

**ENVIRONMENTAL SURVEY AND ASSESSMENT (REF)
OF
MACS REEF TIP WASTE TRANSFER FACILITY SITE AND
GENERAL TIP SITE.**



**Report prepared
by
Roger Good
Environmental Consultant
Good Environmental Systems
1178 Bungendore Road
Bungendore 2621

ABN 96134570303**

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FLORA AND FAUNA SURVEY AND ASSESSMENT OF THE WASTE TRANSFER FACILITY DEVELOPMENT SITE AND GENERAL TIP SITE.

Introduction

Field inspections were made on the 26th August 2009 and 7th February 2011 of the Macs Reef Tip restoration site, including the area proposed for the construction of the waste transfer station. Following the surveys, an assessment was made of any potential environmental impacts accruing from the planned tip restoration program and the development / waste transfer facility construction site. The potential impacts of the proposed works, particularly that of the waste transfer facility site, 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 foot 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. Runoff from the site is into the Yass River, about 2km to the southwest of the tip.



Figure 1. Map location of Tip Site

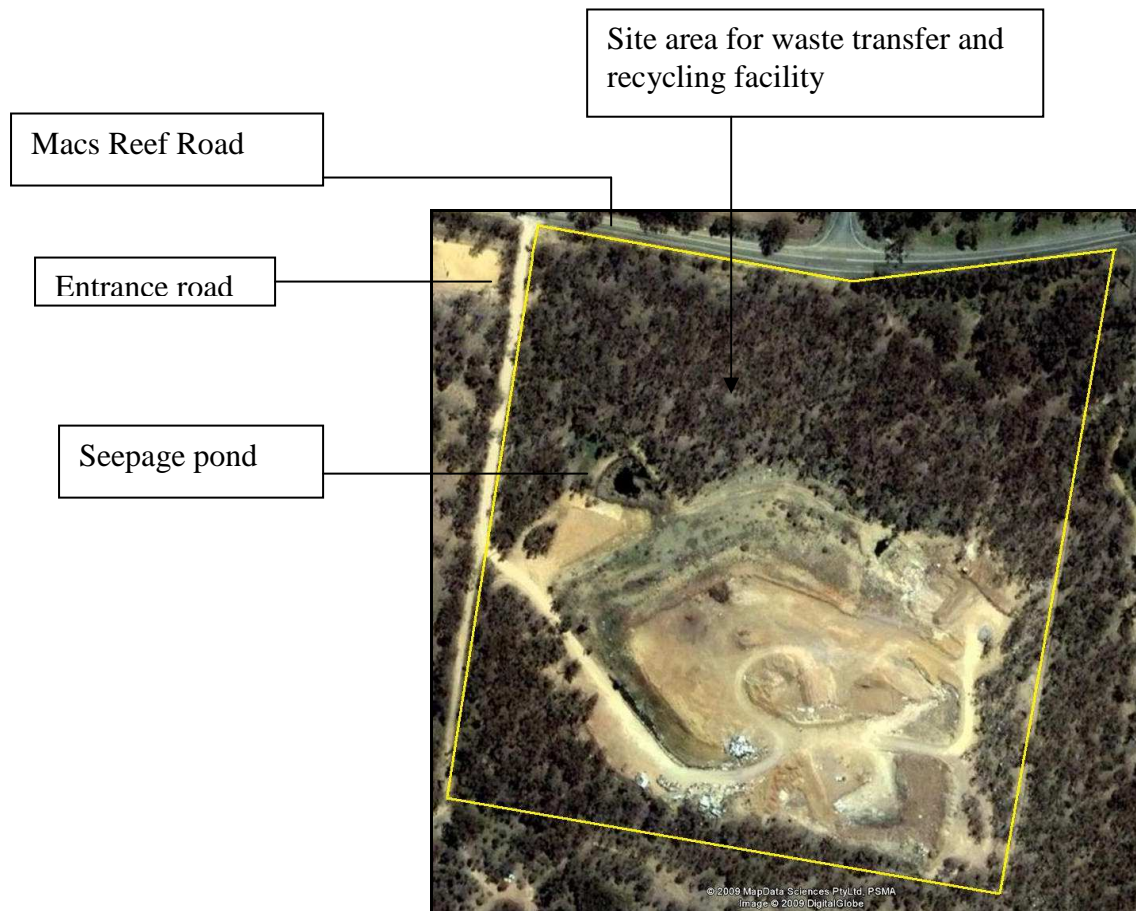


Figure 2 Aerial view of the Macs Reef Tip Site.

Survey methodology.

The survey of the flora ad fauna of the general tip site was undertaken by walking three randomly located linear transects through the undisturbed woodland surrounding the highly altered landfill area of the site. The waste transfer facility site was specifically surveyed by three separate and parallel 40 metre linear transects, with plant occurrences being recorded at 30 cm intervals.

A specific search was made for any known threatened plants and animals that have been recorded for and may occur in the area – Rosenberg's Monitor *Varanus rosenbergii*, Brown Treecreeper *Climacteris picumnus* 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 podsolic 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 Waste Transfer site

The undisturbed woodland of the site surrounding the actual landfill tip site and that encompassing the proposed waste transfer facility (fig 5), is in a fair to good condition and representative of that which existed over much of the general locality before clearing and domestic stock 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.



Figure 5. Woodland on the proposed waste transfer facility site

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 *Lactuca 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 6).



Figure 6. 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 mature 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 in recent years (last decade) in the wider surrounding dry sclerophyll woodlands is Rosenberg's Monitor (Fig 7). The Spotted-tailed Quoll *Dasyurus maculatus* predictably could also 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.

In the seepage runoff pond constructed to catch effluent from the tip, 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*.



Figure 7. Rosenberg's Monitor
(photo NPWS)

The Southern Water Skink *Eulamprus tympanum* could also 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 at the site where the waste transfer is proposed for construction, (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*, Galah *Cacatua roseicapilla*, 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*.

Yellow-tailed Black Cockatoos *Calyptorhynchus funereus* that are in small numbers across the Tablelands were observed to be frequenting the general area, probably feeding on pinecones and seed of the pine plantations on Macs Reef Road. This population is relatively sedentary in the local area, being regularly observed by landcare members; one bird of the flock, having a distinctly different colouring pattern.

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 nigrolutea*.

Summary

The undisturbed area of the Macs Reef tip site encompassing the waste transfer development site supports a fair representative sample of the Tableland dry sclerophyll woodland, although there is a sparse and poor understorey of native shrub species. Native grasses and other herbaceous flowering native species are sparsely distributed and poorly represented.

The woodland of the site and that specifically of the waste transfer site contributes to the 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 and any removal of trees for the waste transfer facility will have no significant impact on the status and condition of the woodland, or the native animal habitat it provides in the Macs Reef, Bywong, Wamboin and Sutton area.

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 that prevail at the tip.

Rosenberg's Monitor has been observed in the area but as no significant habitat for this animal exists (woodland with ant mounds) particularly in the vicinity of the waste transfer facility site, 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 sightings of this animal in the general area have been made in recent years.

No significant habitat would be destroyed or impacted by the planned tip restoration and more specifically, the construction / development of the waste transfer facility. The development of the waste transfer station will require the removal of a number of Brittle Gums and a few understorey shrubs but the removal of these trees and shrubs

will not have a significant impact on the status of the dry sclerophyll woodland within the site. As the trees removed will be the common and dominant Brittle Gum.

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, before flowing to the Yass River.

The small seepage pond near to the proposed waste transfer facility 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 and specifically the waste transfer facility site slopes from east to west to two ephemeral flowlines. These should be protected from any seepage discharge and surface runoff, during and following construction of the waste transfer facility and restoration / revegetation of the general tip area., to ensure no polluted waters enter the Yass River and no erosion results from increased point discharges.

No threatened, locally rare or vulnerable native plant species were located in or around the proposed waste transfer site or the wider tip site and no significant vegetation and animal habitats noted. No significant impacts will therefore accrue from the construction of the waste transfer station or restoration / revegetation of the general tips area. 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’ (waste transfer facility).

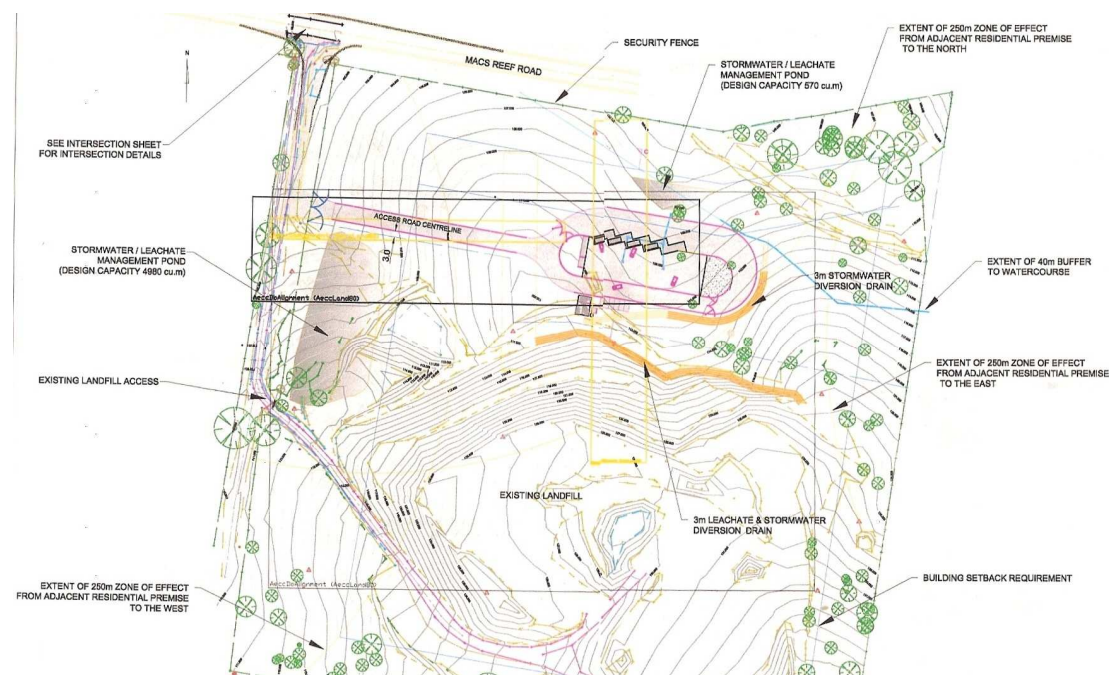


Figure 8. Proposed site for the waste transfer facility

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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 and specifically the waste transfer facility site, although the listed vulnerable species, Rosenberg's Monitor has previously been observed in the area but was 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, construction 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 plan for the threatened Rosenberg's Monitor has been prepared and no other species recovery plans are relevant to or applicable to the Macs Reef Road Tip site and specifically the proposed waste transfer facility 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, together with the construction of a waste transfer facility, is required under the E.P. &A Act and as such the restoration works are not considered to be a threatening process,

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

The surveys and application of the 7-part test indicate that no significant environmental impact will accrue from this ‘development’ – the construction of a waste transfer facility and the restoration and revegetation of the wider tip area.

Appendix 2 - general photographs of the site.







