

7 Conservation significance

National

No nationally listed plant communities are recorded or predicted to occur at the site.

A search of the Commonwealth Protected Matters database indicated that a number of resident and migratory species, or their habitat, may be present. The former category includes 2 plant species and 2 bird and 1 reptile species (or their habitat) of conservation significance may be present on site.

Silver daisy-bush (*Olearia pannosa* subsp. *pannosa*) and Pale leek orchid (*Prasophyllum pallidum*) are listed as vulnerable under the EPBC Act and are noted as likely to occur in the area. The initial site reconnaissance survey did not indicate that the required habitat was present to support either of these species.

The Australian painted snipe (*Rostratula australis*) and Latham's snipe (*Gallinago hardwickii*) are known to inhabit a range of inland wetlands. Both species are cryptic and feed in shallow water or at the waters' edge and on mudflats, taking seeds and a range of invertebrates. Both prefer relatively dense grassland and sedgeland areas. All riparian and aquatic areas may provide marginal habitat for these species. The high numbers of cat and fox identified in the area would also mitigate against their long term occurrence.

The Flinders Ranges worm-lizard (*Aprasia pseudopulchella*) is a cryptic species which occurs in the Flinders Ranges, extending south to the western slopes and northern and central Mt Lofty Ranges (Cogger *et al.* 1993). It is listed as vulnerable under the EPBC Act but has no current formal listing at a State level. The species has been observed in the northern suburbs of Adelaide, with eight individuals recorded during a 30 month survey of the Cobbler Creek Recreation Reserve in Salisbury (Mitchell 1992, Cogger *et al.* 1993). This species prefers open woodland, native tussock grassland, riparian habitats and rocky isolates (Cogger *et al.* 1993). It prefers stony soils or clay soils with a stony surface (Wilson and Knowles 1988; Cogger *et al.* 1993), and has been found sheltering in soil beneath stones and rotting stumps (Wilson and Knowles 1988). This habitat is present in the site and the species is considered likely to occur within the site. Its preferred habitat is considered to occur around the rocky drainage line that occurs east to west through the property. A fauna trapping and monitoring program will be required to confirm its presence.

Other species of national significance which may be migratory and which are likely to use the site or overfly it includes Rainbow bee-eater, Fork-tailed swift and White-throated needletail.

Some other species of national significance originally occurred in or near the site, but these are now considered to be extinct. These include species such as Burrowing bettong, Southern brown bandicoot, Mallee fowl, Plains-wanderer, Spotted quail-thrush, Azure kingfisher and Regent honeyeater.

State

Neagle (1995) considered that Mallee box woodland was inadequately conserved in the State (as Priority 5), although DEH (2005) does not list this as a current priority target for conservation. Armstrong et al. (2003) consider that this woodland is still of particular conservation significance in the region. By observation, any example of mature woodland remaining in peri-urban areas is unusual and hence is biologically important.

A search of the Biological Database of South Australia and State Herbarium on-line flora database did not provide records for any flora species of listed conservation significance for the site or adjacent areas.

Three fauna species of conservation significance were recorded in the database. The Regent honeyeater, which is endangered at a National and State level, was recorded as a breeding resident in the general region in 1906. The current Australian population of the Regent honeyeater is less than 1,500 birds and is continuing to decline (Birds Australia 2008). The species is considered to be extinct in South Australia and Western Victoria (Armstrong et al. 2003). No additional survey for this species is warranted.

The Painted button-quail and Black-chinned honeyeater, which are listed as rare at under State legislation, were observed near the site in 1996 and 1981 respectively. No other observations of the species have been recorded within the Biological Survey of South Australia. It is unlikely that these species are present on site, primarily due to the current limited amount of suitable habitat and increased number of predators such as European red fox and feral cats. Black-chinned honeyeater is probably extinct in the northern Adelaide Plains (Turner 2001). There is a low risk that these species may be present.

Common brushtail possum (State rare) is a hollow-dependent species and is likely to occur along the watercourses providing that sufficient hollows are present in trees. Brown toadlet (State rare) may still be present along some of the riparian areas. Cunningham's skink might occur on the site, although the potential habitat on site is drier than it prefers.

There is a large suite of other species which were originally present in the region and which could occur here, albeit as occasional migrants or visitors. All are considered as species with a relatively low risk of being present on the site as resident species or as regular migrants.

Species which might still occur on the site for part of the year include Crested shrike-tit, Diamond firetail, Shining bronze-cuckoo, Peregrine falcon, Flame robin, Southern free-tail bat and Yellow-bellied sheath-tail bat. No recent sightings of Flame robin have been made for this part of the region (although there are recent records for Parra Wirra, Sandy Creek and the Barossa Valley).

Wetland species, such as Musk duck, Blue-billed duck and Freckled duck, are considered very unlikely to use this site as primary habitat due to the lack of large areas of permanent water in the site. However, these and other threatened aquatic species may occur in the riparian areas as visitors.

8 Recommendations

Due to the likely occurrence of the Flinders Ranges worm-lizard, a species of national significance, this proposal will require Referral to the Commonwealth Department of the Environment, Water, Heritage and the Arts (DEWHA) under the EPBC Act.

Vegetation and flora

Detailed mapping and appraisal of the understorey vegetation must be undertaken later in the season (spring to early summer) to:

- define and map the areas of good quality remnant native vegetation
- map those areas of anthropogenic vegetation of little or no conservation value, including the larger areas of weeds infestations
- assess the presence of additional species of conservation significance

Target areas for native species and habitat are defined on Figure 1.

Once this additional assessment has been completed, then an assessment of the areas to be set aside for conservation and potential areas implicated by clearing can be undertaken. The latter will be required in order to provide an understanding of legal obligations and compensation requirements under the Native Vegetation Act.

Detailed management requirements for aspects such as biodiversity linkages and corridors, pest species control, fencing to minimise 'people impacts' and revegetation would be included in planning requirements.

Note: The central and northern areas of the site are within the jurisdiction of the Native Vegetation Council (NVC) and its Act. The NVC would be unlikely to approve clearance of the larger areas of Mallee box woodland (the overstorey of which is an intact community) and the areas of relatively intact understorey. Approval for clearance of other areas containing native vegetation and single trees is negotiable providing it is undertaken under an agreed Plan and an agreed Significant Environmental Benefit (SEB).

Fauna habitat and species of particular conservation significance

Flinders Ranges worm-lizard

The rocky areas on site represent habitat for the nationally vulnerable Flinders Ranges worm-lizard (*Aprasia pseudopulchella*). Its preferred habitat is present on site, particularly in and around the rocky drainage line that runs east to west through the property. The potential for this species to occur within parts of the proposed development site is high. A fauna trapping and monitoring program is required to confirm its presence. Prior to this occurring, a Permit is required from DEWHA and an animal ethics approval must be obtained from DEH.

Bird species

The current population of the Regent honeyeater in all of eastern Australia is less than 1,500 birds (Birds Australia 2008). The species is considered to be extinct in South

Australia and Western Victoria (Armstrong et al. 2003, Tait et al. 2005, SA Museum, pers. comm., July 2008). No additional survey for this species is warranted.

Painted Button Quail and Black-chinned honeyeater (listed as rare at a State level) have been recorded in or adjacent to the site in the past. It is unlikely that the species are present given the lack of suitable habitat and increased number of predators such as European red fox and feral cats. General observations for these species should be made during spring and early summer surveys.

Other species which may potentially be present for some of the year and for which observations should be made include Rainbow bee-eater, Diamond firetail, Peregrine falcon and Crested shrike-tit.

Other fauna species

Species which may occur in and adjacent to site include Common brushtail possum, Cunningham's skink, Brown toadlet, plus two species of bats. Trapping and observation for the worm-lizard will provide information about the presence of Cunningham's skink. Observations of habitat will be required for the possum and toadlet and a small survey for bats would provide a useful assessment of the species present in and using the site. Comparative data are available for this group is available through the SA Museum

Other matters

At some stage, a Vegetation Management Plan (VMP) and a Construction Environmental Management Plan (CEMP) must be developed so as to guide the future development of the site. This would include the development of Significant Environmental Benefit requirements as off-sets for any native vegetation removed. Future conservation initiatives, pest species management actions and revegetation guidelines would be included in these documents.

A range of conservation and open space initiatives could be developed for the site following more detailed surveys later in 2008.

9 References

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