

# Environmental Program

## FLORA AND FAUNA MANAGEMENT

### BBA-ENP-1000-1400-0011

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| A1       | 9 May 2007    | Draft for review by DTAE                                    | IW       |          |          |
| B0       | 31 Oct 2007   | Revised after audit and issued for DTAE approval            | IW       | JD       | JC       |
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| B2       | 18 Jan 2008   | Revised following DPIW comment                              | YE       |          |          |
| B3       | 24 Jan 2008   | Revised following finalisation of the Fauna Management Plan | SW       | JD       | CF       |

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## Operational Control Tables

Table OCO 11.1                      Flora and Fauna Management

## 1. Purpose and Scope

This Environmental Program describes Flora and Fauna Management measures to minimise the impact of the design and construction of the Gunns pulp mill.

This Environmental Program forms part of the Bell Bay Alliance (BBA) Construction Environmental Management Plan (CEMP) and must be read in conjunction with the CEMP.

## 2. Objectives

1. Protect biodiversity values.
2. Minimise disturbance of native vegetation.
3. Minimise disturbance of native fauna and habitat.

## 3. Targets

1. No impact on flora and fauna beyond that anticipated and detailed in the DIIS, Supplementary Information or prescribed by permit conditions.

## 4. Regulatory and Contractual Requirements

Refer to:

- CEMP Appendix B – Environmental Legislation Register
- CEMP Appendix C – Approvals Matrix
- CEMP Appendix D - Environmental Licences Register
- CEMP Appendix F – Environmental Commitments
- CEMP Environmental Obligations Register: GNS-OBL-1000-1400-001.

In particular, the following requirements are relevant:

- *Environment Protection and Biodiversity Conservation Act 1999.*
- *Threatened Species Protection Act 1995.*
- *Forest Practices Act 1985.*
- *Nature Conservation Act 2002.*

## 5. Technical Documents

The following background studies, research documents and assessments have been used to identify the key environmental aspects:

| Reference   | Document Title                               |
|---|--|
| <a href="http://www.gunnspulpmill.com.au/iis/">http://www.gunnspulpmill.com.au/iis/</a> | Bell Bay Pulp Mill Draft IIS and Appendices  |
| <a href="http://www.gunnspulpmill.com.au">http://www.gunnspulpmill.com.au</a>           | Bell Bay Pulp Mill Supplementary Information |

The following technical documents have been used to assist in identifying appropriate operational controls:

| Availability               | Document Title          |
|----------------------------|-------------------------|
| Forest Practices Authority | Threatened Fauna Manual |

## 6. Key Issues

### Flora Impacts

The technical documents and the environmental risk assessment have identified a range of direct and indirect potential impacts on flora values for each component of the project (pulp mill, wharf, landfill, quarry, local water reservoir, water supply pipeline, effluent pipeline and workers accommodation facility). These potential impacts include:

- Loss or damage to native vegetation;
- Loss, damage or disturbance of threatened flora
- Fragmentation of native vegetation;
- Introduction and spread of environmental weeds;
- Introduction and spread of *Phytophthora cinnamomi* (pathogen);
- Altered fire regimes;
- Erosion and/or sedimentation;
- Altered surface water runoff into waterways;
- Inhibition of plant photosynthesis and reproductive capacity due to airborne dust;
- Emissions; and
- Altered hydrology.

### Fauna Impacts

The technical documents and the environmental risk assessment have identified a range of potential impacts on fauna, with the level of impact varying depending upon species and location. These potential impacts include:

- Habitat loss or damage (native vegetation, aquatic/ocean environment);

- Habitat fragmentation through clearing of vegetation utilised by fauna species for shelter and linkages between areas of habitat;
- Loss damage or disturbance of threatened, conservation significant, marine or migratory species;
- Trapping of fauna in trenches, with subsequent inability to escape;
- Altered fire regimes, resulting in changes to habitat;
- Local changes to understorey and floristics including the introduction of weed species;
- Altered surface water runoff and quality into wetlands and waterways;
- Changes in noise levels;
- Changes of light levels; and
- Changes in air quality.

## 7. Operational Controls

Environmental outcomes to be achieved include:

- Minimised vegetation clearance;
- Minimised disturbance to areas containing threatened or conservation significant species or vegetation communities;
- Minimised disturbance to sites of environmental sensitivity;
- Minimised risk of weed and pathogen introduction and transportation;
- Separation of vegetation, soils and subsoil from construction activities to maintain a soil seed bank for rehabilitation activities;
- Minimised discharge of sediments to water bodies;
- Minimised risk of stock or wildlife entering trenches and effective management of trapped fauna;
- Trench and other applicable areas returned to pre-construction contours, land cover and vegetation cover (noting exclusion of some species);
- Minimised erosion and land, including stream bank, disturbance and destabilisation;
- Impacts on aquatic and water dependant species limited to the immediate construction area;
- Avoiding or minimising impacts on groundwater;
- Minimised construction noise and vibration impacts; and
- Lighting used in a manner that does not cause unacceptable disturbance or distress to listed migratory or nocturnal species.

Areas of general sensitivity relating to fauna and vegetation management, include:

- Areas containing threatened species;
- Areas contain threatened vegetation communities;
- Areas containing native vegetation, particularly areas with trees with hollows;
- Pipeline crossings of creeks;
- Water supply pipeline crossing of the Tamar estuary; and
- Effluent pipeline crossing of the coastline and ocean outfall construction;

The operational controls for management of flora and fauna during design and construction are set out below.

| <b>Table</b> | <b>Title</b>               |
|--------------|----------------------------|
| OCO 11.1     | Flora and Fauna Management |

The operational controls include requirements and responsibilities for:

- Consultation
- Design of permanent works
- Design of temporary works
- Construction activities
- Commissioning and handover.

## 8. Site Environmental Plans

- Refer to SEP Register.

Site Environmental Plans (SEPs) detail practical environmental management measures to be implemented at specific worksites to minimise potential impacts of construction activity on the environment and community. They are designed to provide more site specific detail than is included in the Environmental Program and Operational Control tables.

The information contained in the SEPs is presented in tabular drawing format. This is to make them easy for use by all BBA site personnel, consultants and subcontractors.

The controls set out in the SEPs are drawn from the Environmental Programs.

## 9. Contingency Management

The environmental risk assessment has identified the following circumstances that could occur outside normal operating conditions:

- A previously unrecorded significant feature/site of threatened flora and fauna (e.g. large bird nest) may be located during clearing/construction activities.

If these circumstances occur, the following contingency measures will be implemented:

- Work in the immediate vicinity will stop.
- The Environmental Manager will be notified immediately, who will determine management options in consultation with the appropriate authorities or personnel.

## 10. Evaluating Performance

The Operational Controls, together with the SEPs are used as the basis for evaluating performance.

Refer to:

- CEMP Appendix H – Construction Monitoring Plan.
- CEMP Appendix I – Internal Environmental Audit Schedule.
- CEMP Appendix J – External Environmental Audit Schedule.

Environmental Checklists are used for evaluating performance.

Refer to:

- BBA-CKL-1000-1400-011A Flora and Fauna Management.

## 11. Reporting

Refer to:

- CEMP Appendix K – Environmental Reporting Program