

# Botany New Paper Mill

## FLORA AND FAUNA ASSESSMENT

- Final
- 31 October 2005





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# **1. Introduction**

## **1.1 Proposal Background**

This ecological assessment examines the proposal to construct and operate a New Paper Mill at Matraville. The expansion would involve construction of several large buildings, which would require removal of existing vegetation in the south-west corner of the site. This report has been prepared by SKM on behalf of AMCOR Packaging.

The ecological studies have been conducted in three stages:

- The first stage was the review of ecological literature pertaining to the study locality;
- The second stage of the study comprised a field survey of the study site to determine the biological assemblage of the area and identify ecological constraints and opportunities; and
- The third stage was the assessment of the proposal under the provisions of relevant legislation to determine whether there is likely to be a significant impact on threatened species, populations, ecological communities, or their habitats.

For this report, the study area is defined as that area of land to be directly or indirectly affected by the proposal. This comprises the entire AMCOR site as well as any relevant proximal and adjacent lands. The study locality is the area of land within a 10-kilometre radius of the study area. The study area is located within the Sydney Basin Biogeographical Region (Thackway & Cresswell 1995).

## **1.2 Scope of the Investigation**

The general aims of this report were to:

- Describe the biological environment of the study area in relation to terrestrial flora and fauna;
- Determine the known or likely presence of threatened species, communities and their habitats within the study area;
- Identify and describe the ecological constraints and opportunities;
- Assessment under the provisions of other relevant State and Commonwealth legislation, where necessary (including 8-part test of significance); and
- Devise and formulate strategies and mitigatory measures that may be applied to mitigate potential adverse ecological impacts. This includes considerations pertaining to wildlife corridors and vegetation management.

## **1.3 Summary of Relevant Legislation**

The following environmental legislation has been referenced in this report:

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- *Environmental Planning and Assessment Act 1979- Part 3A and 5(EP&A Act);*
- *Threatened Species Conservation Act 1995 (TSC Act);*
- *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act); and*
- *National Parks and Wildlife Act 1979 (NPW Act).*



## 2. Review of Background Information

### 2.1 Threatened Species / Communities / Populations

The *Threatened Species Conservation Act 1995* (TSC Act) and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) lists those fauna and flora species, populations and ecological communities currently deemed to be threatened within NSW and nationally. Where a significant impact on threatened species, populations and ecological communities, or their habitats, may occur as a result of a development proposal, a Species Impact Statement is required under the TSC Act. The Act amends Section 5A ('8 part test') of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and aims to improve the standard of consideration and protection afforded to threatened species, populations and communities, and their habitats in the planning process.

A number of threatened flora and fauna species have been recorded within a 10km radius of the study area (Atlas of NSW Wildlife). These species are listed in **Table 2-1** and **Table 2-2**. These tables also include species listed as threatened under the EPBC Act.

It should be noted that these tables deliberately exclude marine and pelagic fauna species as these would not occur at the site of the proposed development.

#### ■ Table 2-1 Threatened Flora Species recorded within 10km of the study area

Scientific Name	TSC	EPBC	Likelihood of Occurrence
<i>Acacia gordonii</i>	E1	-	No
<i>Acacia pubescens</i>	V	-	No
<i>Acacia terminalis</i> subsp. <i>terminalis</i>	E1	E	No
<i>Caladenia tessellata</i>	V	V	No
<i>Eucalyptus pulverulenta</i>	V	-	No
<i>Melaleuca deanei</i>	V	-	No
<i>Syzygium paniculatum</i>	V	-	No
<i>Tetratheca juncea</i>	V	-	No
<i>Thesium australe</i>	-	V	No

E1 – Endangered  
V - Vulnerable

#### ■ Table 2-2 Threatened Fauna Species recorded within 10km of the study area

Scientific Name	Common Name	TSC	EPBC	Likelihood of Occurrence
<i>Aepyprymnus rufescens</i>	Rufous Bettong	V	-	No
<i>Anseranas semipalmata</i>	Magpie Goose	V	-	No
<i>Botaurus poiciloptilus</i>	Australasian Bittern	V	-	No
<i>Burhinus grallarius</i>	Bush Stone-curlew	E1	-	No

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Scientific Name	Common Name	TSC	EBPC	Likelihood of Occurrence
<i>Calamanthus fuliginosus</i>	Striated Fieldwren	V	-	No
<i>Calidris alba</i>	Sanderling	V	-	No
<i>Calidris tenuirostris</i>	Great Knot	V	-	No
<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	V	-	No
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	-	V	No
<i>Charadrius leschenaultii</i>	Greater Sand Plover	V	-	No
<i>Charadrius mongolus</i>	Lesser Sand Plover	V	-	No
<i>Crinia tinnula</i>	Wallum Froglet	V	-	No
<i>Dasyornis brachypterus</i>	Eastern Bristlebird	E1	-	No
<i>Dasyurus maculatus</i> subsp. <i>maculatus</i>	Spotted-tail Quoll	-	E	No
<i>Dasyurus viverrinus</i>	Eastern Quoll	E1	-	No
<i>Gygis alba</i>	White Tern	V	-	No
<i>Haematopus fuliginosus</i>	Sooty Oystercatcher	V	-	No
<i>Haematopus longirostris</i>	Pied Oystercatcher	V	-	No
<i>Heleioporus australiacus</i>	Giant Burrowing Frog	-	V	No
<i>Lathamus discolor</i>	Swift Parrot	E1	E	No
<i>Limicola falcinellus</i>	Broad-billed Sandpiper	V	-	No
<i>Limosa limosa</i>	Black-tailed Godwit	V	-	No
<i>Litoria aurea</i>	Green and Golden Bell Frog	E1	-	Low
<i>Litoria littlejohni</i>	Littlejohn's Tree Frog	-	V	
<i>Miniopterus schreibersii</i>	Common Bent-wing Bat	V	-	Low
<i>Miniopterus schreibersii</i>	Common Bentwing-bat	V	-	Low
<i>Myotis adversus</i>	Large-footed Myotis	V	-	No
<i>Neochmia ruficauda</i>	Star Finch	E4	-	No
<i>Ninox strenua</i>	Powerful Owl	V	-	No
<i>Oxyura australis</i>	Blue-billed Duck	V	-	No
<i>Pandion haliaetus</i>	Osprey	V	-	No
<i>Polytelis swainsonii</i>	Superb Parrot	V	-	No
<i>Potorous tridactylus</i> <i>tridactylus</i>	Long-nosed Potoroo	-	V	No
<i>Procelsterna cerulea</i>	Grey Ternlet	V	-	No
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	V	Low
<i>Ptilinopus superbus</i>	Superb Fruit-Dove	V	-	Low
<i>Rostratula australis</i>	Australian Painted Snipe	-	V	No
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail Bat	V	-	Low
<i>Stagonopleura guttata</i>	Diamond Firetail	V	-	Low
<i>Sterna albifrons</i>	Little Tern	E1	-	No
<i>Sterna fuscata</i>	Sooty Tern	V	-	No
<i>Xanthomyza phrygia</i>	Regent Honeyeater	E1	-	No
<i>Xenus cinereus</i>	Terek Sandpiper	V	-	No

E1 – Endangered, E4 - Extinct

V – Vulnerable

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## **2.2 Endangered Populations and Ecological Communities**

Endangered ecological communities scheduled under the TSC Act are to occur in the locality district; this includes

- Eastern Suburbs Banksia Scrub;
- Kurnell Dune Forest in the Sutherland Shire and City of Rockdale;
- Freshwater Wetlands on Coastal Floodplains;
- Swamp Oak Floodplain Forest;
- Coastal Saltmarsh;
- Swamp Sclerophyll Forest on Coastal Floodplains; and
- Sutherland Shire Littoral Rainforest.

The presence of these three community types in the study area is addressed in this report.

No endangered populations have been listed on the TSC Act for the locality.



### 3. Site Assessment

A site assessment was undertaken on 5 May 2005 to investigate and verify the presence of vegetation communities and habitat features, including any endangered ecological communities, habitats for endangered populations and threatened species of flora and fauna as scheduled in the Commonwealth (EPBC Act) and State (TSC Act) legislation. The assessment covered the western portion of the site, extending from the intersection of Botany Road and McCauley Street to approximately 300m south-east. The study area is shown in **Figure 3-1**.

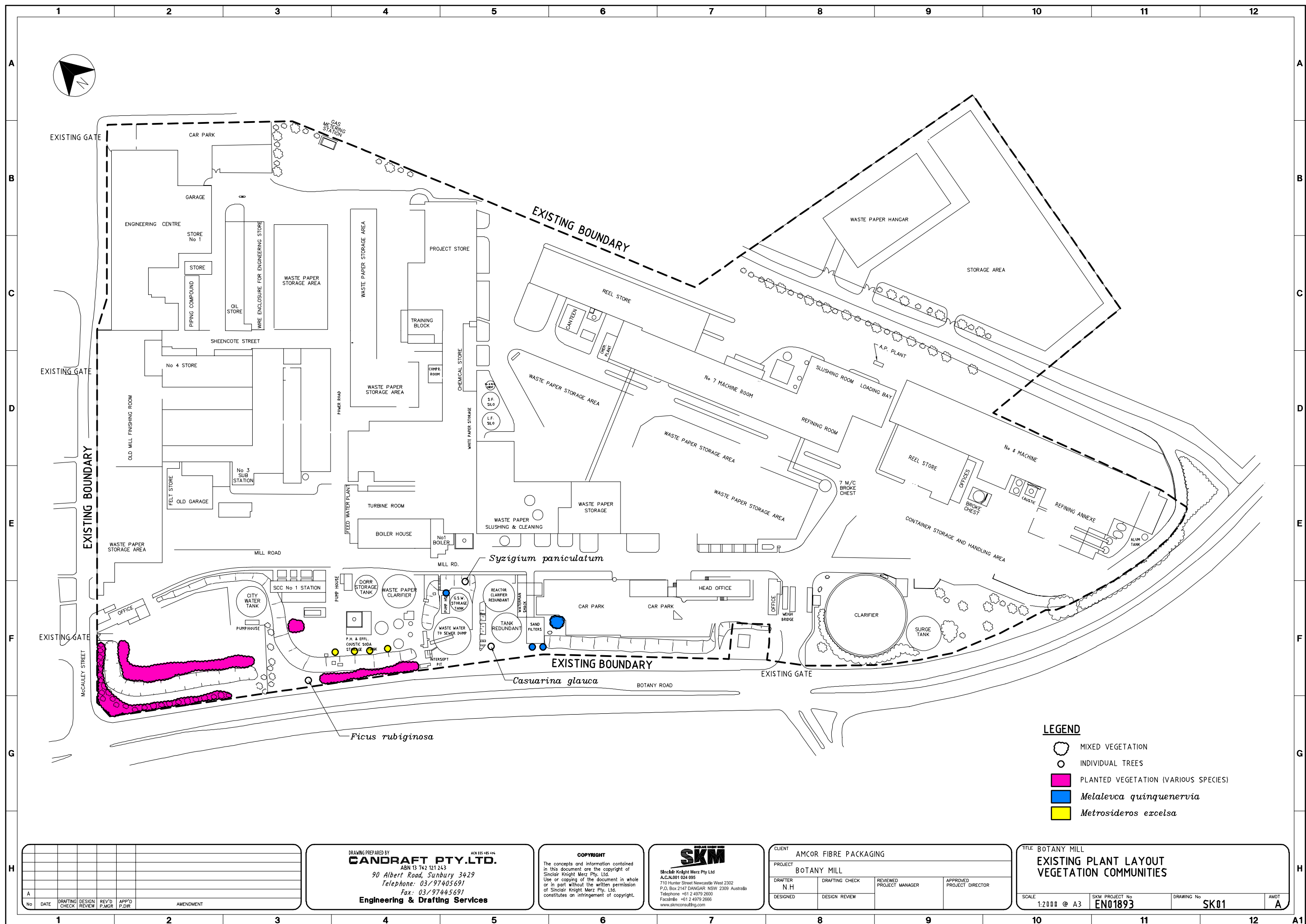
#### 3.1 Flora

The vegetated portions of the site generally consist of mown grass and various planted trees and shrubs, comprising both native and introduced species. While the Paper Mill has been operational for over 100 years on the present site, review of historical aerial photography of the site shows that all existing vegetation within the study area was not present prior to 1969. This indicates that the vegetation was planted at some stage in the last 35 years (which would have most likely been for the purpose of aesthetics and screening). As such, it is of low importance to local biodiversity, however, a number of trees are well established.

A row of trees and shrubs comprising various species is present along the site boundary from the western part of McCauley Street and along Botany Road. These include Narrow-leaved Black Peppermint (*Eucalyptus nicholii*), Broad-leaved Paperbark (*Melaleuca quinquenervia*), Brush Box (*Lophostemon confertus*), Magenta Lilly Pilly (*Syzigium paniculatum*) and Oleander (*Nerium oleander*).

There are two embankments in the western part of the study area (shown on **Figure 3-1**). Along the westernmost embankment there is dense vegetation to approximately 2m high comprising various shrubs including Sydney Golden Wattle (*Acacia longifolia*), Bottlebrush (*Callistemon* sp.), and several introduced species including Bitou Bush (*Chrysanthemoides monilifera* subsp. *rotunda*) and Pink Lantana (*Lantana camara*). This area is shown in **Figure 3-2**. Along the eastern embankment there are various planted trees and shrubs, including New Zealand Christmas Bush (*Metrosideros excelsa*) and Giant Honeymyrtle (*Melaleuca armillaris* subsp. *armillaris*), shown in **Figure 3-3**.

There are various large mature trees within the study area, both along the boundary and amongst existing infrastructure, extending to the car park. These include Broad-leaved Paperbark (*Melaleuca quinquenervia*), Swamp Oak (*Casuarina glauca*) and one Port Jackson Fig (*Ficus rubiginosa*) (**Figure 3-4** and **Figure 3-5**).





■ **Figure 3-2 Vegetation along western embankment**



■ **Figure 3-3 Vegetation along eastern embankment**



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■ **Figure 3-4 Port Jackson Fig (near site boundary along Botany Road)**





■ Figure 3-5 Broad-leaved Paperbark (*Melaleuca quinquenervia*)



### 3.2 Fauna

As the site has been used for industrial purposes for over 100 years and is surrounded by residential / commercial development and Port Botany it would have limited habitat value. No significant habitat features are present within the study area and resources are insufficient to sustain resident fauna populations other than common avian species and rodents. No nesting habitat (ie hollow trees) was observed, however, the vegetation present would provide potential foraging habitat. As such, it is expected that only transient species would use the existing vegetation.

Species noted during the site assessment were the Noisy Miner (*Manorina melanocephala*) and the introduced Indian Myna (*Acridotheres tristis*).

The Green and Golden Bell Frog (*Litoria aurea*) has been found at three locations approximately 2km south east of the Botany Paper Mill site and at 6 locations 2 to 6km north west of the Botany SINCLAIR KNIGHT MERZ



Mill site. The Green and Golden Bell Frog is generally found in wetlands such as marshes, dams and stream riparian zones. Its preferred habitat includes unshaded water bodies with adjacent grassy areas and suitable shelter such as emergent vegetation (eg. bulrushes and reeds) and rocks (NPWS 1999). The water quality of habitats likely to support Green and Golden Bell Frogs is generally non-saline and unpolluted (Pyke & White 2001).

On the main Botany Paper Mill site, there are no wetlands, streams or other waterways (and associated riparian areas) that would provide suitable habitat for the Green and Golden Bell Frog. Apart from screening vegetation along Botany Road and the northern boundary of the site, the remainder of the site has been developed and consist of paved areas, services infrastructure or building roofs. No Green and Golden Bell Frogs have been recorded on the site. Therefore, the likelihood of Green and Golden Bell Frogs being impacted upon by the proposed development is negligible.

The Long Dam area which is separate from the main site (approximately 200m west) does contain habitat suitable for the Green and Golden Bell Frog. However, the Long Dam area would not be disturbed or impacted as part of the proposed B9 development. Also numerous recent surveys specifically targeting the Green and Golden Bell Frog have been undertaken in the Long Dam area (eco logical Australia 2004, URS 2003, Total Earth Care 2004 & 2005). None of these surveys have found any presence of Green and Golden Bell Frogs.



## 4. Potential Impacts of Proposed Development

The impacts to the site as a result of the New Paper Mill are discussed in this section of the report and relate to relevant pieces of legislation.

### 4.1 Impacts to Flora & Fauna

No remnant native vegetation is present within the study area, as all existing vegetation has been planted and largely consists of non-indigenous species. As such, there are insufficient habitat resources to sustain any native fauna populations. One flora species, the Magenta Lilly Pilly (*Syzygium paniculatum*), listed as threatened under the TSC Act is present on the site. The specimen of the species on site has been cultivated and planted and therefore, is not likely to have originated from local plant stock. As such, an assessment of this species in accordance with the provisions of the Act (ie an 8-part test) is not considered necessary. No other threatened or significant flora or fauna species, populations or communities listed in the TSC Act or EPBC Act, or habitat for such species, were identified at the site.

The proposed development would have a 15m set-back from the site boundary and the building would be set back a further distance from this line. As such, the majority of vegetation is not within the building footprint and would not need to be removed. Several trees would need to be removed, however, these being a small stand of Broad-leaved Paperbark (*Melaleuca quinquenervia*) immediately west of the car park, as well as several individual trees within the car park and amongst the existing infrastructure to the west of the car park. These include several Broad-leaved Paperbarks, a Magenta Lilly Pilly (*Syzygium paniculatum*) and potentially several Swamp Oak (*Casuarina glauca*). As these trees are mature and would provide some foraging and nesting habitat for common native species and introduced avian species, their removal would reduce the available habitat for species currently utilising them. However, it is considered that the impact on native fauna species would be minimal due to the small number of trees to be removed and the retention of other trees of the same species.

### 4.2 Environment Protection and Biodiversity Conservation Act, 1999

Actions that have the potential to significantly impact matters of national environmental significance (NES) need to be subject to rigorous assessment and approval under the provisions of this Act. The matters of NES identified in the Act that trigger the Commonwealth assessment and approval regime are listed as follows:

- World Heritage Properties;
- Ramsar wetlands;
- Nationally threatened species and ecological communities;
- Migratory species;

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- Commonwealth marine areas; and
- Nuclear actions (including uranium mining).

To determine whether the proposal is likely to require assessment under the provisions of the *EPBC Act*, this investigation used the following methods:

- 1) Determination as to whether the action is likely to have a significant impact on a matter of NES or the environment of Commonwealth land
- 2) Using the information compiled on the above triggers, a conclusion has been drawn regarding the potential impacts of the proposal on matters of national environmental significance or Commonwealth land.

### **Assessment**

The study area is not Commonwealth land and no areas of Commonwealth land occur in proximal or inter-connecting habitats. None of the Matters of NES will be triggered as a result of the proposal due to the location in a currently highly modified site and the overall low impact of the construction and operation of the plant on matters of NES.



## 5. Conclusion and Recommendations

No remnant native vegetation occurs within the study area. The existing vegetation has been planted and comprises a mix of both native and introduced species. Several planted native trees would need to be removed to allow for construction of the proposed development. These trees would provide some habitat for various fauna species. Nonetheless, it is considered that the ecological impacts of the New Paper Mill would be minimal, as a result of the nature of the vegetation within the site and as only a small proportion of that vegetation would be removed.

The following recommendations are made to minimise potential ecological impacts as a result of the proposed development and enhance the ecological values of the site:

- Native vegetation to be retained should not be disturbed during construction activities (the boundary of the construction area to be clearly defined with temporary fencing);
- Introduced species, particularly noxious species (as identified in **Appendix A**) and invasive species such as Golden Wreath Wattle (*Acacia saligna*), should be removed and controlled as necessary beyond the construction period.
- Native vegetation (comprising only locally indigenous species) are recommended for use in landscaping treatments immediately on completion of the construction phase to compensate for removed vegetation and enhance the aesthetics and biodiversity potential of the site. A list of species recommended for planting is provided in **Appendix B**.



## 6. References

Eco logical Australia (2004) *Target Fauna Survey - Green and Golden Bell Frog Survey & 8 Part Test Long Dam, Matraville*

NPWS (1999) *Threatened Species Management Manual*, NSW National Parks & Wildlife Services

Pyke. G. & White, A. (2001) *A Review of the Biology of the Green and Golden Ball Frog Litoria aurea*, Zoologist 31(4).

Total Earthcare (2004) *Flora and Fauna Assessment and Targeted Green and Golden Bell Frog Survey, AMCOR Dam site, Beauchamp Rd, Matraville Proposed Subdivision and Industrial Development*

Total Earthcare (2005) *Addendum Targeted Green and Golden Bell Frog Survey, AMCOR Dam site, Beauchamp Rd, Matraville Proposed Subdivision and Industrial Development*

URS (2003) *Flora & Fauna Assessment, Lot 4 DP861670 McCauley St Matraville*



## Appendix A Flora Species List

The following flora species list is provided to give an indication of the dominant species present within and adjacent to the study area and should not be seen to be fully comprehensive.

### NOTES ON SYMBOLS USED IN THE TABLE

- ? - Species identification not confirmed.
- \* - Species introduced or not locally indigenous.
- # - Species listed as noxious within Randwick LGA.
- TSC - Threatened Species Conservation Act 1995.
- ROTAP - Rare or Threatened Australian Plant (Briggs & Leigh 1996).

Scientific Name	Common Name	Status
<b>CLASS MAGNOLIOPSIDA (Flowering Plants)</b>		
<b>Subclass Magnoliidae (Dicotyledons)</b>		
APOCYNACEAE <i>Nerium oleander</i> *	Oleander	
CASUARINACEAE <i>Casuarina glauca</i>	Swamp Oak	
EUPHORBIACEAE <i>Ricinus communis</i> *	Castor Oil Plant	Noxious W2 <sup>#</sup>
FABACEAE – Faboideae <i>Chrysanthemoides monilifera</i> subsp. <i>rotundata</i> *	Bitou Bush	Noxious W3 <sup>#</sup>
FABACEAE – Mimosoideae <i>Acacia longifolia</i> subsp. <i>longifolia</i> <i>Acacia saligna</i> * <i>Paraserianthes lophantha</i> subsp. <i>lophantha</i> *	Sydney Golden Wattle Golden Wreath Wattle Crested Wattle	
MORACEAE <i>Ficus rubiginosa</i>	Port Jackson Fig	
MYRTACEAE <i>Agonis flexuosa</i> * <i>Callistemon citrinus</i> <i>Callistemon</i> sp. * <i>Eucalyptus nicholii</i> * <i>Lophostemon confertus</i> * <i>Melaleuca armillaris</i> subsp. <i>armillaris</i> <i>Melaleuca quinquenervia</i> <i>Metrosideros excelsa</i> * <i>Syzygium paniculatum</i> *	Western Australian Willow Myrtle Crimson Bottlebrush Bottlebrush Narrow-leaved Black Peppermint Brush Box Giant Honey myrtle Broad-leaved Paperbark New Zealand Christmas Tree <b>Magenta Lilly Pilly</b>	TSC – Planted
PROTEACEAE <i>Grevillea banksii</i> *		
VERBENACEAE		

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Scientific Name	Common Name	Status
<i>Lantana camara</i> *	Lantana (Pink)	Noxious W2 <sup>#</sup>
<b>Subclass Liliidae (Monocotyledons)</b>		
ARECACEAE <i>Phoenix cocos</i> *	Cocos Palm	
POACEAE <i>Melinis repens</i> *	Red Natal Grass	
<i>Pennisetum clandestinum</i> *	Kikuyu	

Botanical Nomenclature follows Harden (2002, 2000, 1992, and 1993) and subsequent recent revisions.



## Appendix B Species for Revegetation

Within the following table are species considered to be useful for revegetation and also habitat creation

Scientific Name	Common Name	Description
<i>Banksia integrifolia</i>	Coastal Banksia	Small tree
<i>Melaleuca quinquenervia</i>	Broad-leaved Paperbark	Medium / small tree
<i>Casuarina glauca</i>	Swamp Oak	Small tree
<i>Syzigium paniculatum</i>	Magenta Lilly Pilly	Shrub / small tree
<i>Acacia longifolia</i> subsp. <i>sophorae</i>	Coastal Wattle	Shrub
<i>Leptospermum laevigatum</i>	Coastal Tea-tree	Shrub / small tree
<i>Cupaniopsis anacardioides</i>	Tuckeroo	Small / medium tree
<i>Eucalyptus robusta</i>	Swamp Mahogany	Medium tree
<i>Eucalyptus botrioides</i>	Bangalay	Medium tree
<i>Lomandra longifolia</i>	Spiny Mat-rush	Groundcover / rush
<i>Hibbertia scandens</i>	Golden Guinea Flower	Groundcover
<i>Hardenbergia violacea</i>	False Sarsaparilla	Groundcover
<i>Themeda australis</i>	Kangaroo Grass	Groundcover