

**ENVIRONMENTAL SURVEY AND ASSESSMENT (REF)
OF
MACS REEF TIP RESTORATION AND REDEVELOPMENT
SITE.**



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ENVIRONMENTAL SURVEY AND ASSESSMENT (REF) OF THE MACS REEF ROAD TIP RESTORATION AND REDEVELOPMENT SITE.

Introduction

A field inspection was made on the 26th August 2009 of the Macs Reef Tip rehabilitation and restoration site, including the area proposed for the construction of the waste transfer station. Following the survey an assessment was made of any potential environmental impacts accruing from the planned tip restoration program and the construction site. The potential impacts of the proposed works were assessed on the predicted disturbance of the native vegetation and the native animal habitats and species occurring on or near the site. The survey included a botanical survey and a specific search for any locally rare or vulnerable native flora and fauna, as well as the identification of any threatened species, listed under the NSW Threatened Species Act.

The potential environmental impact(s) were assessed within the context of any significant vegetation, the occurrence of any threatened flora and fauna species and any significant fauna habitats that exist.

Location of site

The site is adjacent to Macs Reef Road at the bottom of Macs Reef Hill (figs1 & 2), approximately 5km from the intersection of Macs Reef Road and the Federal Highway. The site is at an elevation of about 700m to 740m with a general northwesterly aspect. The major drainage stream is Yass River, about 2km to the southwest



Figure 1. Map location of Tip Site

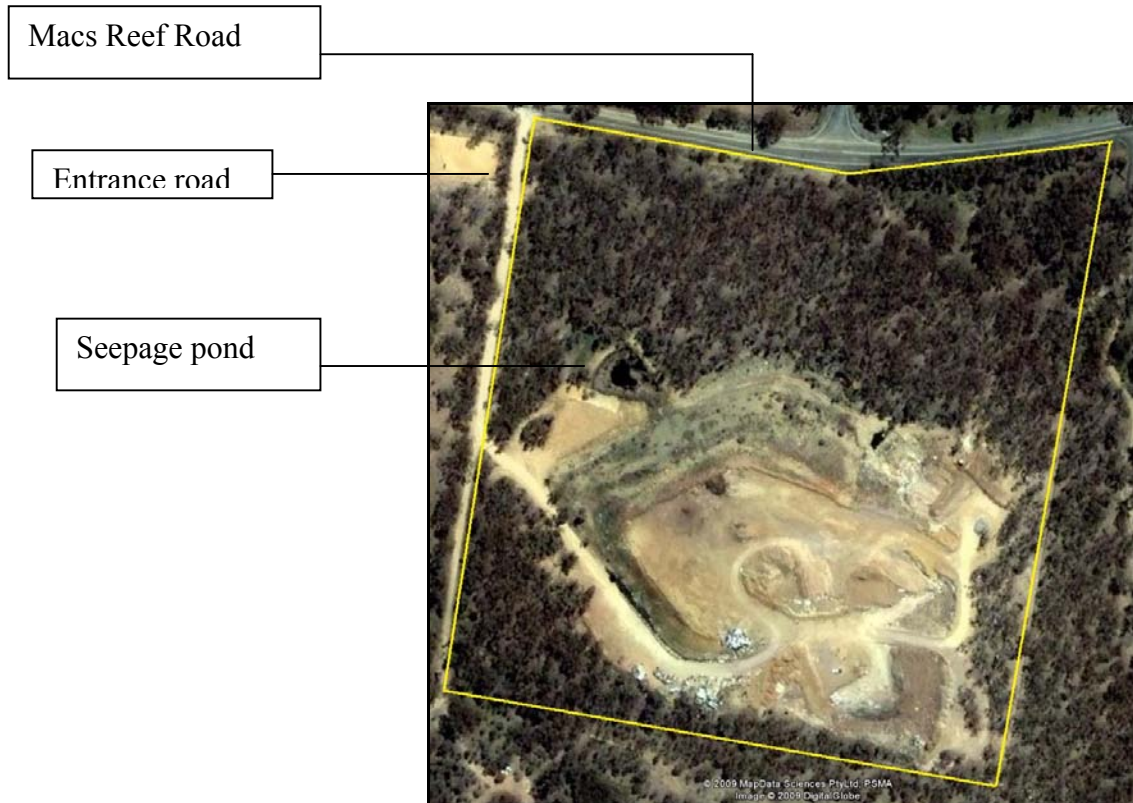


Figure 2 Aerial view of the Macs Reef Tip Site.

Survey methodology.

The flora ad fauna survey was undertaken by walking through the undisturbed woodland surrounding the highly altered landfill area of the site. The landfill area was walked around three times along three separate linear transects. Native plant species were recorded while a specific search was made for any known threatened plants and animals that have been recorded for and may occur in the area – Brown Treecreeper *Climacteris picumnus* and Hooded Robin *Melandryas cucullata* and Speckled Warbler *Chthonicola sagittata*. None of the species were expected to be found in or near the site due to the continual disturbance caused by vehicles entering and leaving the tip.

The soils were sampled at several places around the site and the profiles compared with that of Jenkins et al (2000).

Soil landscape of the area

The soils of the general locality have developed from Ordovician metasediments with shales being the dominant bedrock of the along Macs Reef area. The soils are shallow, well drained to poorly drained Rudosols (Lithosols) on the upper

slopes with moderately drained Chromosols (Yellow Podzolics) on the mid to lower-slopes (fig 3).



Figure 3. Shallow Brown to Yellow podsollic soils on Ordovician metasediments (shales)

The soils of the actual tip site are a mix of soil materials brought in from other construction sites as covering material and hence they have little or no relationship to the soils of the general location and the undisturbed areas of the site.

General vegetation landscape

The general vegetation of the area is that of a dry sclerophyll woodland with the overstorey trees being dominated by a mix of eucalypt species, including Brittle Gum *Eucalyptus mannifera*, Scribbly Gum *E. rossii*, Red Stringybark, *E. macrorhyncha*, Long-leaved Box *E. nortonii*, Broad-leaved Peppermint *E. dives* and a sparse and small number of Yellow Box *E. melliodora*. (fig 4) where deeper soils and better soil moisture regimes prevail. Along Macs Reef Road but at a lower elevation, denser numbers of Blakely's Red Gum *E. blakelyi* and Yellow Box occur.



Figure 4. Dry sclerophyll woodland that dominates the tip site

The Yellow Box / Red Gum woodland is listed as a threatened ecological community under the Commonwealth Environment Protection and Biodiversity Conservation Act (EPBC Act), but as only a few trees of this community exist near to and within the tip site they are not considered to constitute a part of the listed community as outlined in “White Box – Yellow Box – Blakely’s Red Gum grassy woodlands and derived native grasslands” (Australian Government 2006).

Vegetation of the site

The undisturbed woodland of the site and surrounding the actual tip site is in a good condition and representative of that which existed in much of the locality before clearing and grazing commenced. The understorey exhibits a sparse representative sample of the understorey sclerophyllous shrubs and native grasses but as with all landfill tips the vegetation has been polluted with waste blown or washed from the tip face. Few weed or exotic plants exist in the undisturbed parts of the site but are extensive in the disturbed parts.

The understorey species include sparsely distributed native grasses and herbaceous species, - Tussock Grass *Poa sieberiana*, Kangaroo Grass *Themeda australis*, and Speargrass *Austrostipa spp.*, Mat Rush *Lomandra longifolia*, Fine leaved Mat Rush *Lomandra filiformis*, Common Everlasting *Chrysocephalum apiculatum*, Hoary Sunray *Leucochrysum albicans*, Native Geranium *Geranium solanderi*, Stinking Pennywort *Hydrocotyle laxiflora*, Kidneyweed *Dichondra repens*, Prickly Starwort *Stellaria pungens*, Plantain *Plantago varia* and Dock *Rumex brownii*, together with native shrubs – Silver Wattle *Acacia dealbata*, Black Wattle *Acacia mearnsii*, Blackwood *Acacia melanoxylon*, Kangaroo Thorn *Acacia paradoxa*, Red-stemmed wattle *Acacia rubida*, Native Cherry *Exocarpus cupressiformis* False Sarsaparilla *Hardenbergia violacea*, Bitter Pea *Daviesia acicularis*, Purple Pea *Indigofera australis*, Leafy Bitter Pea *Daviesia mimosoides* and *Daviesia genistifolia*, Prostrate Pea flower *Pultenaea procubens*, Cauliflower Bush *Cassinia aculeata*, and *Cassinia longifolia*, Urn Heath *Melichrus urceolatus* and Daphne Heath *Brachyloma daphanoides*.

The exotic herbaceous species include Ribwort Plantain *Plantago lanceolata*, Sorrel *Rumex acetosella*, Quaking Grass *Briza major*, Fleabane *Conyza spp.*, Catsear *Hypochaeris radicata*, Prickly Lettuce *Latuca serriola*, Cape weed *Arctotheca calendula*, Spear Thistle *Cirsium vulgare*, Hemlock *Conium maculatum* and Great Mullein *Verbascum Thapsus*. Several plants of woody weed species (Rosaceae) were noted - Sweet Briar *Rosa rubiginosa*, Blackberry *Rosa fruticosus* and Privet *Ligustrum spp.*

At the lower western side of the tip-face area, a constructed seepage pond has been colonised by Cumbungi *Typha spp.*, Spike Rush *Juncus spp.* and *Carex spp.*, together with a fringing perimeter of sparse introduced grasses- *Paspalum Paspalum dilatatum*, Brome *Bromus spp.*, and Phalaris *Phalaris tuberosa* (fig 5).



Figure 5. Seepage pond colonised by Cumbungi and other emergent aquatic plants.

Native fauna and habitats

The dry sclerophyll woodland with its sparse groundstorey of native shrubs and herbs provides very limited habitat for native fauna. Small skinks and lizards are common in the area and would frequent the undisturbed ground litter and rock cover of the site.

A number of the older Brittle Gum trees have holes in their branches and trunks providing good nesting habitat for parrots and other bird species as well as arboreal mammals (Possums *Trichosurus vulpecula*) that utilise old age tree hollows for nesting.

While none were observed or indicators of their presence noted, the area around the tip site and in the near vicinity is well known for the presence of Sugar Gliders *Petaurus breviceps*. Several landcare members in the Newington Road area above the tip site have install nesting boxes for the Gliders and regular use by the Gliders has been noted.

The most significant native animal reported and seen by Landcare members to frequent the surrounding dry sclerophyll woodlands is the Rosenberg's Monitor (Fig 6). The Spotted-tailed Quoll *Dasyurus maculatus* predictably could occur in the tip site area but none have been seen of recent years and no scats have been found. The scats are usually left in conspicuous places where they are readily seen.



Figure 6. Rosenberg's Monitor
(photo NPWS)

In the seepage runoff pond several frogs were heard calling during the survey, these being the Eastern Froglet *Crinia signifera*. Other frogs could possibly frequent the site but were not heard or sighted, these being the Spotted Burrowing Frog *Neobatrachus sudelli*, and the Smooth Toadlet *Uperoleia laevigata*.

The Southern Water Skink *Eulamprus tympanum* could possibly frequent the seepage pond and the wet flowline near Macs Reef Road, while an Eastern Long-necked Turtle *Chelodina longicollis* was sighted near the seepage pond. Tiger Snakes *Notechis scutatus* are common to the area and predictably could occur in the undisturbed woodland and in the vicinity of the seepage pond where they may be feeding on the frog population.

The avifauna at the tip face was dominated by scavenging bird species particularly White Ibis *Threskiornis molucca*, Australian Raven *Corvus coronoides* and Pied Currawong *Strepera graculina*. A number of common native bird species were observed in the surrounding undisturbed woodland vegetation, or were flying over the site, these being birds common to the region, - Kookaburra *Dacelo gigas*, Crimson Rosella, *Platycercus elegans*, Sulphur Crested Cockatoo *Cacatua galerita*, Yellow-tailed Black Cockatoo *Calyptorhynchus funereus*, Galah *Cacatua roseticapilla*, Eastern Rosella *Platycercus eximius*, Brown Hawk *Falco berigora*, Grey Shrike-thrush *Colluricincla harmonica*, Yellow-faced honeyeater *Meliphaga Chrysops*, Common Bronzewing *Phaps chalcoptera*, Willie Wagtail *Rhipidura leucophrys* and Magpie *Gymnorhina tibicens*.

No bird species that are recognised as being in decline across the Tablelands were observed during the survey, these being the, the Speckled Warbler *Pyrrholaemus sagittata*, Diamond Firetail *Zonaeginthus bellus*, Hooded Robin *Melanodryas cucullata*, Restless Flycatcher *Seisura inquieta*, Jacky Winter *Microeca leucophaea*, Eastern Yellow Robin *Eopsaltria australis* and Painted Quail *Turnix varia*.

The only native mammal fauna sighted during the survey period was an Echidna *Tachyglossus aculeata*, and a Blue-tongued Lizard *Tiliqua nigolutea*.

Summary

The undisturbed area of the Macs Reef tip site supports a fair representative sample of the Tableland dry sclerophyll woodland. The woodland of the site contributes to the significant east-west vegetation and wildlife corridor that exists along Macs Reef Road. The woodland vegetation community, while fragmented is still widespread in the region. As such that within the tip site provides no specific or significant habitat for any native animals.

Sugar Gliders are known to occur in the vicinity of the tip site but none have actually been observed at the site itself, no doubt due to the continual noise and dust conditions at the tip when it is open.

Rosenberg's Goanna has been observed in the area but as no significant habitat for this animal exists, any animal observed in the area would only be a transient visitor to the tip site where they may scavenge when the tip is not open to the public.

No significant habitat would be destroyed or impacted by the planned tip restoration and redevelopment works. The waste transfer station development is planned to be located within an area of woodland (fig 7), only lightly disturbed by the current tip activities. The development of the waste transfer station will require the removal of a number of Brittle Gums and a few understorey shrubs. The removal of these trees and shrubs will not have a significant impact on the status of the dry sclerophyll woodland within the site and that of the woodland across the region.

The construction of the waste transfer station vehicle access road and the pavement around the transfer facility should be carried out such that all drainage from the transfer station area is directed into the existing seepage pond.

The small seepage pond is colonised by aquatic plants and provides good habitat for frogs and other reptiles. This pond should not be back-filled but retained as part of the redevelopment. It could be easily enlarged and be a functional sediment control and settling pond, as well as a landscape and native animal habitat feature of the area.

The tip site slopes from east to west and is bordered by two shallow depressions on the northern side and one on the southern side of the site. These ephemeral flowlines should be protected from any seepage discharge during and following restoration and revegetation of the site, to ensure no polluted waters enter the Yass River.

No threatened, locally rare or vulnerable native plant species were located and no significant vegetation habitats noted.

No significant impacts will therefore accrue from the restoration of the tip or the construction of the waste transfer station. As a listed threatened native animal has been recorded for the local area near to the tip site the Seven Part Test has been applied to this 'development'.



Figure 7. Proposed site for the Waste Transfer Station

References

Australian Government (2006) *White Box – Yellow Box – Blakely’s Red Gum grassy woodlands and derived native grasslands*. Canberra.

Burbidge, N.T. and Gray, M.(1976) *Flora of the ACT*. Australian National University, Canberra pp 446.

Bennett, R. (1997) *Reptiles and Frogs of the ACT* National Parks Association of the ACT. pp86.

Cronin, L (1991) *Australian Mammals*. Envirobook Annandale NSW pp190.
 Cronin, L. (2001) *Australian Reptiles and Amphibians*. Envirobook. 224.

Costermans, L.(1981) *Native trees of South-eastern Australia*. Rigby Publishers, Sydney. pp 422

Eddy, D, et al (1998). *Grassland Flora – a Guide for the Southern Tablelands (NSW & ACT)* WWF, National Botanic Gardens, NSW NPWS and Environment ACT. pp 156

Frith, H.J. (1976) Ed. *Complete Book of Australian Birds*. Readers Digest Sydney. pp 615

Isbell,R.F. (2003) *The Australian Soil Classification*. CSIRO Publishing, Melbourne. pp144

Jenkins, B (2000) *Soil Landscapes of the Canberra Region*. DLWC Queanbeyan NSW. pp 230

Kahn, L. and Heard, B. (1998) *Pasture Plants of the Slopes and Tablelands of NSW*. Dept of Lands and Water Conservation, Armidale. – 2nd Edition. pp. 164

Parsons, W.T. and Cuthbertson. E.G. (1992) *Noxious Weeds of Australia*. Inkata Press, Melbourne. pp.692

Ride, W.D.L. (1970) *A Guide to the Native Mammals of Australia*. Oxford Press Melbourne. pp249.

Appendices

Appendix 1 - Seven -part Test

Section 5A of the Environmental Planning and Assessment Act and Section 94 (2) of the New South Wales Threatened Species Conservation Act, require the evaluation of any significant impacts on threatened species, populations or ecological communities or habitats through the application of a ‘seven-part test’.

The application of the seven-part test to this ‘development’ is summarised as follows:

- 1. 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.**

No threatened species were located during the survey of the Macs Reef Road Tip site although the listed vulnerable species, Rosenberg’s Goanna has previously been observed in the area but not recorded in this survey, (or been positively recorded over the past two decades). As no threatened species were found, no adverse impacts on the life cycle of any threatened species will accrue from the Tip redevelopment and restoration works.

- 2. 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**

There are no Endangered Populations within the Macs Reef Road Tip site.

An Endangered Population is a population listed under Part 2 Schedule 1 of the Threatened Species Conservation Act and is defined as a population that, in the opinion of the New South Wales Scientific Committee, is facing a very high risk of extinction in NSW in the near future. A population is not eligible to be listed as an Endangered Population if it is a population of a species already listed in Schedule 1 or 1A (i.e) already listed as an Endangered or Critically Endangered Species)

- 3. In the case of an endangered ecological community or critically endangered ecological community, whether the 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.**

There is no endangered ecological community or critically endangered ecological community in or near the Macs Reef Road Tip site.

- 4. 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.**

Not applicable – no habitat of threatened species, populations or ecological communities exist.

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

No critical habitat exists and no critical habitat has been declared in the vicinity of the Macs Reef Road Tip site for any threatened species.

Critical habitats are areas of land that are crucial to the survival of particular threatened species, populations or ecological communities. Under the TSC Act the Director- General maintains a register of critical habitat.

6. Whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan

Not applicable as no recovery plans are relevant to or applicable to the Macs Reef Road Tip site.

7. Whether the action proposed 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 closure and restoration of the Macs Reef Tip site is required under the E.P. &A Act and as such the restoration works are not considered to be a threatening process, particularly as the works will be restricted to the highly disturbed and modified landfill area of the site.

Key Threatening Processes are listed under Schedule 3 of the TSC Act.

This survey and the application of the 7-part test indicate that no significant environmental impact will accrue from this ‘development’ – the tip rehabilitation and restoration, and the construction of the waste transfer station.

Appendix 2 - general photographs of the site.









