns regarding the impact on the GWWC.
32. The proposed project would occupy 13% of the width at this section of the GWWC. The corridor precinct around Sutton Forest / Penrose / Canyonleigh is one of the most fragmented and 'at risk' links in the corridor network. The cumulative impact of development in this precinct is alarming (Attachment 4 shows the approved and proposed sand quarries in this precinct). Breaking the habitat links and reducing the habitat patch sizes will reduce the viability of the GWWC to serve its biodiversity function.



33. The DGRs required to EIS to consider the functionality of this important regional corridor. It also asked to describe the likely impacts on the wildlife corridor, including direct and indirect impacts (noting also that some potential indirect impacts do not seem to be adequately considered eg. impact from lighting), and quantify these impacts. It is felt that the EIS has not adequately addressed these issues.

#### Rehabilitation Issues

34. Council is concerned about the potential impacts from the rehabilitation process and the level of assurances that full remediation will be guaranteed.
35. Council would like to know what mechanisms could be built into an approval that will guarantee rehabilitation at the agreed timing and standard. It has been suggested to Council that the quarry project does not have a lease from the landholder that covers the full period of the project (including rehabilitation). Council cannot confirm if this true but is concerned that any type of approval considers and allows for the changes to the ownership / occupancy at all stages of the Project.
36. Council is concerned that the project may never reach final (stage 7) approval and completion and that the Rehabilitated Interim Final Landform will be a poorer outcome than the foreshadowed Rehabilitated Final Landform. Council has some concerns with the Rehabilitated Interim Final Landform, if this becomes the final outcome.
37. The EIS has not considered potential impacts on groundwater quality from the rehabilitation process. The rehabilitation of the site will create an amended geology and soil type and create different groundwater flows, chemical and physical properties. The impacts of this have not been assessed.

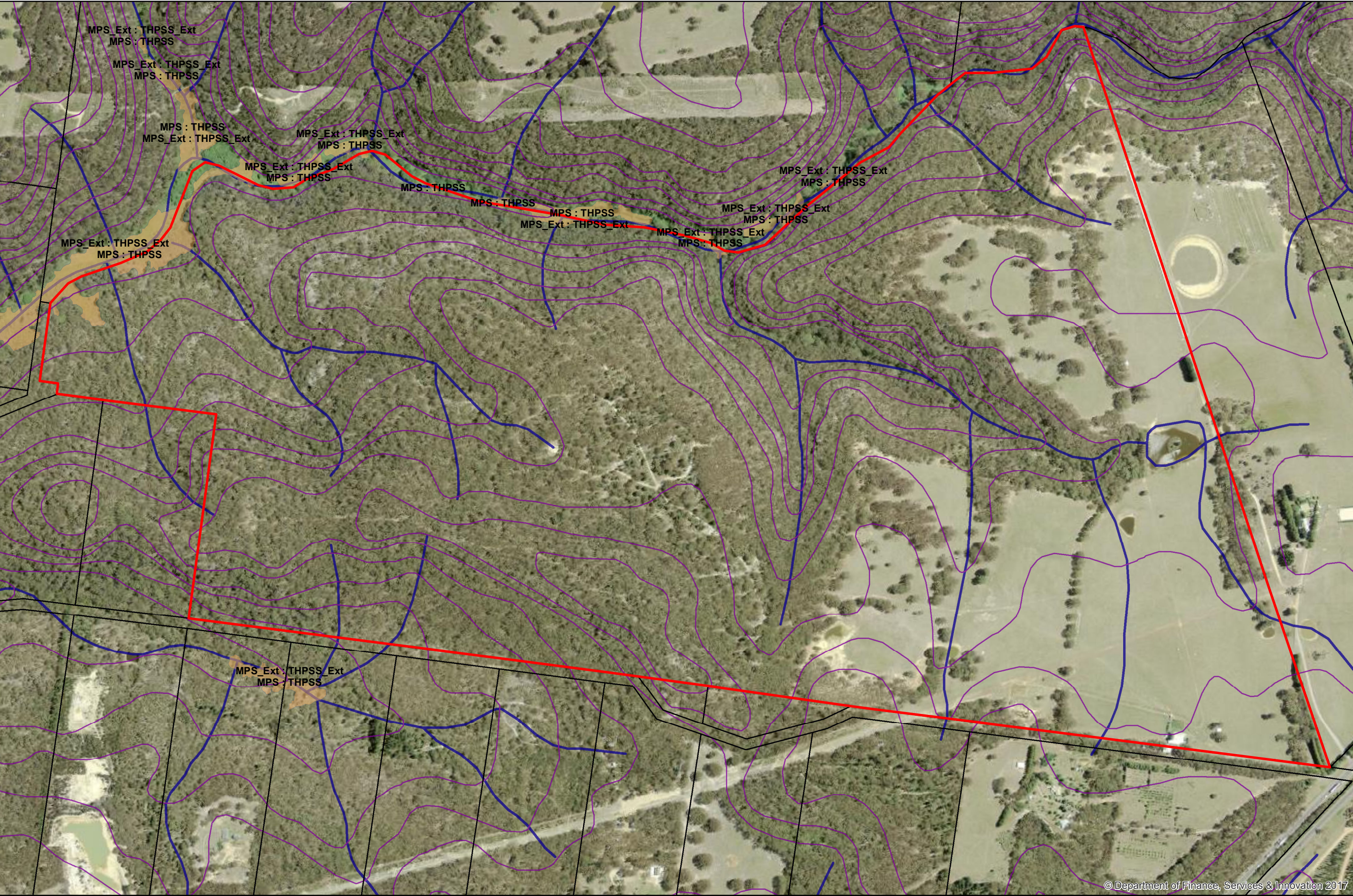
#### Social and other Impacts

38. In the Air Quality Study sensitive receptors have been identified, typically listed as residences (houses) on properties in the area. Council would like to know whether the impacts on non-residence locations have been considered adequately. This would include the impact at the Grotto on at the Pauline Fathers Monastery, and with livestock or other agricultural pursuits currently operating in the vicinity. For example Council is aware of an animal breeding facility in proximity to the main stockpile site. Has any assessment been undertaken on the potential impact on the welfare or performance of these animals or on worker's health in these areas?
39. Council is aware that many residents in the area of the project are very concerned about the impacts that the quarry is likely to have on them. The concerns are wide ranging. Some have been mentioned already for example concerns over impacts on their groundwater supply. Other issues raised with Council include: impact from lightspill and effect on the night sky; the impact from up to 50 trucks an hour passing their houses in the early hours of the morning; impact of having a 250m long 3.8m high barrier placed along their fence lines and what this will take away from the enjoyment of their properties; loss of their current access to their properties; impact that dust and other emissions will have on the houses and businesses; the inadequate consultation experienced in this process; noise from day and night operations and the impact this will have on houses and the use of Penrose Park; the levels of noise impact, albeit deemed acceptable in guidelines, will still clearly stand out, be out of character of the area, and affect the enjoyment of the area.
40. The Aboriginal Cultural Heritage Assessment is acknowledged. Council would like confirmation that local aboriginal elders of the Wingecarribee Shire area have been adequately consulted through this process.

## Traffic and Transport

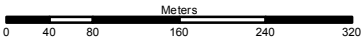
41. The Hume Highway interchange is not in ideal location as it incorporates, and introduces too many new elements to the road network and associated infrastructure at that point (including connectivity to the Kingsbury VC rest area, Penrose Forest Way, the northbound rest area, and Sally's Corner Interchange).
42. There is lack of detail on the impact at the highway interchange. Design of the interchange needs to be supported by detailed traffic analysis showing all existing and proposed movements at this point (including peak truck movements associated with forestry operations).
43. Council is concerned about the impact on residents along the access road and how their current access to Hume Highway will be changed, forcing them to enter north onto the Highway to either Sally's Corner, Illawarra Highway or another medium strip break which will not be ideal.
44. Council is concerned that some of the truck movement may be under estimated. Particularly with the cumulative impact from exporting of product, and importing fill material.
45. It is unclear of the full impact on the Kingsbury VC rest area. Most of the rest area appears to be built over by the overpass ramp. No plans are outlined how this area will be rehabilitated / relocated / removed.
46. There is no detail on the impact to forestry vehicles entering and leaving Penrose Forest. The proposal needs to accommodate safe entry and exit of forestry vehicles, and ensure all access requirements are incorporated into any plan.
47. The EIS should provide detail how it will limit operational and construction truck movements through Sally's Corner Interchange.
48. Given the size and duration of the project, it might be more appropriate to consider a suitably integrated full interchange at the Highway that incorporates both north and south access and accommodates existing users (including private landholders and forestry traffic).
49. Clarification needs to be provided on how the access road and interchange will be owned / managed and who will be responsible for care and control. Will this be a private road owned by the quarry, or is there an intention for care and control to be managed by Council or another public authority? The proposed interchange through the Kingsbury VC rest Area does not appear to be on the public road network. Also there appear to be elements on the access road, embankments, which appear to be on private land. There appears to be many elements to the proposal that are not finalised and landholders have not been adequately consulted and consents have been obtained for these works.





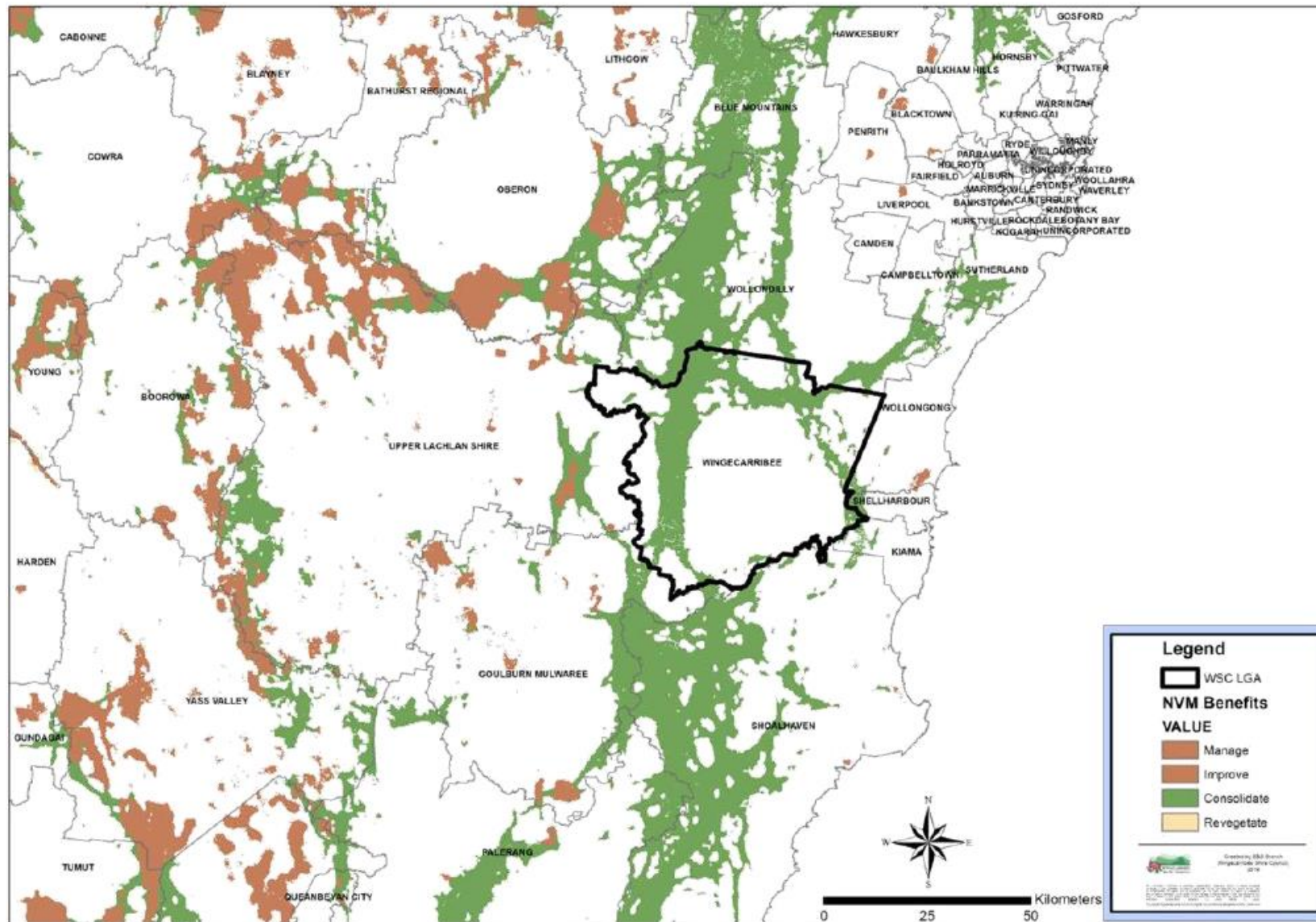
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## – NVM Benefits Mapping – Wingecarribee Shire Context





## How you can help

To gain further understanding and secure the glossy black cockatoo population in the Great Western Wildlife Corridor (GWWC), we need to map and protect favoured feed and hollow trees as well as monitor nesting success. Because a large portion of the GWWC is within private tenure, we need your help!

Sign up for a landholder training session to skill up on glossy identification, breeding behaviour and how to go about the search, field assessment and reporting of favoured feeding and hollow bearing trees.

We are also looking for landholders who are interested in conserving remnants of the GWWC on their land. Landholders participating in the project will receive locally-sourced *Allocasuarina tubestock*, to improve foraging habitat for glossy black cockatoos.

To participate in upcoming landholder training sessions, and to learn how to report sightings of glossies, feed trees or hollows on your property, head to;

[www.facebook.com/GlossiesInTheMist](https://www.facebook.com/GlossiesInTheMist)



## Find out more

Contact the Office of Environment & Heritage (OEH) on 4224 4150 to:

- Join the project and protect glossy black cockatoo habitat by reporting favoured feed trees and hollow bearing nest trees on your property.
- Access funding for fencing, revegetation and weeding

Contact Wingecarribee Shire Council on

4464 6000 to:

- Receive on-ground support from local natural resource management experts
- Join the Land for Wildlife Network

### Photos

Cover: John Spencer

Tail feathers: Charles Dove

Feeding glossy: Charles Dove

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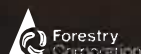
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## Glossy Black-Cockatoo *Calyptorhynchus lathami* Vulnerable in NSW

Do you have she-oaks growing on your property? Do you have trees with hollows on your block? Do you live in the Southern Highlands or Tablelands between Morton National Park and the Southern Blue Mountains? Glossy black cockatoos could be feeding and nesting on your property!

Glossy black cockatoos are the smallest of the five black cockatoos in Australia. They have a bulbous bill, a short crest and are sometimes more brownish than glossy black, with a prominent red tail panel. Female birds exhibit yellow patches around their head and neck.

Glossy black cockatoos are notoriously quiet and regularly return to feed on particularly favoured stands of Black She-oaks (*Allocasuarina littoralis*) or Weeping She-oak (*A. verticillata*).

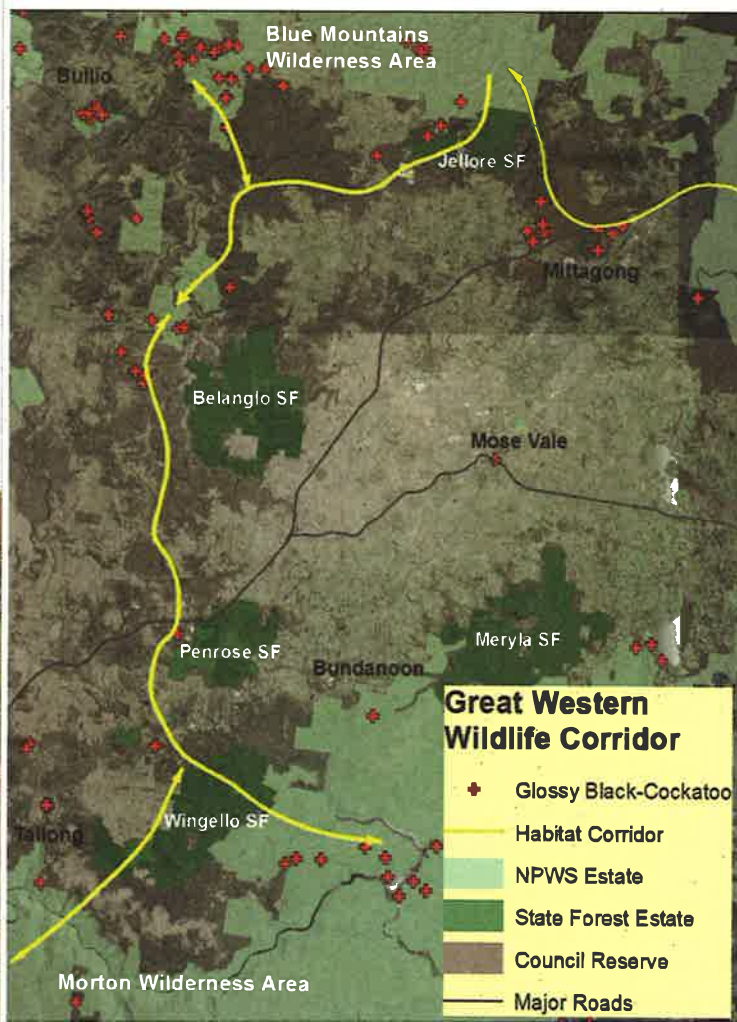


Glossy black cockatoos are social birds and live in groups of 2-10 birds.  
Photo: Charles Dove

## What is the Great Western Wildlife Corridor and why is it so important?

Located between Bullio and Bungonia, the Great Western Wildlife Corridor is an important landscape connection for the glossy black cockatoo and the only vegetated habitat corridor between the Southern Blue Mountains and Morton National Park.

Glossy black cockatoos require corridors of native vegetation with appropriate nesting and feeding habitat to move across the broader landscape, but the Great Western Wildlife Corridor is being increasingly divided into smaller lots and cleared for new housing and infrastructure.



Chewed she-oak cones are a clear indication of favoured feed trees.  
Photo: Tedder/OEH

## What is the *Glossies in the Mist* project about?

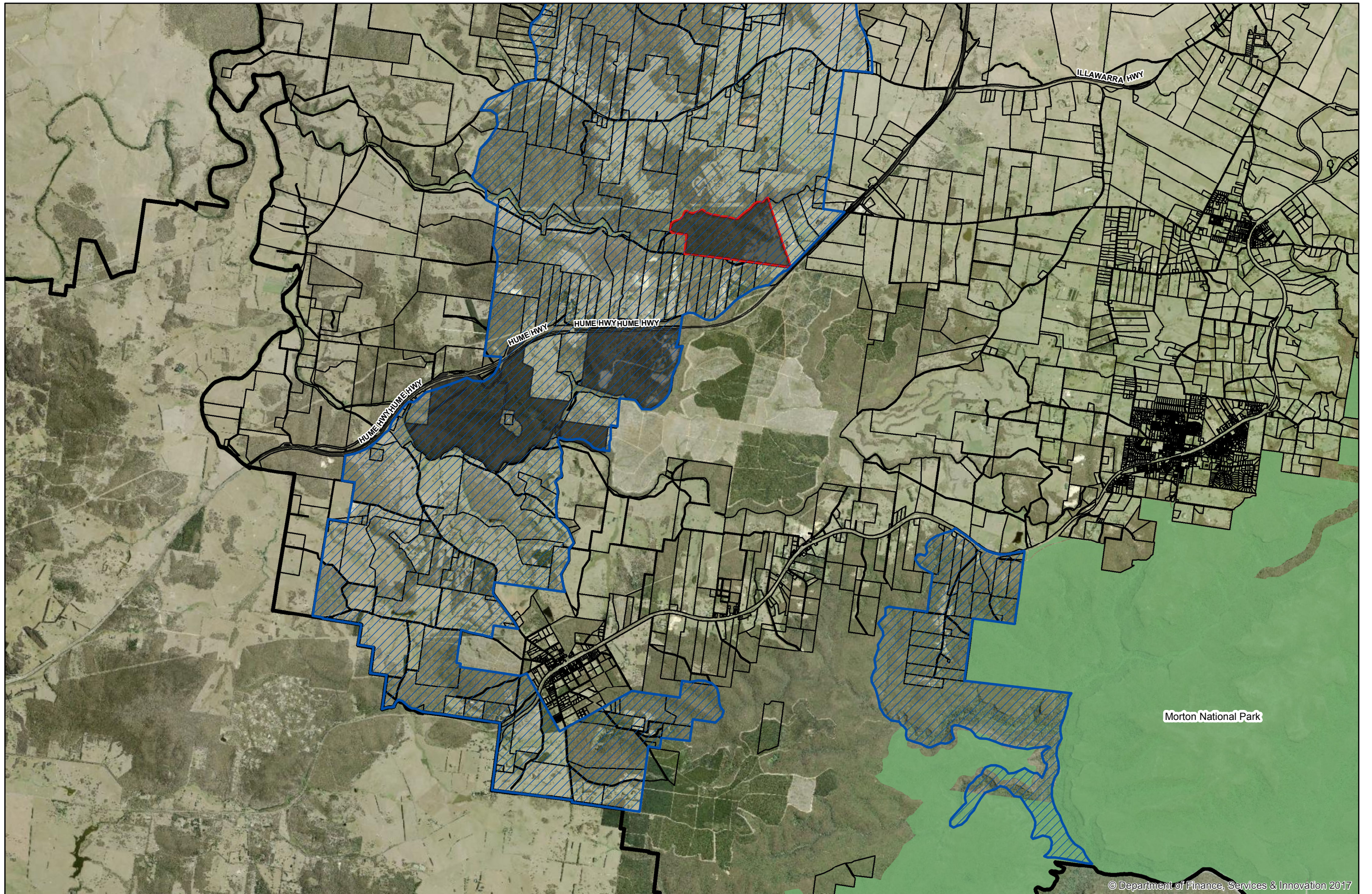
Glossy black cockatoos are declining in numbers resulting from the clearing of hollow-bearing trees and *Allocasuarina* species, their most important food source.

The Glossies in the Mist project aims to identify key feeding trees and map nesting hollows to secure foraging and breeding habitat for the glossy black cockatoo within the Great Western Wildlife Corridor.

This project relies on private landowners reporting glossy black cockatoo sightings, mapping stands of *Allocasuarina* and, assessing feeding and hollow bearing trees on their properties.

Project Partners include the NSW Office of Environment and Heritage, Wingecaribee Shire Council, Friends of the Glossies, Australian Plant Society, Forestry Corp NSW, Local Land Services and NSW National Parks and Wildlife Service.





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