

Assessment of Significance for Brush-tailed Phascogale (*Phascogale tapoatafa*)

Brush-Tailed Phascogale (*Phascogale tapoatafa*) occur along the east coast of NSW, usually occurring in dry sclerophyll open forest, that exhibits a sparse groundcover of herbs, grasses, shrubs or leaf litter. However, this species is also known to inhabit heath, swamps, rainforest and wet sclerophyll forest.

Important habitat features for this species include rough barked trees of 25 cm or greater DBH for foraging and trees with hollow entrances of 2.5 – 4 cm for nesting.

Males and females of this species maintain exclusive territories. Females can have territories of approximately 20 - 40 ha, while males have overlapping territories often greater than 100 ha.

Section 5A Assessment	
Brush-tailed Phascogale (Vulnerable)	
a)	in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,
	<p>This species was not recorded during field surveys. However, considering the presence of suitable habitat and the number of records within the locality (16 records within 10 km, 10 of which were recorded in 2014(OEH 2016)) it has been assumed that the Brush-tailed Phascogale occurs at the site. A number of hollow bearing trees were recorded within the proposal site and are likely to provide habitat for Brush-tailed Phascogale.</p> <p>The proposal would remove 10.5 hectares of potential habitat for this species. There is also the potential for a range of indirect impacts. As such, a 10 metre buffer has been included around the proposal site, to account for indirect impacts associated with the proposal. Therefore, an additional 1.2 hectares of vegetation is included in this assessment.</p> <p>The proposal would not isolate any areas of habitat or cause significant habitat fragmentation that would affect the breeding, foraging or dispersive movements of this highly mobile species. The vegetation to be removed would make up a small proportion of the home range of this highly mobile species. Given the large areas of native vegetation in the locality, including approximately 450,000 hectares of reserves within the Clarence Valley LGA, the proposal is unlikely to impact the lifecycle of the species such that viable local populations of these species would be placed at risk of extinction.</p> <p>In addition, a BioBank site has been established adjacent the proposal site which will conserve 134.87 hectares of potential habitat for this species.</p>
b)	in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,
	Not applicable to this threatened species.
c)	in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:
(i)	is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or
(ii)	is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,
	Not applicable to this threatened species.
d)	in relation to the habitat of a threatened species, population or ecological community:
(i)	the extent to which habitat is likely to be removed or modified as a result of the action proposed, and

Section 5A Assessment

Brush-tailed Phascogale (Vulnerable)

The proposal would require the removal of 10.5 hectares of native vegetation, comprising 4.23 hectares of Blackbutt - Bloodwood dry heathy open forest and 6.27 hectares of Blackbutt - Turpentine dry heathy open forest. This represents a small proportion of available habitat (less than 0.002%) in the locality which includes over 450,000 hectares of reserves within the Clarence Valley LGA and 134.87 hectares within the BioBank site that has been established adjacent to the site.

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and

Vegetation proposed to be removed is located in lands surrounding the existing quarry. The proposal would therefore not isolate any areas of habitat. Habitat connectivity would be maintained around the proposal due to the large expanses of native vegetation that exist in the surrounding area. The proposal involves and expansion of the existing quarry site and would not reduce habitat connectivity for these highly mobile species.

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality

The potential habitat to be removed is a small area surrounding the existing quarry site, which is already subjected to quarrying impacts such as blasting, earthworks, noise and dust generation. Continuous expanses of native vegetation surround the proposal. Therefore the proposal is considered unlikely to impact on the long-term survival of the species in the locality due to habitat fragmentation or isolation.

e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly)

No critical habitat has been listed for this species.

f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan

No recovery plan has been prepared for this species. Targeted management strategies for this species are currently being developed under the Saving our Species program.

The proposal would remove habitat for this species and is therefore not consistent with the overall objective of the recovery strategy. However, this species is distributed across relatively large areas and susceptibility to the threatening process of habitat clearing is generally specific to landscape scale clearing rather than at distinct locations.

The small area of potential habitat to be removed would be unlikely to interfere with the recovery of this species.

g) whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process

Section 5A Assessment

Brush-tailed Phascogale (Vulnerable)

The proposed action would contribute to the operation of two KTPs of relevance to this species as follows:

- Clearing of vegetation – the proposal would remove about 10.5 ha of native vegetation that represents potential habitat for these species.
- Removal of hollow-bearing trees – the proposal would result in the removal of a number of hollow-bearing trees. Large expanses of remnant native vegetation exist around the proposal site, including 134.87 ha contained within a BioBank located adjacent to the site. The BioBank area contains numerous mature hollow bearing trees which are likely to provide habitat for the Brush-tailed Phascogale. Preserving habitat within the BioBank site will also enable the preservation of new hollows that will develop over time.

As previously discussed, the vegetation to be removed represents a minor proportion of vegetation within the locality. The proposal would therefore represent a minor increase in the operation of these KTPs.

Conclusion of Assessment of Significance

The proposal is unlikely to have a significant impact on Brush-Tailed Phascogale, pursuant to section 5A of the EP&A Act, given that:

- Habitat connectivity would be retained.
- Vegetation to be removed comprises a negligible (less than 0.002%) proportion of native vegetation represented in reserves throughout the LGA. The establishment of the adjacent BioBank site will conserve a further 134.87 hectares of potential habitat.

Assessment of Significance for Common Planigale (*Planigale maculata*)

In NSW, Common Planigale (*Planigale maculata*) occurs within the coastal areas of north-east NSW. The Common Planigale is known to inhabit a wide variety of habitats including rainforest, eucalypt forest, heathland, marshland, grassland and rocky areas where there is adequate surface cover. It is understood that cover of vegetation is an important facilitator in the movement of this species. As such, vegetated habitat corridors have been identified as an important feature for dispersal and population connectivity.

Common Planigale are active at night and shelter during the day. Important habitat features for shelter and nesting include hollow logs, rocky crevices, rocks and fallen bark. They breed from October to January in saucer-shaped nests built from grass, eucalypt leaves or shredded bark.

Section 5A Assessment	
Common Planigale (Vulnerable)	
a)	in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,
	<p>This species was not recorded during field surveys. However, due to previous records (1 records within 10 km (OEH 2016)) of Common Planigale in the locality and the presence of suitable habitat, it has been assumed that the Common Planigale could occur at the site.</p> <p>The proposal would remove 10.5 hectares of potential habitat for this species. There is also the potential for a range of indirect impacts. As such, a 10 metre buffer has been included around the proposal site, to account for indirect impacts associated with the proposal. Therefore, an additional 1.2 hectares of vegetation is included in this assessment.</p> <p>The proposal would not isolate any areas of habitat or cause significant habitat fragmentation that would affect the breeding, foraging or dispersive movements of this highly mobile species. The vegetation to be removed would make up a small proportion of the home range of this highly mobile species. Given the large areas of native vegetation in the locality, including approximately 450,000 hectares of reserves within the Clarence Valley LGA, the proposal is unlikely to impact the lifecycle of the species such that viable local populations of these species would be placed at risk of extinction.</p> <p>In addition, a BioBank site has been established adjacent the proposal site which will conserve 134.87 hectares of potential habitat for this species.</p>
b)	in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,
	Not applicable to this threatened species.
c)	in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:
(i)	is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or
(ii)	is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,
	Not applicable to these threatened species.
d)	in relation to the habitat of a threatened species, population or ecological community:
(i)	the extent to which habitat is likely to be removed or modified as a result of the action proposed, and

Section 5A Assessment

Common Planigale (Vulnerable)

The proposal would require the removal of 10.5 hectares of native vegetation, comprising 4.23 hectares of Blackbutt - Bloodwood dry heathy open forest and 6.27 hectares of Blackbutt - Turpentine dry heathy open forest. This represents a small proportion (0.002%) of available habitat in the locality which includes over 450,000 hectares of reserves within the Clarence Valley LGA and 134.87 hectares within the BioBank site that has been established adjacent to the site.

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and

The dispersal of this species relies heavily on cover of vegetation within a given area.

Within the proposal area, vegetation to be removed is located in lands directly surrounding the existing quarry. Large expanses of continuous native vegetation exist in the surrounding area and therefore habitat connectivity would be maintained around the proposal. The proposal would not isolate or fragment any areas of habitat and would not reduce habitat connectivity for this species.

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality

The potential habitat to be removed is a small area surrounding the existing quarry site, which is already subjected to quarrying impacts such as blasting, earthworks, noise and dust generation. Continuous expanses of native vegetation surround the proposal. Therefore the proposal is considered unlikely to impact on the long-term survival of the species in the locality due to habitat fragmentation or isolation.

e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly)

No critical habitat has been listed for this species.

f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan

No recovery plan has been prepared for this species. Targeted management strategies for this species are currently being developed under the Saving our Species program.

The proposal would remove potential habitat for this species and is therefore not consistent with the overall objective of the recovery strategy. Considering the small area of potential habitat to be removed, it is unlikely that the proposal would interfere with the recovery of this species.

g) whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process

The proposed action would contribute to the operation of two KTPs of relevance to this species as follows:

- Clearing of vegetation – the proposal would remove about 10.5 ha of native vegetation that represents potential habitat for these species.
- Removal of dead wood and dead trees – the proposal would result in the removal of a small amount of dead wood and trees. Large expanses of remnant native vegetation exists around the proposal site, including 134.87 ha contained within a BioBank located adjacent to the site. The BioBank area contains a similar proportion of dead timbers which are likely to provide suitable alternative sheltering habitat for the Common Planigale. Preserving habitat within the BioBank site will enable the build-up of habitat features such as dead to further develop over time.

As previously discussed, the vegetation to be removed represents a minor proportion of vegetation within the locality. The proposal would therefore represent a minor increase in the operation of these KTPs.

Section 5A Assessment

Common Planigale (Vulnerable)

Conclusion of Assessment of Significance

The proposal is unlikely to have a significant impact on Brush-Tailed Phascogale, pursuant to section 5A of the EP&A Act, given that:

- Habitat connectivity would be retained.
- Vegetation to be removed comprises a negligible (less than 0.002%) proportion of native vegetation represented in reserves throughout the LGA. The establishment of the adjacent BioBank site will conserve a further 134.87 hectares of potential habitat.