

**INFORMATION/CLARIFICATION NEEDED FOR ASSESSMENT OF
THE GUNNS PULP MILL, JULY 2007**

**Terrestrial Flora and Fauna Response by Gunns Limited
13th July 2007**

*Addressing Items 1, 3, 4 and 5 of the July 6 Request from DEW
Note that Item 2, relating to Brown Algae, will be covered in the Chlorate response*

Please clarify, in relation to the EPBC Act listed Tasmanian wedge-tailed eagle, the following:

(i) the exact distance of the identified nest from the project boundary;

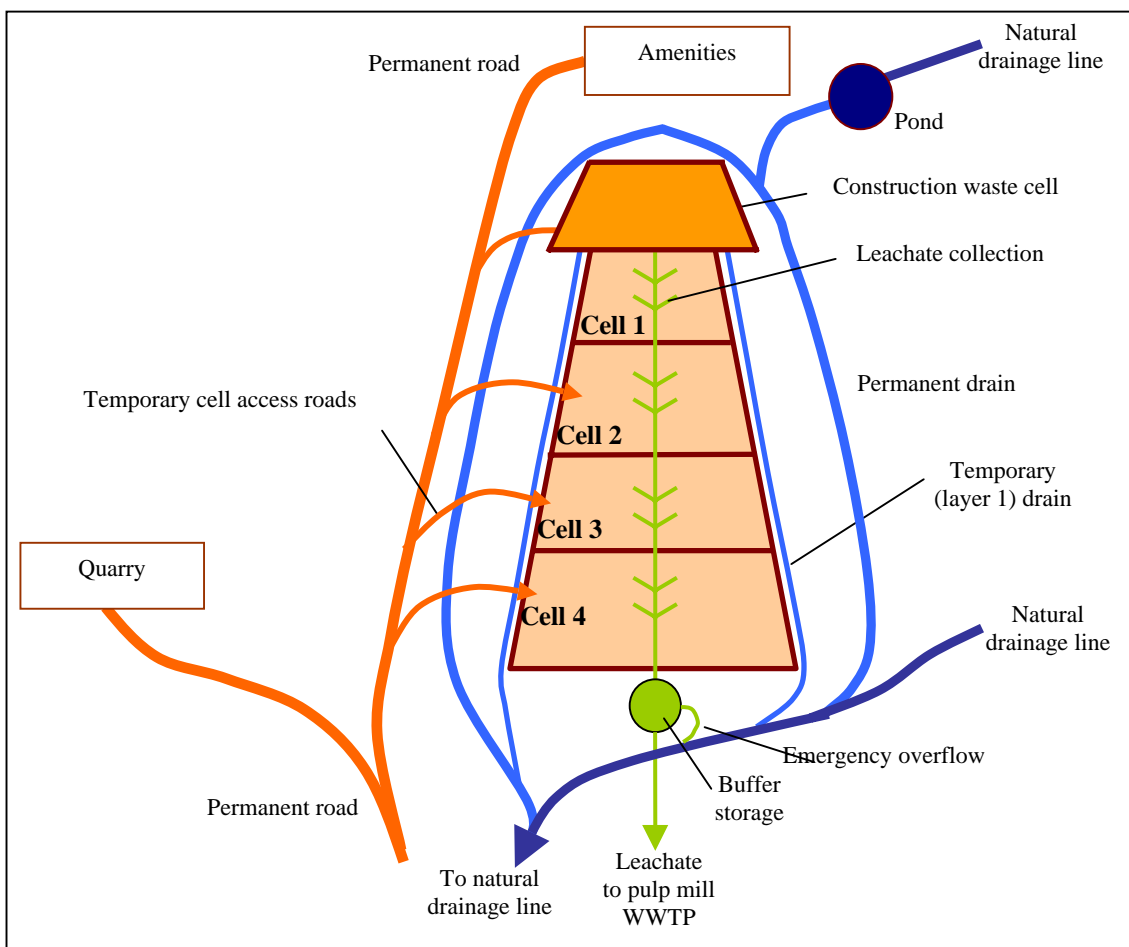
The eagle nest (#130) is located approximately 900m to the north of the solid waste disposal facility. This is measured from the closest point of disturbance, ie the northern edge of disturbance for the disposal site.

The draft IIS fauna report identifies that the nest is located approximately 660m from the northern (closest) edge of the *survey area*. The survey area was designed to provide a significant buffer on the actual areas to be disturbed for the project. This enabled adequate survey and analysis of the potential impacts on natural and cultural values located in the immediate vicinity of the actual project area. The area between the boundary of the actual disturbance area and the boundary of the survey area will not be disturbed.

(ii) at what distance within the boundary will activity occur;

The solid waste disposal facility consists of the landfill facility, an amenities block (crib room, office and workshop) and a small pond to be constructed on the upstream tributary. It is likely that a boundary fence will be constructed around the perimeter of the site, for safety and security. The boundary fence will be constructed on the boundary of the site (approximately 900m from the eagle nest), with the amenities block and pond constructed in close proximity to the fence.

The following diagram provides an indicative location of the infrastructure associated with the solid waste disposal facility.



(iii) what is the nature and duration of the activity;

The construction and operation of the solid waste disposal facility is proposed to occur in this locality. The construction of the facility will occur approximately 900m from the nest site, at the closest point, and move progressively away from the nest site, being in excess of 1.5km away at the bottom of the facility.

No hazardous material is to be deposited at the facility. Non-recyclable construction waste will be disposed in the northern most cell, with the cells for operational waste constructed progressively to the south.

Construction

The construction of the facility involves the building of access roads, both permanent and temporary, diversion drains and pond, the clearance of vegetation and soil, construction of waste cells and the construction of the amenities block.

It is anticipated that no blasting will be required for construction, with minimal rock-breaking potentially required for the construction of the roads and to enable the placement of the clay liner within the waste cells.

Operation

It is proposed to operate the facility from 7am to 5pm, seven days a week. Actual operation hours will depend on the amount of waste produced and the amount of waste diverted for beneficial use.

It is envisaged that only one truck will be required, provided a relatively constant rate of production of waste is achieved from the pulp mill, with up to 10 truck loads per day, each carrying 20m³, to be required to be deposited at the solid waste disposal facility (up to 56,000 m³/year).

It is planned that there will not be a permanent presence of staff on the site, with landfill operators present when required. It is likely that two people will be required on site as required, a supervisor and qualified plant machinery operator.

Further information on the conceptual design of the solid waste disposal facility is available on Gunns website at http://www.gunnspulpmill.com.au/iis/V16/V16_A55.pdf.

(iv) what type of disturbance, particularly during the breeding season, will the activity in this area generate e.g. noise, dust, lighting etc;

The facility will operate primarily during daylight hours (7am-5pm), seven days a week throughout the year.

Noise

Post construction, noise associated with the operation of the facility will entail truck movements (estimated up to 10 per day) and the periodic use of an excavator (or similar) to spread and compact the material brought to the site. With the exception of the periodic use of the amenities block, the long-term operation of the facility will progressively move further down the gully (ie away from the nest site). The operation of the facility for pulp mill operational waste will likely be in excess of 1km from nest site.

The noise associated with the daily periodic operation of the facility is not expected to impact on the breeding activities of the eagles (see response under (v) following), based on the substantial distance to the nest site, the location of both the facility and the nest site (ie not within line of sight with a large hill between the solid waste site and the nest site) and the level of activity at the site.

Dust

Minimal dust emissions are expected from the operation of the facility. It is anticipated that on particularly dry and windy conditions that some moistening/watering of the currently operating cells may be required. No off-site dust emissions are predicted.

There is approximately 900m of native vegetation between the facility and the nest, in the event of unlikely off-site impacts of dust, this vegetation would provide a screen for the nest and it is highly unlikely that any dust would reach the nest site.

Light

The facility will operate primarily in daylight hours with minimal lighting expected to be required on the site. The nest is not located within line of sight of the facility, therefore no direct lighting impacts are anticipated on the nest site. There is a possibility of diffuse light over the horizon, however, the locality of the nest site, at the base of a considerable gully, and the presence of screening vegetation it is very unlikely that light associated with the facility will be visible from the nest site, nor impact breeding birds.

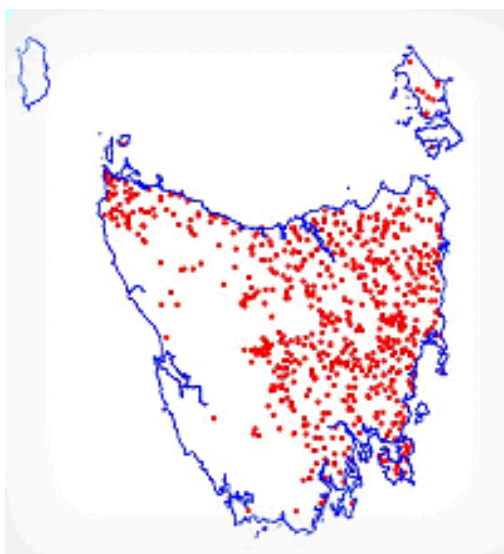
- (v) ***how does this disturbance compare with forestry operations for which the mitigation measures have been developed.***

The Tasmanian guidelines for eagle nest management have been developed and documented due to the formal system of management of forestry activities in Tasmania. The guidelines, prescribing disturbance buffers around eagle nests, were produced as a result of scientific studies and specialist advice on the species. The guidelines are available at;

http://www.fpa.tas.gov.au/fileadmin/user_upload/PDFs/Zoology_Ecology/FPA_Fauna_Tech_Note_1_Eagle_Nest_Management.pdf.

The guidelines are recognised as the best method for maintaining the viability and breeding success of a nest site. They are employed for forestry activities and other potentially disturbing activities for which there is regulatory control, including quarrying, construction, industrial and domestic developments. Other activities for which there are no regulatory control are not constrained by the guidelines, including general road use, general landowner and other municipal activities.

There are a large number of known eagle nests in Tasmania, with many nests located in close proximity to potentially disturbing activities, e.g. roads, farms, recreation areas. The following figure indicates the known distribution of eagle nests across Tasmania.



Known wedge-tailed eagle nests in Tasmania

The reason that much of the documented prescriptions and mitigation measures relate to the forest industry is due to the fact that the forest industry has placed significant effort into eagle management and significant research has originated through this industry. These measures have previously been signed off by the Federal Government in discharge of its EPBC responsibilities under the Tasmanian Regional Forest Agreement.

The nature of these activities subject to the guidelines are both temporary (e.g. a forest harvesting operation and permanent (e.g. quarrying) in nature. Ongoing (permanent) road use for forest operations, including cartage, using large trucks are also subject to management under the guidelines.

The guidelines recognise that the core area for potential disturbance for breeding eagles is within 500m of the nest site. The maintenance of a disturbance free area within 500m of the nest site is considered critical to maintaining the breeding success of the nest site.

Outside this core area activities conducted within a distance of 1km which are visible from the nest site, ie 500 – 1000m from the nest site and within direct line of sight, are also considered to have the potential to impact breeding birds. The risk of disturbance is expected to reduce within this zone the further the activity is from the nest site.

Activities further than 1km from the nest site are not considered to have the potential to impact breeding birds.

Further discussion following is provided only for the solid waste disposal facility, as it is the only infrastructure component of the project located within 1km of the nest site.

The solid waste disposal facility is located approximately 900m from the nest site and is not within line of sight. There is a significant ridgeline between the nest and the facility.

The nest is located an estimated 15-20m from the ground in a tree located on the 140m contour, giving the nest an approximate elevation of 160m. Directly to the south of the nest site (based on direct line of sight) a significant ridge is present, with a maximum elevation of 215m. The construction of the solid waste disposal facility will occur on the southern side of this ridge at a maximum elevation of approximately 150m. It will therefore not be possible for a bird sitting on the nest site to view any activities associated with the facility.

The level of activity associated with the construction of the solid waste disposal facility will be very similar to that of a forest operation, involving vegetation clearance and construction activities for a limited period of time. The ongoing operation of the facility will be similar to that of other regulated activities, ie heavy vehicle road usage, where there is periodic, but continual activity.

The construction and operation of the solid waste disposal facility will be in accordance with the Tasmanian guidelines for the management of the eagle, and therefore it is considered that no impact on the breeding activities of wedge-tailed eagle will occur.

What offset measures could be offered for the clearing/disturbance of 310ha of habitat for listed threatened species. This could include the long-term protection of habitat in another area or the provision of funding for research related to the listed threatened species that may use the site.

The area proposed to be disturbed for the project is approximately 310ha in total. This constitutes approximately 200ha of native vegetation (both forest and non-forest communities), and 110ha of cleared land, pasture and easements.

Therefore of the total area only 200ha could be considered to form potential habitat for some listed threatened species, with habitat quality and value varying considerably depending on its location.

Offsets and mitigation measures previously proposed for the loss of this habitat include:

- Provision of 150ha of permanent reserves in the immediate vicinity of the pulp mill, within the area currently zoned as Heavy Industrial. This reserve area will afford permanent long term protection and management to this area, which would otherwise be available for other land uses (e.g. harvesting or development). It has been designed to provide habitat connectivity across the site and links to other large areas of native vegetation in the vicinity.
- Specific offsets for the loss of Tasmanian listed ecological communities. Eight state listed ecological communities are likely to be impacted by the project, resulting in a loss of up to 24.4ha. A three times offset ratio is proposed, which will result in the permanent protection of up to 74ha of threatened ecological communities (the final area will depend on the actual areas of each vegetation community disturbed). This 74ha will be located in the north east region, and be of the same forest communities of that disturbed. Where possible, the reserves will be situated to capture high ecological values including threatened flora species and threatened fauna habitat.

In addition to these substantial offsets and mitigation measures the following, no net loss of habitat provision for threatened fauna species, is proposed:

- Gunns will undertake rehabilitation activities of previously disturbed sites on Company owned land commensurate with the final area of native vegetation disturbed (ie up to 200ha). Areas rehabilitated will be either pasture or highly degraded sites, with the aim of reinstating or increasing their habitat value for threatened fauna species, and other general fauna and flora species.
- These areas will be located within the north east region and will be selected based on the long term viability of the rehabilitated areas, with particular focus habitat values and landscape connectivity.
- It is proposed that Gunns would identify these areas prior to pulp mill operation commencement and develop a specific rehabilitation management plan associated with this activity, in consultation with the Commonwealth Department of Environment and Water Resources. A report of the results of the rehabilitation program would be produced and published.

The result of these mitigation measures would result in no net loss of fauna habitat as a result of the project.

Please clarify the area of habitat impacted for the following species, and the area of habitat available within the relevant Ibra region?

It is very difficult to estimate the area of habitat available for each species within the IBRA Region. Whilst indicative areas are available for forest communities, no comparable accurate areas are available for native non-forest vegetation. In addition, the presence and area of a vegetation community gives no indication of habitat value or availability to fauna species.

Tasmanian Devil, Spotted-tailed Quoll (Tasmanian population) and Eastern Barred Bandicoot (Tasmanian)

It is estimated that up to 200ha of potential habitat for these species will be impacted by the project. The habitat value of this area varies markedly depending on location and context.

Within the Ben Lomond IBRA region there is an estimated 468,000ha of native forest (Forest Practices Authority Annual Report 2005/06). No estimate is available for non-forest communities.

The Tasmanian devil and Spotted-tailed quoll both utilise a wide range of habitats, from wet forest to dry forest to coastal heaths, whereas the Eastern barred bandicoot has a preference for the drier and more open forest communities where there is an adequate protective shrub layer.

Whilst it is difficult to estimate the area of habitat available for these species within the IBRA Region, it could be inferred that much of the 468,000ha of forest would constitute potential habitat. This would indicate that the 200ha to be disturbed for the project would constitute approximately 0.04% of the potential habitat available for these species.

It is likely that the actual percentage of potential habitat to be disturbed is very much smaller than this when the native non-forest vegetation, which also constitutes potential habitat, is also taken into account.

On a statewide basis there is approximately 3.07 million ha of native forest (Forest Practices Authority Annual Report 2005/06). The clearance of 200ha of potential habitat constitutes 0.007% of this area.

The offset measures proposed for rehabilitation of 200ha as detailed in the previous section would result in no net loss of potential habitat for the species as a result of the project.

Swift Parrot

Up to 11.4ha of potential foraging habitat for the swift parrot, *Eucalyptus ovata* forest and woodland, will be impacted by the project. No potential nesting habitat for this species will be impacted by the project.

There is an estimated 350ha of *E. ovata* forest within the Ben Lomond IBRA Region (Forest Practices Authority Annual Report 2005/06). The area of this forest community to be impacted constitutes approximately 3.3% of this forest community within the IBRA Region. It should be noted, however, that the 11.4ha was previously mapped as other forest communities, with the detailed assessments for this project identifying the presence of this forest community for the first time.

Provision of offsets for the *Eucalyptus ovata* forest and woodland vegetation community has been proposed on a three times basis ie. 34.2ha as a mitigation measure for the impact on this species.

Further, it is noted that the Ben Lomond IBRA Region is not within the core range of this species, nor is the species regularly recorded from the region. The stronghold of this species within Tasmania is predominantly coastal areas in eastern Tasmania (within 30kms of the coast). It is occasionally recorded in the north of the state, most frequently from areas to the west of the Tamar River. For these reasons, the % of habitat described above is likely to be a significant overestimation.

Green and Gold Frog

It is difficult to accurately estimate the area of potential habitat for this species to be impacted by the project. Potential habitat for this species is temporary in nature, depending on water availability. Suitable, but not optimal habitat for this species is located in a small wetland area at the effluent outfall (<0.08ha) and in some of the drainage lines and small wetland areas along water supply pipeline route (0.2ha). Not all the area indicated is available for the species.

There are no available numbers on the area of potential habitat for this species at a IBRA Region or State level.

The offset measures proposed for rehabilitation of 200ha as detailed in the previous section would result in no net loss of potential habitat for the species as a result of the project.

Masked Owl

It is estimated that up to 200ha of potential foraging habitat for this species may be impacted by the project. The area of potential nesting habitat is unable to be estimated, but is restricted to a very small number of individual trees on the pulp mill site. The majority of the trees suitable for nesting at the pulp mill site are located within the reserve area, on the steeper slopes facing the Tamar River.

Suitable nesting trees are also located sporadically along the water supply pipeline route, the mitigation measures outlined in the Preliminary Documentation will ensure protection and maintenance of any trees with suitable hollows for breeding for this species.

The core habitat type for this species is identified as lowland dry sclerophyll forest, however it has been recorded from a range of habitat types across the state, including areas in the highlands and wet forest. Utilising the same methodology as that for the mammals above, it could be estimated that the area of potential foraging habitat to be disturbed by the project is also in the order of 0.04% of that available within the Ben Lomond IBRA Region.

The offset measures proposed for rehabilitation of 200ha as detailed in the previous section would result in no net loss of potential habitat for the species as a result of the project.

What pre-construction surveys are planned for listed threatened orchid species given that timing of previous surveys was not optimal for recording their presence?

The two EPBC Act listed threatened orchid species identified through the assessments as potentially occurring within the project area were *Prasophyllum secutum* and *Caladenia caudata*.

Prasophyllum secutum was last recorded in the vicinity of the effluent pipeline route in 1971, and has not been recorded since. This species only flowers after fire and due to the continued absence of fire in the vicinity of the project area at this location, subsequent surveys would not be effective or warranted.

Due to this difficulty in definitely determining the presence or absence of this species, a conservative approach has been applied and it has been assumed that the species persists in the local area. Mitigation measures to minimise the impact area were developed to minimise the potential impact on this species should it in fact persist in the local area.

Caladenia caudata flowers during Spring (September-October). Intensive spring surveys were conducted at the optimal time to record its presence, having been conducted in late September and October 2005. The species was not recorded, however owing to the tendency of this species to flower sporadically in the absence of fire and the presence of large areas of suitable habitat, its potential

presence has not been discounted and it is considered possible that the species may be present within the project area.

Mitigation measures to minimise the impact were developed to minimise the potential impact on this species should occur within the project area.

As a result no further surveys are planned for EPBC Act listed threatened orchid species. Timing of surveys was considered to be optimal for *Caladenia caudata*, with no further surveys warranted for *Prasophyllum secutum* in the absence of fire in the areas of potential habitat.