

**ASSESSMENT OF PROPOSED PULP MILL FOOTPRINT FOR THE  
TASMANIAN MASKED OWL (*TYTO NOVAEHOLLANDIAE* SUBSP.  
*CASTANOPS*)**

**Environmental Consulting Options Tasmania (ECOtas) for  
Gunns Limited.**

**FINAL VERSION 19 SEPTEMBER 2007**

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**CITATION**

This report can be cited as: ECOtas (2007). *Assessment of Proposed Pulp Mill Footprint for the Tasmanian Masked Owl (Tyto novaehollandiae subsp. castanops)*. Final Version 19 September 2007.

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## PURPOSE, SCOPE AND LIMITATIONS OF THE SURVEY

### **Purpose**

Gunns Limited (via Suzette Weeding) engaged ECOtas (Mark Wapstra) to undertake an assessment of the proposed pulp mill footprint area for the presence of the masked owl, *Tyto novaehollandiae* subsp. *castanops*.

### **Scope**

This report relates specifically to the study area, referred to as the "pulp mill footprint", as defined by a GIS shape file provided by Gunns Limited and shown in Figure 1.

Except where otherwise stated, the opinions and interpretations of legislation and policy expressed in this report are made by the author and do not necessarily reflect those of the relevant agency. The client should confirm any such interpretations with the relevant agency before acting on the content of this report.

### **Limitations**

In the case of the present assessment, there were no significant limitations. All areas of the study area were easily accessed on foot via an existing network of tracks, stream systems, coastal rocks and vegetation that presented no serious impediment to movement.

There is some evidence that the masked owl breeds in winter and spring in Tasmania (Bell *et al.* 1997; Higgins 1999; FPA 2007), with most egg-laying in late October to early November. As such, the timing of the present survey is considered appropriate to detect current breeding activity. In addition, the timing of a survey of this nature (i.e. ground-based assessment of potential trees) is not constrained by the actual breeding season because a regularly used roost/nest tree is likely to show evidence of previous occupation (e.g. pellets, feathers, etc.).

## THE STUDY AREA

The study area, referred to as the "pulp mill footprint", is defined by a GIS shape file provided by Gunns Limited and shown in Figure 1. Detailed descriptions of the vegetation and physical characteristics of the study area are not provided in the present report because they are covered in detail in various parts of the Integrated Impact Statement.

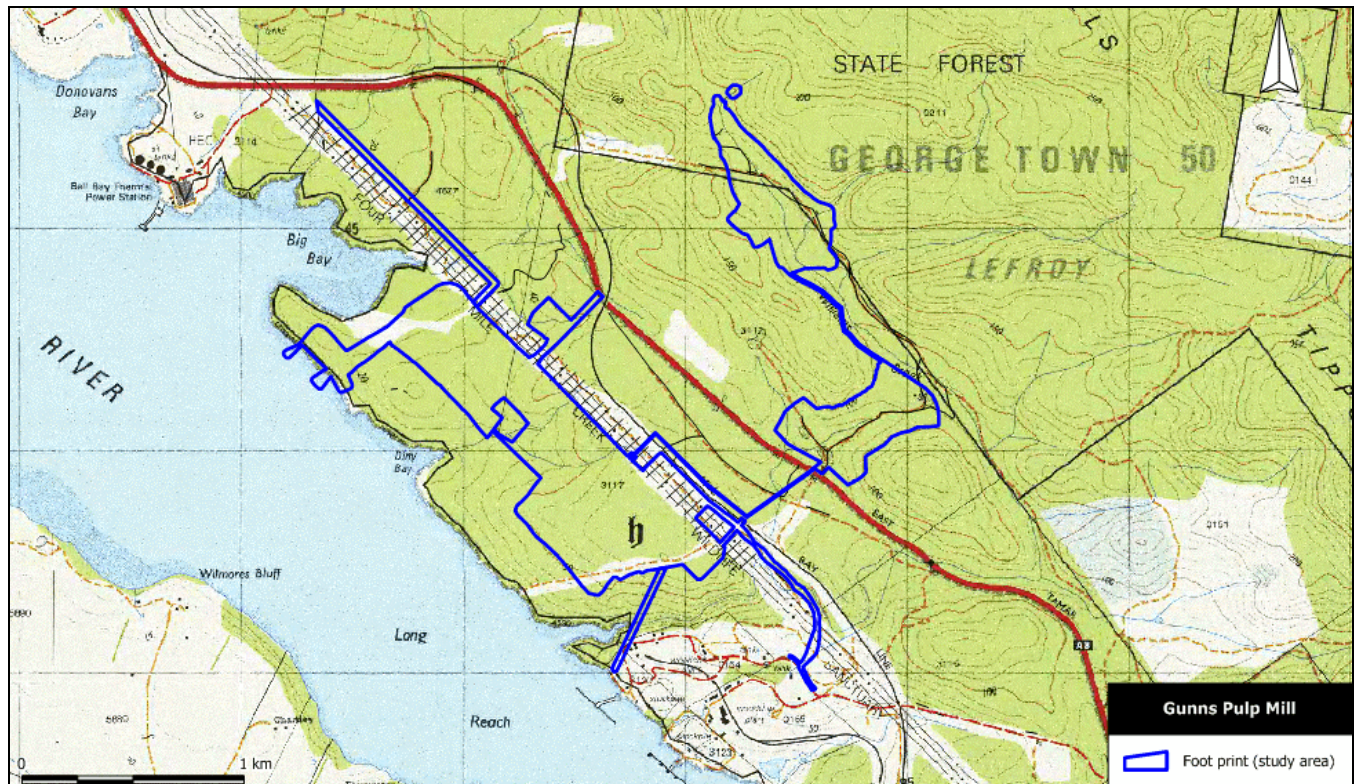
## DISCUSSION OF PREVIOUS ASSESSMENTS OF THE STUDY AREA FOR THE MASKED OWL

The study area has been assessed on two separate occasions by different environmental consultants, and the requirement for an additional assessment for the potential of the proposed pulp mill footprint area to support breeding pairs of the species is not considered necessary by the present author.

The first assessment was undertaken by GHD (2006a, 2006b) as part of the initial flora and fauna surveys of the entire proposed pulp mill area. GHD (2006a) reported on a sighting of a masked owl from the study area from the lower to middle section on the unnamed stream flowing into Dirty Bay (493241mE 5444258mN), specifically close to their vegetation quadrat 19 (Figure 2). This report by the "flora team" (GHD 2006a) was subsequently subject to a more detailed assessment by the "fauna team" (GHD 2006b). This assessment involved a spotlighting and call-back survey over several nights in the vicinity of the sighting. No evidence of masked owl presence was reported by GHD (2006b) as a consequence of these additional surveys. The spotlighting and call-back surveys took place in March and September 2005.

The second assessment was undertaken by Wapstra (2006) in June 2006. This was a combined habitat and spotlight/call-back survey that covered the entirety of the present study area but also included surrounding areas now proposed as "reserves". This survey also specifically focussed on the vicinity of the initial sighting. Wapstra (2006) also reported no evidence of masked owl presence within the study area but did indicate some potentially suitable nesting trees, noting that

most of these were outside the area proposed for intensive development (i.e. the study area that is the subject of the present report).



**Figure 1.** Location of the study area.

## METHODS

### **Nomenclature**

All grid references in this report are in GDA94, except where otherwise stated.

### **Preliminary investigation**

Available information sources were searched for records of the masked owl within the proximity of the study area. These sources include:

- DPIW's *Natural Values Atlas Observation Export 2520* (DPIW 2007), which includes records from various sources (note: the previous report by Wapstra (2006) used data current as at February 2006);
- Forest Practices Authority's online fauna database ("*Threatened Fauna Manual*") (FPA 2007) current as at 29 August 2007;
- Forestry Tasmania's Conserve database *Conservation Enquiry Report for 493583mE 5444345mN dated 20 August 2007* (Forestry Tasmania 2007);
- Recent editions of the *Tasmanian Bird Report* (Wakefield & Hayward 2006; Wakefield & Hayward 2005; Wakefield 2002), the annual journal of Birds Tasmania (volume 32 – 2006, volume 31 – 2005, volume 30 - 2002), which provides a systematic list of bird sightings for the preceding year and includes commentary on significant observations of species;
- Bird Atlas of Birds Australia – information obtained by interrogation of online database birddata: <http://www.birddata.com.au/maps.vm>

- Recent assessments of the study area including those by GHD (2006a) *Gunns Limited Proposed Bleached Kraft Pulp Mill in Northern Tasmania Flora Assessment Report May 2006*, GHD (2006b) *Gunns Limited Report for Northern Tasmanian Pulp Mill ISS Terrestrial Fauna Report May 2006*, and Wapstra (2006) *Survey for the Tasmanian Masked Owl (Tyto novaehollandiae castanops) from the Proposed Pulp Mill Site, Bell Bay*.

### **Field assessment**

The potential or actual presence of breeding masked owls was assessed by reference to habitat features typically associated with nest sites for the species i.e. trees with large hollows and cliffs/rocky outcrops. Field assessment was undertaken over a 2-day period (21-22 August 2007).

Based on previous knowledge of the study area (Wapstra 2006), it was known that potential roost/nest sites associated with cliffs/rocky outcrops are absent because these habitat features are not present. The study area is known to support some hollow-bearing trees and a map of these was provided in Wapstra (2006). The present assessment re-examined many of the trees previously reported in Wapstra (2006), using the same methods noted in that assessment.

In addition, the site of the previous sighting of a masked owl (GHD 2006b) was visited on two occasions over a 2-day period. The potential habitat tree at this site was staked out for a period of 15 minutes on one day (21 August 2007) and 30 minutes on the following day (22 August 2007), and the ground beneath carefully examined for use (e.g. pellets, whitewash, prey remains, feathers, etc.).

Wapstra (2006) identified several sites that fall within the present study area that support potential masked owl roosting and/or breeding habitat, as follows:

“Three patches of forest are identified as supporting higher quality potential masked owl habitat (breeding) due to the higher abundance of potential hollows. These are located as follows:

- in the vegetation associated with the stream system between the Bell Bay Line and the “cleared” easement in the south of the study area;
- on the slopes above the rocky coastline along the western foreshore between the stream flowing directly below the current mill site and Dirty Bay about 800 m to the northwest; and
- along the lower slopes (both sides) of the unnamed stream flowing from the easement to just north of the current mill site.

Five patches of forest are identified as supporting moderate to high quality potential masked owl habitat (roosting) in the form of dense and complex riparian scrubbery surrounded by relatively large patches of native forest, often associated with scattered mature trees, although not all with potentially suitable hollows. These are located as follows:

- the unnamed stream flowing into Big Bay;
- the unnamed stream flowing into Dirty Bay;
- the unnamed stream flowing directly below the current mill site;
- the same stream flowing between the easement and the Bell Bay Line; and
- along short sections of two minor tributaries of Williams Creek.

Where these sites are located within the present study area (e.g. Williams Creek system), they were re-examined during the present assessment by walking the areas and examining any potential hollow-bearing trees using binoculars and examining the ground at the base of each tree for evidence of use by masked owls. In addition, this method provided an opportunity to “flush” roosting birds from dense vegetation.

## RESULTS

### ***Preliminary investigation***

FPA (2007) describes potential habitat for the masked owl as “lowland dry sclerophyll forest with old growth components”, a habitat description also used in Forestry Tasmania (2007). It is my opinion, based on various discussions with specialists on the species, that this habitat description does not fully encapsulate the potential habitats used by the species in Tasmania for roosting and/or nesting. Having said this, the present assessment and the assessment of Wapstra (2006) used a very conservative concept of potential habitat and in reality virtually all forested habitats were examined in considerable detail. FPA (2007) provides a “known threatened species range boundary” map for the species and the entirety of the study area falls within their concept of “core range”.

Data sources (DPIW 2007; FPA 2007; Forestry Tasmania 2007) do not indicate any known sites for the masked owl from the study area. GHD (2006b) reported on a sighting of a masked owl from the study area from the lower to middle section on the unnamed stream flowing into Dirty Bay (493241mE 5444258mN; Figure 2). Wapstra (2006) discusses other database information, concluding that there were no records from within the study area but there are records from within c. 10 km of the study area. A re-examination of the available data sources cited in the methods section indicated that this conclusion is still valid.

Recent commentary on the distribution of the species (Wakefield & Hayward 2006; Wakefield & Hayward 2005; Wakefield 2002) does not indicate any significance of the study area and surrounds to the species. Recent assessments of the study area (GHD 2006a) have reported a single roosting bird but subsequent surveys (GHD 2006b; Wapstra 2006) have not recorded the species.

### ***Field assessment***

The study area does not support any substantial cliffs or rocky outcrops with sites suitable for roosting and/or nesting by masked owls.

Trees with hollows are present within the study area. Figure 2 shows the distribution of potential habitat trees, based on Wapstra (2006) and the present assessment. The majority of these have been previously mapped as part of the first assessment of the potential for the study area to support the masked owl (Wapstra 2006). During the present assessment, any tree with a hollow that was noted during assessment was re-examined. No evidence of use of the trees for breeding by masked owls was recorded. It is noted that the majority of trees with potential hollows are quite small (diameters less than 100 cm) and are formed in forest that is essentially regrowth. Most of the hollows are in trees that are stags or nearly stags and examination from fallen dead branches at the base of many of the trees provide evidence that the potential hollows visible from the ground are “blind” (i.e. broken branches and trunks are virtually solid). Most of these potential hollows simply represent damage gained when the tree was alive but because the trees senesced at an early age (presumably a result of the frequent fire regime of the site), deep hollows did not form.

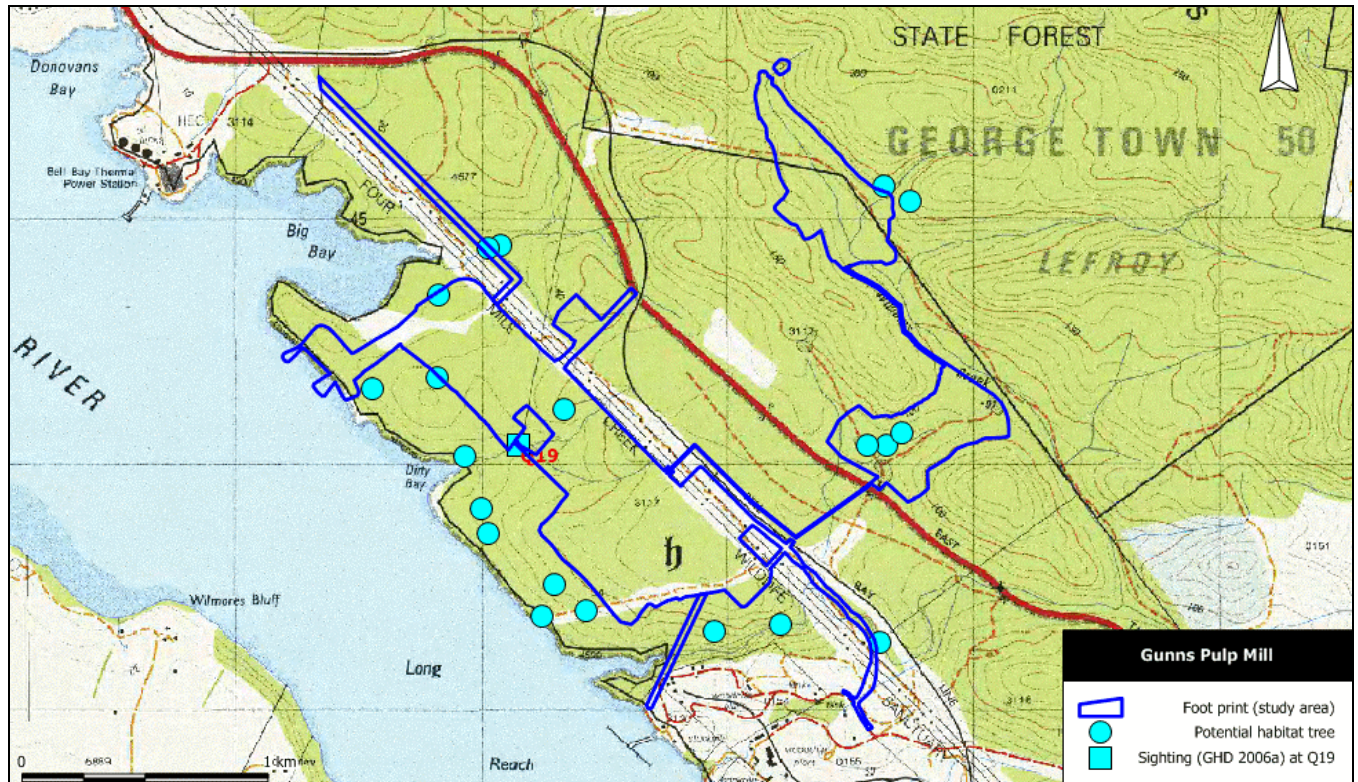
No evidence of masked owls was observed at the reported site of a sighting (near quadrat 19 – see Figure 2).

## DISCUSSION

It is my opinion that the proposed pulp mill footprint area does not support breeding masked owls, and that potential breeding habitat is virtually absent from the proposed pulp mill footprint area.

There is no definitive evidence that the proposed pulp mill site forms part of the territory of a pair (or pairs) of masked owls. However, given the size of the study area compared to the potential size of the territory of a breeding pair of masked owls (c. 400-1200 ha, sources cited in Bell *et al.* 1997), it is possible to postulate that at least part of the study area will fall within a territory of

the species. However, three studies (GHD 2006b; Wapstra 2006; present study) have not indicated the presence of breeding masked owls from the study area and immediate surrounds. Only one bird has been sighted close to the present study area (GHD 2006a), indicating that the general area may be utilised as part of a territory of one or more pairs, or as temporary roosting habitat for unpaired individuals.



**Figure 2.** Study area showing distribution of potential habitat trees (as mapped by Wapstra (2006) and affirmed by GPS reading from the present assessment). Note: as discussed in Wapstra (2006) and the present report, virtually all of the mapped potential trees within the present study area (i.e. the footprint area) are regarded as marginally suitable at best, with most potential hollows being “blind” i.e. unformed.

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