



REPORT ON ILLEGAL FIREWOOD HARVESTING AT JOE'S HILL, BUCKLAND

July 2018

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Parks and Wildlife Service*



Summary

Within this study area it is estimated that 480 tonnes of firewood has been harvested.

The value of the firewood harvested is approximately \$7,200 in unpaid royalty.

The harvested wood has an estimated retail value of \$72,000. The activity represents a significant illegal commercial enterprise.

There has been a significant loss of potential Swift Parrot nesting trees and mature trees containing habitat hollows. The average diameter of harvested trees is 71 cm. When assessing potential Swift Parrot nesting habitat in dry forests, any trees greater than 70 cm DBHob are considered potential habitat.

The study area is only one of several locations in the broader vicinity that has been targeted by illegal firewood cutters. The full extent of operations is much larger than this single study area.

There is clear evidence of unsafe work practices at the site. Two instances were noted of standing trees that have had an initial cut put in them and were then not felled. This is a very unsafe practice and represents an ongoing public safety hazard. Many stumps show evidence of difficulty in controlling the trees as they were felled. Dangerous felling practices can be found at the rate of nine trees per hectare.

There is a considerable volume of household refuse throughout the study area.

The harvesting activity within the study area contravenes a number of Acts relating to forestry, safety and nature conservation.



Image credit: Dejan Stojanovic

Report prepared by: Anthony O'Malley, Forest Practices Officer
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1. Introduction

Extensive firewood cutting operations have been conducted on publicly-owned land north of the Buckland township since at least 2015 and possibly earlier. The cutting has been conducted by unknown persons. No permits to cut firewood have been issued and the operations have been conducted illegally.

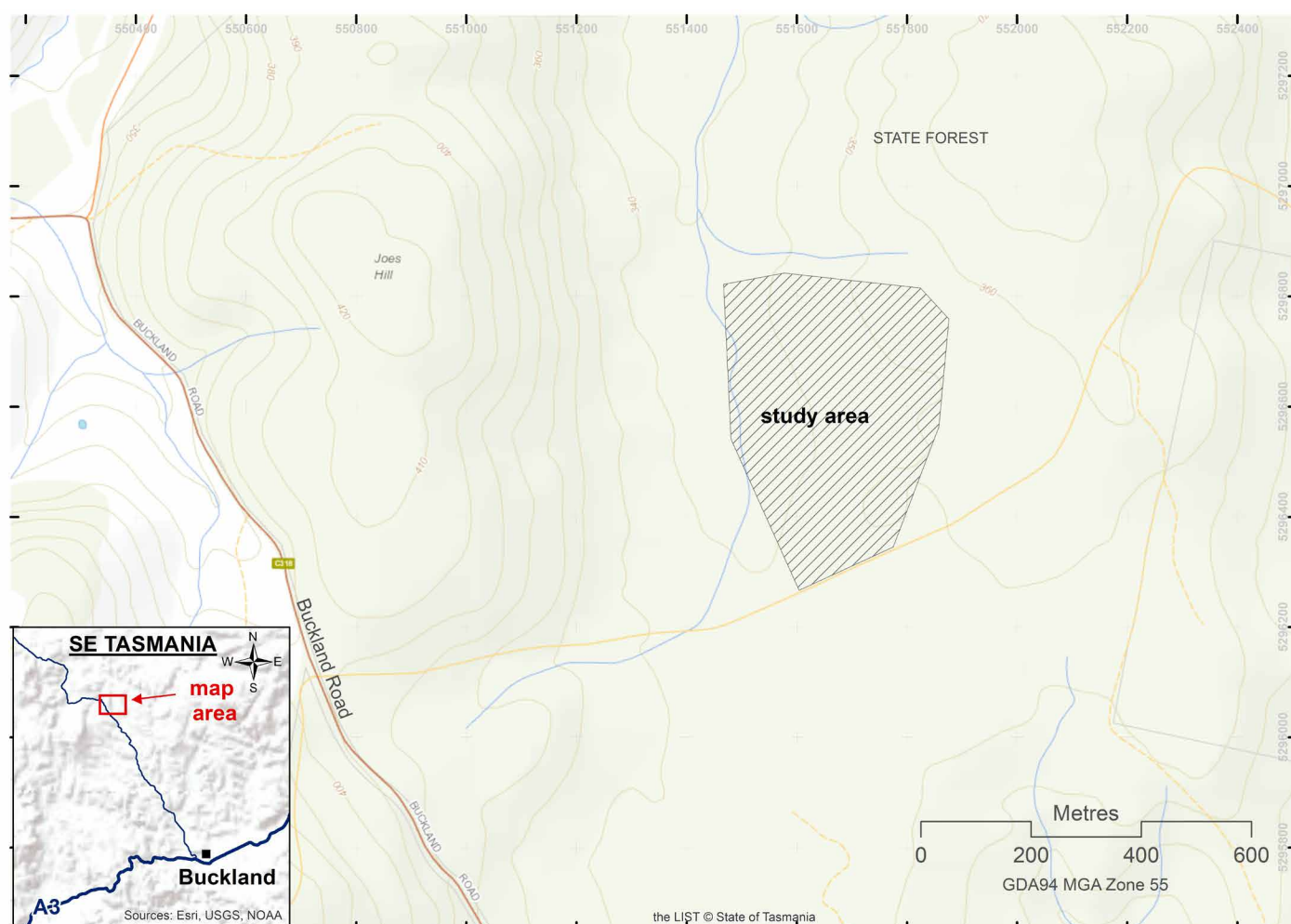
The illegal cutting has been conducted over a number of sites throughout the locality. One of those sites, situated east of Joe's Hill was selected for detailed assessment to ascertain the following:

- The approximate volume of wood being harvested
- The extent of environmental harm being created
- The extent of potential public safety issues ensuing from the activity

The study area is public-owned land classified as Permanent Timber Production Zone Land and is managed by Sustainable Timber Tasmania.

2. Location

The specific area chosen for assessment is located at Woodsdale, near the Buckland Road, east of Joe's Hill. The area cut-over for firewood was determined to be 13.7 ha.



3. Methodology

A series of parallel continuous strip lines were assessed. The strip lines were oriented approximately east-west and located 50 metres apart. Plots within the strip lines were 50 metres long and 20 metres wide (10 metres either side of the centre-line). Each plot was therefore 0.1 ha in area.

A total of 48 plots were assessed, 29 plots were 'Harvesting Plots', where there were clear signs of recent firewood cutting activity, and 19 plots were 'Control' plots, where no recent cutting activity was observed. It should be noted that there were old stumps throughout the area that were indicative of selective harvesting activity over several decades. Old selective harvesting may have been for the production of posts, sawlogs or firewood.

Parameters assessed:

1. Stump diameter and height (stumps were divided into 'old' and 'new' stumps)
2. Standing tree diameter (DBHob)
3. Logs on the forest floor
4. No. of trees with potential nesting/habitat hollows
5. Basal area (m²/ha) measured at the start of each plot
6. Safety rating of stumps
 - Score 1 for Safe technique
 - Score 2 for Poor technique
 - Score 3 for Dangerous technique
7. Wasteful use of wood products (either high stumps or wood left behind from the felled tree)
 - Score 1 for not wasteful
 - Score 2 for wasteful

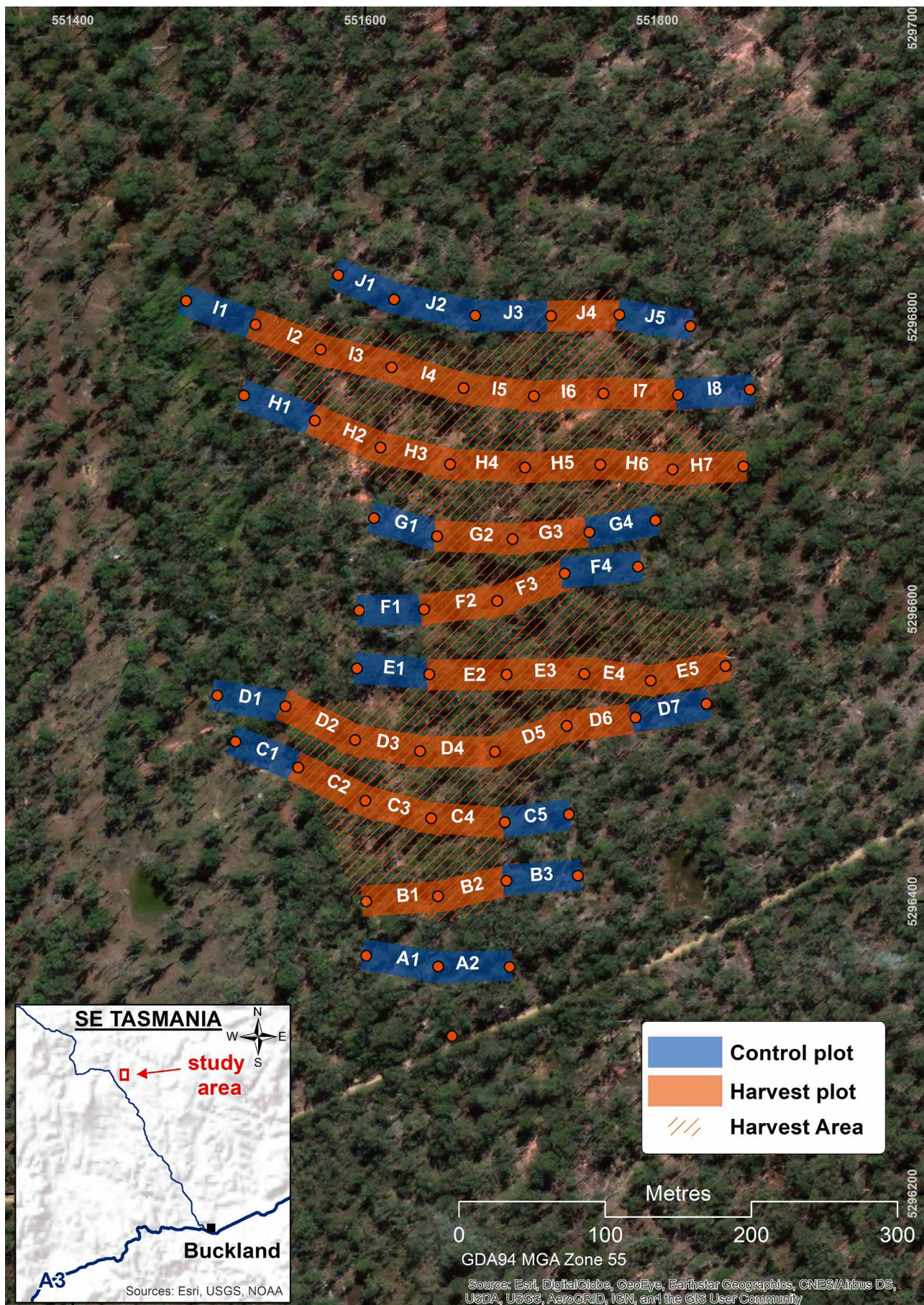


Image 1: Layout of plots within the study area

4. Forest Description

4.1 Forest Community

The study area contained predominantly *Eucalyptus amygdalina* (black peppermint) forest on sandstone. This native vegetation community is listed as 'Threatened' under the Tasmanian Nature Conservation Act 2002 and is precluded from clearing/conversion activity under the Regional Forest Agreement. *E. obliqua* (stringybark) and *E. viminalis* (white gum) were also present within the study area.

4.2 Threatened Flora

A search of the Biodiversity Values Database revealed that there are no known threatened or rare flora species either nearby or within the study area.

4.3 Threatened Fauna

There is a known sighting of a Swift Parrot (*Lathamus discolor*) adjacent to the study area. Swift Parrots are listed as 'Critically Endangered' under Commonwealth legislation (Environmental Protection and Biodiversity Conservation Act 1999) and 'Endangered' under state legislation (Threatened Species Protection Act 1995). The study area is listed as being within the 'core breeding range' and contains significant potential nesting habitat.

5. Results

A summary of the plot measurements are provided in Appendix 1 for Harvesting Plots and Appendix 2 for Control Plots.

5.1 Harvest Volume

- Within the harvesting area, the average number of new stumps was 5 per 0.1 ha plot, indicating a harvest intensity of 50 trees per hectare.
- Mean stump diameter per plot ranged from 42 cm to 122 cm DBHob. The overall average diameter stump per plot was 71 cm DBHob.
- Based on the average stump diameter per plot and harvesting intensity of 50 trees per hectare it is estimated that approximately 75 tonnes per hectare have been harvested for firewood throughout the 6.4 hectare "harvesting area".

Total calculated volume of firewood harvested

$$6.4 \text{ ha} \times 75 \text{ tonnes/ha} = 480 \text{ tonnes}$$

5.2 Harvest Value

- A commercial royalty of \$15/tonne indicates that the harvested timber had a **royalty value of \$7,200 (480 tonnes x \$15)**.
- It is unknown how much the firewood cutter/s have been selling the wood for, but firewood in the greater Hobart area typically sells for around \$150 /tonne delivered. If a retail value of \$150/tonne is assumed, then **the gross retail value of the wood harvested from this site only is \$72,000 (480 tonnes x \$150)**.

5.3 Logs on the Forest Floor and Trees Containing Habitat Hollows

- The amount of old, pre-existing stumps was found to be consistent across the study area. The control plots showed an average of four per plot (40 per hectare), as did the harvesting area plots.
- Logs on the forest floor were also consistent across the study area at 6 per plot (60 per hectare) for both the control and harvesting plots.
- Trees with potential nesting hollows were consistent across both the control and harvesting plots at two per hectare. It is noted though that the average diameter at breast height of the stumps of the harvested trees is 71 cm. When assessing potential nesting habitat for Swift Parrot in dry forest, any tree greater than 70 cm DBH is considered a potential habitat tree. This is significant in that approximately half the number of trees harvested would have been greater than 70 cm diameter and therefore significant for potential Swift Parrot habitat.
- Superficially, there appears to be an anomaly in the “hollows” data with the number of standing potential hollows trees consistent across both the Control and Harvesting plots. It appears though that the focus of the harvesting was on areas that were more densely forested.



5.4 Stump Safety and Wood Waste

- It is readily apparent when observing the stumps on the study area that the standard of felling practice varies from adequate to dangerous.
- Stumps were scored 1 to 3 with a score of “1” being safe to “3” which was rated dangerous. The results indicate that an average of 9 stumps per hectare showed that the faller experienced difficulty in felling the tree, with the tree either falling in an unintended direction or “running up”. Tree faller/s were fortunate not to incur a serious incident on this site.
- Waste of wood was also a problem with 21 felled trees per hectare within the Harvesting area showing evidence of waste. The waste was either in the form of high cut stumps or logs that were only partially cut up for firewood with the residue left on the forest floor.
- The following images show examples of poor felling practices and/or waste:



Image 2: Standing tree with first cut made and then left (ongoing public safety hazard)



Image 3: Attempts made to make multiple fronts as the lean of the tree changed during felling.



Image 4: Tree which has "run up" during the felling attempt due to an inadequate front



Image 5: Tree which has been felled, several logs cut along the tree but the tree wasted in its entirety

5.5

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6. Environmental and Safety Legislation

Forestry activity in Tasmania is subject to a range of Acts concerning forestry, nature conservation and safety.

6.1

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Therefore, any harvesting activity in this forest requires a Certified Forest Practices Plan regardless of timber volume or area of land covered.

6.2 Environmental Protection and Biodiversity Conservation Act 1999 (EPBC)

- This is the principal Australian Commonwealth act that applies for the protection of nationally significant threatened and endangered species.
- The harvested area contains suitable habitat for, and is within the core range of the following species listed under this Act:
 - Swift Parrot (*Lathamus discolor*)
 - Tasmanian devil (*Sarcophilus harrisii*)
 - Eastern quoll (*Dasyurus viverrinus*)

6.3 Work Health and Safety Act 2012

- There is clear evidence on site of dangerous and unsafe work practices throughout the study area. Examples include:
 - Standing trees that have had cuts placed in them and then left (Image 2). These trees present a safety hazard to other forest users, particularly recreational users who can be injured by a falling tree that has been weakened by the indiscriminate horizontal cuts.
 - Dangerous felling techniques (Images 3 and 4) as evidenced by faulty stumps that can be seen throughout the harvest area. It is clear that the tree faller or fallers involved in this operation either lack the skill or care to fell trees in a safe manner.
 - It is uncertain what machine/chainsaw training and accreditation the operators on the site possess or whether they use the requisite safety equipment, but there is clear evidence that they have been operating in a manner that is unsafe to themselves and leaving hazards for other forest users.

6.4 Litter Act 2007

- The objects of Act include 'prohibiting the deposit of litter in the environment' and 'generally to protect and enhance the quality of the Tasmanian environment'.
- The depositing of domestic waste at the study site is a clear contravention of this Act.

6.5 Other Acts relevant to timber harvesting on public land

- Forest Management Act 2013 – covers Permanent Timber Production Zone Land. Wood can be harvested with a permit.
- National Parks and Reserves Management Act 2002 – covers all other Crown land that does not currently have reserve status. Removal of wood is not permitted.
- Nature Conservation Act 2002 – covers declared Private Sanctuaries and Private Nature Reserves. Harvesting of native plant species may be conducted with a permit or if you are the owner of that land.

7. Acknowledgements

Field assessment work was conducted by NRM South representative Maudie Brown and independent Forest Practices Officer, Anthony O'Malley. Technical advice on assessment methodology was provided by Sustainable Timber Tasmania (STT) Senior Conservation Planner, Marie Yee. The final report was prepared by Anthony O'Malley.