

Assessments of Significance under Section 5A of the *Environmental Planning & Assessment Act 1979*

Background

As required under the Section 5A of the *Environmental Planning & Assessment Act 1979* (EP&A Act), Assessments of Significance were undertaken and more detailed ecological assessment report prepared to determine the significance of impacts of the proposal on threatened species listed on Schedules of the NSW *Threatened Species Conservation Act 1995* (TSC Act). A number of threatened species were listed as occurring within the locality but habitat for only a very small percentage of these occur at the site due to the highly modified nature of the proposal area. Therefore, Assessments of Significance have been undertaken only for those species for which potential habitat occurs and have been included below. Those species addressed are:

- Grey-crowned Babbler (*Pomatostomus temporalis temporalis*);
- Barred Cuckoo-shrike (*Coracina lineata*); and
- Turquoise Parrot (*Neophema pulchella*).

Where appropriate, Assessments of Significance have been undertaken for guilds of species with similar habitat requirements.

Grey-crowned Babbler

Grey-crowned Babbler (GCB) (*Pomatostomus temporalis temporalis*) (eastern subspecies) is listed as Vulnerable under the TSC Act. This species is the largest of the four Australian babblers, reaching to 30 cm long. Its distinguishing features include a distinctive long scimitar-shaped bill, the broad white eyebrow and a pale grey crown-stripe. A dark band passes from the bill through the eye, separating the pale throat and brow to giving a 'masked' look. It has dark greyish-brown upperparts and is paler brown on the underparts, grading to a whitish throat. The Grey-crowned Babbler is a communal-breeding species and is socially gregarious. This species has a loud and often repeated 'ya-hoo' call which is a duet between the male and female which is used to maintain the bond between the pair and as a territorial call. It is found throughout large parts of northern Australia and in south-eastern Australia. In NSW, the eastern sub-species occurs on the western slopes of the Great Dividing Range, and on the western plains reaching as far as Louth and Hay. It also occurs in woodlands in the Hunter Valley and in several locations on the north coast of NSW. It may be extinct in the southern, central and New England tablelands. This species is a laborious flyer so birds prefer to hop to the top of a tree and glide down to the next one. Birds are generally unable to cross large open areas. GCB feed on invertebrates, either by foraging on the trunks and branches of eucalypts and other woodland trees or on the ground, digging and probing amongst litter and tussock grasses.

A family group of seven individuals and a nest of the GCB was observed in the narrow road reserve and individuals were also observed within the adjacent woodland area. These birds may have been the same family group as they defend territories from one to 50 hectares with a mean of

around 10 hectares. Territory sizes apparently vary in size depending upon the quality of the habitat rather than the size of the group (Higgins and Peters 2002). Within this territory they build and maintain several conspicuous, dome-shaped stick nests which are about the size of a football and these nests are used as a dormitory for roosting each night.

- 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.**

The access road into the site runs adjacent to the known habitat for the Grey-crowned Babbler which occurs within the narrow road reserve. This habitat would be preserved as none of the vegetation would be removed or altered for this proposal. The movement of vehicles and equipment into the site would be increased during and hence noise and movement levels would increase. Anticipated changes in the movement of vehicles and equipment during the drilling, construction and operational phases of the project are outlined in Table 1. The Grey-crowned Babbler appears to be relatively disturbance tolerant as this bird has been observed foraging in gardens, parks and small remnants, along fence boundaries and man-made structures near major roads (Parsons Brinckerhoff 2005). However, this species is a laborious flyer and is known to feed on the ground placing it at risk of being killed by construction traffic. These potential impacts could be managed through the implementation of a stringent Traffic Management Plan which addresses traffic flow, vehicle speed and vehicle numbers entering and leaving the site. With such a plan in place it is unlikely that the action proposed would 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.

Table 1 Current and predicted vehicle and equipment movement on site

Phase	Duration	Current Levels	Anticipated Levels
Drilling	3 months	4 light vehicle movements in and out per day	2 heavy vehicle movements in and out per day
Construction	3 months	4 light vehicle movements in and out per day	4 heavy vehicle movements in and out per day
Operation	Ongoing	2 light vehicle movements in and out per day Nil heavy vehicle movements in and out per day	2 heavy vehicle movements in and out per month

- 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 an endangered population.

- 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 an endangered ecological community.

- 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**
 - 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**
 - 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 proposed action would not result in habitat being removed or altered and habitat would not become fragmented or isolated from other areas. All proposed works are to be undertaken within pasture improved paddocks.

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

There is no critical habitat listed for this species.

- f) **Whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan.**

Although the Grey-crowned Babbler Retention Plan – Gloucester Shire Council (Parsons Brinckerhoff 2005) deals with family groups outside of the family unit on the study site, several of the management measures are applicable to management of the GCB on the site and these are:

- **Habitat protection and maintenance:** to maintain and protect woodland remnants that form part of a corridor network and other habitats that have potential for regeneration for the longer term benefit of the species; and
- **Road and traffic management:** prevent / reduce the incidence of collision of GCB with motor vehicles through the implementation of go slow areas and increasing public awareness through signage.

This proposal would not remove or modify current habitat for this species and a Construction Environment Management Plan would ensure that these areas are protected, through fencing where appropriate and education of personnel to raise awareness of the importance of this species. A stringent Traffic Management Plan would also be implemented to ensure that the incidence of collision does not increase due to the increase of traffic and it will address such matters as traffic numbers, traffic speed and traffic flow.

DEC have also identified five strategies to help recover the species (DEC 2005d) and these include community and land-holder awareness, development and implementation of protocols and guidelines, habitat rehabilitation / restoration, research and survey / mapping and habitat assessment. None of the actions of this proposal are inconsistent with any of the strategies or actions outlined in the PAS.

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.

It is unlikely that any key threatening processes listed under the TSC Act would be exacerbated by this proposal as the proposed work sites have been located to avoid areas of native vegetation and riparian or seepage areas and consequently no native vegetation would be cleared or natural drainage patterns altered as a consequence of this proposal. Threats identified by DEC (2005a) include clearing of woodland remnants, heavy grazing and removal of woody debris and nest predation by bird species. None of these threats would be increased as a consequence of this proposal.

Conclusion

No changes to GCB habitat would occur through removal or modification as all proposed works are outside of the woodland and roadside reserve areas and potential disturbance through an increase in traffic movement would be managed through a stringent Traffic Management Plan. Therefore, it is considered unlikely that this proposal would have significant impacts on this species.

Other Woodland Birds

The Barred Cuckoo-shrike (*Coracina lineata*) and Turquoise Parrot (*Neophema pulchella*) have similar habitat requirements and therefore a combined Assessment of Significance has been undertaken for this guild.

The Barred Cuckoo-shrike is listed as Vulnerable under the TSC Act. It is a medium-sized with dark grey above and under the chin and a front barred with strong horizontal stripes of white and very dark grey. A darker stripe runs from the base of the bill through the pale yellow eye. It occurs along coastal eastern Australia from Cape York to the Manning River in NSW. Barred Cuckoo-shrikes are generally uncommon in their range, and are rare in NSW. Rainforest, eucalypt forests and woodlands, clearings in secondary growth, swamp woodlands and timber along watercourses. They are usually seen in pairs or small flocks foraging among foliage of trees for insects and fruit. They are active birds, frequently moving from tree to tree. This species has been recorded approximately 16 km to the north of the site and has the potential to forage along the margins of adjacent woodland and small riparian areas.

The male Turquoise Parrot is a highly distinctive bird with bright green upper parts and a turquoise-blue crown and face. Females and immature individuals are generally duller, have whitish lores, a green, rather than yellow throat and breast and no red on the shoulder and upper-wing area. The Turquoise Parrot's range extends from southern Queensland through to northern Victoria, from the coastal plains to the western slopes of the Great Dividing Range. It lives on the edges of eucalypt woodland adjoining clearings, timbered ridges and creeks in farmland and nests in tree hollows, logs or posts, from August to December.

- 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.**

The action proposed is unlikely to have an adverse effect on the life cycle of these species as construction impacts would be temporary and all works activities would be undertaken in paddock areas or on a road at the edge of the woodland area. No trees or other potential nesting habitat would be removed.

- 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 an endangered population.

- 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 an endangered ecological community.

- 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**
 - 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**
 - 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.**

It is unlikely that any foraging or breeding habitat for this species would be impacted by this proposal. No trees or other potential breeding habitat would be removed or modified and any construction activities would be within small areas of large paddocks away from the woodland boundary.

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

No critical habitat is currently listed for this species.

- f) Whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan.**

The proposal is consistent with the five strategies identified by DEC (2005e) for recovery of the Turquoise Parrot as no habitat would be removed or modified as a consequence of this proposal. A priority action statement has not prepared for the Barred Cuckoo-shrike.

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.

It is unlikely that any key threatening processes listed under the TSC Act would be exacerbated by this proposal as the sites of the boreholes and access ways have been located to avoid areas of native vegetation and riparian or seepage areas and consequently no native vegetation would be cleared or natural drainage patterns altered as a consequence of this proposal. Threats identified for the Barred Cuckoo-shrike include reduction of habitat, particularly rainforest, due to clearing for agriculture, development and timber harvesting and those for the Turquoise Parrot include clearing of grassy-woodland and open forest habitat, loss of hollow-bearing trees, degradation of habitat, predation by foxes and cats and illegal trapping. This proposal is unlikely to increase the risk of any of these threats.

Conclusion

The proposal is unlikely to significantly impact on either of these species as the proposed works areas would be located within paddock areas away from the adjacent woodland area in which these species would nest. Disruption to foraging habitat would most likely be temporary and negligible and consequently a Species Impact Statement would not be required.

References

DEC 2005a **Grey-crowned Babbler (eastern subspecies) - Threatened Species Profile.** NSW Department of Environment & Conservation, Hurstville.

<http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/index.aspx>

DEC 2005b **Turquoise Parrot – Threatened Species Profile.** NSW Department of Environment & Conservation, Hurstville. <http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/index.aspx>

DEC 2005c **Barred Cuckoo-shrike - Threatened Species Profile.** NSW Department of Environment & Conservation, Hurstville.

<http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/index.aspx>

DEC 2005d **Grey-crowned Babbler (eastern subspecies) – Priority Actions.** NSW Department of Environment & Conservation, Hurstville.

<http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/index.aspx>

DEC 2005e **Turquoise Parrot – Priority Actions.** NSW Department of Environment & Conservation, Hurstville. <http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/index.aspx>

DEC 2006 **Recovery Actions: recovery plans, threat abatement plans and NSW Priority Action Statement.** Department of Environment and Conservation (NSW), Hurstville.

http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/home_recovery.aspx

DEC 2007 **Threatened Species Database Records.** Department of Environment and Conservation, Hurstville.

Higgins PJ & Peters JM. (eds.) 2002 **Handbook of Australian, New Zealand and Antarctic Birds. Volume 6. Pardalotes to Shrike-thrushes.** Oxford University Press, Melbourne, Australia.

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