EXECUTIVE SUMMARY

A field survey designed to sample the ecological values of Lot 12 DP 192526 Burbank Crescent, Singleton (the site) was completed to examine the likely impacts of future development on the contained native flora and fauna species, specifically threatened species, endangered populations (EPs), endangered ecological communities (EECs) and their habitats (collectively referred to as *threatened biodiversity*). Threatened biodiversity listings considered include those listed on the *Threatened Species Conservation Act 1995* (TSC Act), *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and State Environment Planning Policy – Koala Habitat (SEPP 44).

Methods

This study was prepared using results from field surveys based on the Department of Environment and Conservation's (DECs) draft flora and fauna survey guidelines (DEC, 2005). Data collected during field surveys was used to quantify the sites ecological values against those within 10 km of the subject site (i.e. study area). Hence allowing for an assessment of impact for threatened biodiversity.

Surveys were conducted on 25, 30 and 31 January 2007 targeting threatened species likely to occur within the locality, a list determined by a 10 km radial search of DECs Wildlife Atlas database (DEC, 2007) and review of recent literature. Flora surveys involved systematic (i.e. quadrat) and non-systematic (targeted) techniques to sample the subject sites floristic species richness and diversity. Fauna surveys involved diurnal and nocturnal sampling regimes including targeted surveys of important habitats.

Results

The survey of the subject sites floristic values identified 72 plant species, consisting of 39 natives and 33 exotics, throughout a predominantly cleared landscape consisting mostly of cosmopolitan grasses and herbs common to the Singleton locality. This vegetation cover occurs mostly as a grassland, with a shrubby and sparsely treed over storey prominent along the sites main drainage channel and river frontage. One threatened flora species or its habitats has been identified within study area, this being the Slaty Redgum (*Eucalyptus glaucina*), which was not identified within the site during the survey period (DEC, 2006). Site surveys identified the presence of River Redgum (*Eucalyptus camaldulensis*) along the property boundary common with the Hunter River, which is part of a listed Endangered Population (EP) contained within the Hunter River catchment.

The fauna survey identified 53 species comprising of 33 avian, 13 mammal, 3 reptile and 4 amphibian species. There were eight threatened fauna species and/or their habitats identified within the study area (DEC, 2007), with at least three of these species potentially occurring within the subject site. Habitat of potential threatened fauna is primarily suited to mobile fauna capable of moving to and from the site as foraging population throughout the predominantly grassland vegetation cover and sparse shrubby and treed riparian corridors. Species that may occur within the site include threatened bats such as the Grey-headed Flying Fox, Eastern Bentwing Bat and Eastern Freetail Bat, with the former species observed foraging on Peppercorn fruits during the survey period. The Greater Broad-nosed Bat (*Scoteanax ruppellii*), which has not been previously recorded within the study area, was also identified within the site thereby representing a new record for the Singleton area.

Biodiversity Analysis

The sites ecological value was classified using key indicators of ecological health such as native/exotic species richness, tree hollow type and density and vegetation structural condition. In general, the subject sites ecological value was classified as follows:

> *Grassland – Low ecological condition (i.e. mostly cosmopolitan grasses and herbs consisting of natives and exotics. Contains some complex habitat features including a low abundance of tree hollows in large trees adjacent to the Hunter River. Moderate potential for foraging threatened bat species, with onsite roosting and breeding limited by low connectivity with local tracts of native vegetation).*

Nine threatened biodiversity were identified within 10km of the site (DEC, 2006). While none of the sites habitats suit any of the identified locally occurring threatened flora species, the identification of River Redgum (*Eucalyptus camaldulensis*) through site survey delineated a narrow corridor along the sites frontage with the Hunter River that contains part of this EP. Observed fauna habitat features indicate a low likelihood of threatened fauna species completing entire lifecycles within the site. However, species such as the Grey-headed Flying Fox, Eastern Bentwing Bat and Eastern Free-tailed Bat are known to occur as foraging populations within local habitats similar to the site. For the purposes of this study it is assumed that these threatened fauna species will occupy the site during various parts of their life cycles.

Impact Study

The future development of the site in accordance with an adopted rezoning strategy will be assessed under Part 4 of the *Environmental Planning and Assessment Act 1979* (EPA Act), which requires an impact assessment under Section 5A of that Act. However, prior to the Part 4 assessment, the rezoning strategy must first be considered under Part 3 of the EP&A Act to ensure compatibility with the local environment. No formal assessment process exists under Part 3 of the EP&A Act such as Section 5A assessments. Therefore, any assessments provided for the proposed rezoning strategy are considered indicative based on the general development proposal and its likely interaction with the surrounding environment.

The future development of the site is likely to consist of a residential subdivision and ongoing agricultural activities. The establishment of residential lots and dwellings will require the consideration of numerous environmental variables such as direct impacts on biodiversity matters and any indirect impacts such as bush fire protection works. Contained within this study is an 'indicative' impact assessment based on Section 5A of the EP&A Act.

EPA Act

An indicative impact assessment was prepared in accordance with Section 5A of the EP&A Act 1979, which is otherwise referred to as the Seven Part Test of Significance. The proposed rezoning strategy was concluded to have no likely significant impact on threatened species, EPs, EECs or their habitats.

TSC Act

The future development of the site is unlikely to have a significant impact on locally occurring threatened biodiversity. Further assessment of the proposed site development in accordance with the proposed rezoning strategy is unlikely to require the preparation of a Species Impact Statement.

EPBC Act

It is considered that a referral to Environment Australia (EA) is not required, as the rezoning strategy contains sufficient safeguards that demonstrate a low impact on matters of National Environmental Significance (NES) listed under the EPBC Act.

SEPP 44 – Koala Habitat Protection

SEPP 44 applies to the Singleton Council local government area (LGA) and is therefore relevant to the subject site. Surveys identified the tree canopy to constitute 'potential' koala habitat (i.e. preferred foraging species greater than 15% total cover). No evidence of koalas or koala activity was detected within the subject site during the survey period. No further management is required for this species under SEPP 44.

Conclusions

An indicative Section 5A Assessment was prepared to analyse the likely impacts of future development within the site in accordance the proposed rezoning strategy. This indicative impact assessment considered the magnitude of future impact such as vegetation removal, hydrological alterations and revegetation works relative to the existing environment within and adjoining the site and concluded that future development will have a negligible impact.

It is considered that proposed site development represents a responsible future land use that is in keeping with the principles of ecologically sustainable development. Development at this site will

reduce the impact of developing ecologically constrained lands elsewhere within the locality, with proposed revegetation works potentially delivering a significant local improvement to sensitive landscapes such as the banks of the Hunter River and adjoining feeder creeks. No significant impacts are expected on core Koala habitat or matters of NES, as listed under the EPBC Act.