

Why Logging?

A Value Assessment of Forestry Uses in the Huon Forest District

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Abstract

The Huon Forest District comprises 762,800 hectares of forests in southwest Tasmania, with 128,900 hectares of that total designated as state forest managed by Forestry Tasmania. These forests are used primarily for wood production, although tourism, carbon storage, leatherwood honey and the specialty timbers industry are competing for access to these forests. This study examines the socio-economic values of these uses and determines whether the Huon Forest District is being utilized efficiently.

To accomplish this, an extensive literature review of past research was conducted. This information supplemented 7 semi-structured interviews that were conducted with experts from the forestry industry, tourism industry, University of Tasmania, and conservation groups. The purpose of these interviews was to see what value the interview subject placed on the respective uses.

Through these interviews, it became apparent that the Huon Forest District is not being utilized efficiently. Due to the quotas for wood production that have to be met by Forestry Tasmania, the logging industry is consuming resources that would be more efficiently used by either tourism, carbon storage, leatherwood honey or the specialty timbers industries. The alternatives to logging have not reached their potential because of their dependency on traditional logging operations, the current regulatory system, and a lack of information. Changes in these areas would allow them to challenge traditional logging operations for use of the Huon Forest District.

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Section 1- Introduction

1.1 Statement of Problem

The Huon Forest District in Tasmania is home to old growth forest, native regrowth, and private plantation forests. These forests provide a number of valuable economic opportunities, but have historically been used for logging operations. Although logging operations have provided the region with jobs and a solid economic base, the emergence of new uses like carbon storage are beginning to challenge the viability of traditional logging operations.

Forestry Tasmania is the managing authority for Tasmania's state forests, and is mandated to utilize the state's 1.5 million hectares of forests for a multitude of purposes (Forestry Tasmania 2000). These include logging operations, leatherwood honey production, and tourism. Despite its goal to manage Tasmania's forests for multiple uses, logging is the primary user of the Huon Forest District due to quotas for wood production that Forestry Tasmania must meet. By examining the alternate uses, as well as traditional logging operations from a socio-economic perspective, this paper will determine whether Tasmania's forests are being utilized efficiently, and for the greater good of Tasmania's population.

1.2 Significance of Study

Currently, there is a dearth of information examining the socio-economic implications of Forestry Tasmania's management of the Huon Forest District. There is a wealth of information regarding the ecological impacts of logging operations from a host of sources, including The Wilderness Society, Timber Workers for Forests and Forestry Tasmania. There are also studies that have examined the economic implications of the

uses for Tasmania's forests, specifically logging, tourism and carbon storage. No study has focused on the Huon Forest District's range of uses and their impact on society and the economy.

Through a series of semi-structured interviews, and an extensive literature review, this study will synthesize many of the more specific studies and provide a comparison between the alternate uses. It will also add to the limited database of information concerning the Huon Forest District through the information gathered during the interview process.

1.3 Huon Forest District

The Huon Forest District includes 762,800 hectares of forest in southwest Tasmania, of which 128,900 hectares are state forest (Forestry Tasmania 2000). The remainder of the land is comprised of private land and reserves of forests allocated under the National Parks and Wildlife Act of 1970 (Appendix 1). Its western boundary meets the Southwest World Heritage Area, while its southern extent reaches the Recherche Bay State Recreation Area (Forestry Tasmania 2000). It includes several renowned valleys, including the Weld Valley, Huon Valley, Valley of the Styx, and the Florentine Valley. These valleys are home to old growth stands of Eucalyptus Regnans, Huon Pines, Myrtles, and Sassafras, all of which are valuable economically and ecologically. The dominant forest types, which are generally determined by fire, are mixed forest and wet sclerophyll. Mixed forests have Eucalypts as the dominant canopy, with a rainforest understorey, while wet sclerophyll has a shrub understorey (Tasmania Forestry 2000).

The Huon Valley, which is 30 minutes south of Hobart, is home to apple orchards, vineyards, and fisheries (Appendix 2). Along with forestry operations, these industries

employ 20.3% of the Huon Valley workforce (Huon Valley Profile). The population is spread out throughout the region, with the largest towns being Huonville, Geeveston, and Franklin. The potential for growth in the region exists, as several industries will likely expand in the coming years. A local government survey conducted in 2003 concluded that tourism would be the most important industry in the next 2-5 years. Additionally, aquaculture and value-added forest products will likely expand. This same survey concluded that old growth forestry would likely decline over the same time frame (Huon Valley Profile).

1.4 Multiple Uses Examined

1.4.1 Logging

Logging in the Huon Forest District has been occurring for more than 150 years (Forestry Tasmania 2000). Today, one third of the 300,000 m³ quota set by the state legislature for high quality sawlogs and veneers is produced in the Huon Forest District. This supplements the much greater amount of low quality timber harvested for woodchip production (Forestry Tasmania 2000). This wood production is divided among several types of productive forests in Tasmania. Native Eucalypt forest sees about 1300 hectares harvested and regenerated yearly. Native Forests designated as Special Timbers Management Units total about 7,900 hectares and are used primarily to support the high quality wood industries like sawlog mills, veneer mills, and woodcrafters (Forestry Tasmania 2000). This yield of specialty timbers is supplemented by high quality wood harvested from other forest types. Plantations in the Huon Forest District total about 2,600 hectares, and are comprised mostly of *Eucalyptus globulus* and *Eucalyptus nitens*. Each of these forests is managed by Forestry Tasmania and must meet the standards set

by the *Forest Practices Code*. In total the Huon Forest District contains 95,100 hectares of production zone forest, which are areas that are managed for the production of wood.

1.4.2 Tourism

Tourism, as identified by the survey conducted in 2003, is the most likely to expand industry in the next 2-5 years (Huon Valley Profile). Already, however, there is an existing infrastructure for tourism operations. Attractions like the Tahune Forest Airwalk or the Weld Valley Touring Route have successfully attracted visitors to the Huon Forest District. The Tahune Airwalk alone attracts 120,000 visitors annually, which is 27 percent of all visitors to Tasmania (Felmingham 2005). Additionally, the Southwest World Heritage Area and the many valleys within the district already draw numerous tourists through or into the region.

The tourism within the Huon Forest District is forest based, as most attractions depend on the natural beauty of the region (Branigan). The Tahune Forest Airwalk, and the Weld Valley Driving Route are both examples of this. There are many barriers to the expansion of forest-based tourism within the region, however. The Weld Valley Driving Route, developed by Forestry Tasmania to complement the Airwalk, includes a lookout at Glover's Bluff, a walking track to Reuben Falls and increased access to trout fishing at the Weld Eddy (Branigan). Although the infrastructure is already in place, there are gates requiring a \$100 deposit to access the three attractions. This limits the feasibility of the drive and decreases its marketability.

The opportunity for expansion exists in the state forests, as it is home to some of Tasmania's best recreation opportunities. Fishing, mountain biking, and bushwalking are all possible within the state forests, yet they draw few visitors.

1.4.3 Carbon Storage

Tasmania's forests are a huge store of carbon dioxide and will play an increasingly important role as the fight to slow climate change begins. The potential role that Tasmania's forests will play in preventing Climate Change, however, will be tested by the lack of uniformity in the accounting processes, and differing standards regarding this accounting. The current standard for accounting is set by the Australian Greenhouse Office and adheres to the guidelines determined in the Kyoto Protocol (Blakers, Working Paper 1). These guidelines focus on land use changes, specifically changes from forest to cleared land, and the transition from cleared land to forest. It does not account for the release of carbon due to changes in things like biomass (above and below ground), soils, and forest litter. The current system also fails to realize the greater carbon storing capacity of native forest regrowth when compared to traditional plantations (Blakers, Working Paper 1). Using this system, forestry in Australia is seen as a net carbon sink. According to The New Forest Industry growth of managed forests and plantations absorbed 79.1 mt of carbon dioxide in 2001, which offsets the 56.5 mt of emissions due to harvesting and fuel wood collection (The New Forest Industry).

When full carbon accounting is utilized, the value of certain forests begins to be realized. A tall, wet, old growth forest will release up to 4400 tonnes of carbon when it is logged, as opposed to a minimum of 550 hectares for younger, less biodiverse forests (Blakers, Working Paper 2). The difference is a result of the continuous uptake of carbon by trees as they age and grow. Native regrowth forest can absorb carbon dioxide for the first 200 years of its life, although 60% is absorbed within the first 50 years (The New Forest Industry). A change to a new accounting system, which may occur in the next

round of Kyoto talks, will likely incorporate full carbon accounting for forests. Until that time, however, the current accounting practice will be utilized and there will be no penalty for the emissions resulting from clearing forests.

1.4.4 Leatherwood Honey

Leatherwood honey is produced from the leatherwood tree (*Eucryphia lucida*) by the European honeybee, which was introduced to Tasmania in 1830. In addition to the sale of this distinct honey, the honeybees also provide pollination services to the horticultural industry of the Huon Forest District (Save Your Leatherwood Honey). Although the actual sale of leatherwood honey results in only a few million dollars per annum for the beekeepers, they argue that they provide an essential service to the \$100 million dollar per annum horticulture industry (pers. comm. Wood).

The leatherwood tree is found in native wet eucalypt forests and can only be used by beekeepers if they are within state forests or on private property. To gain access to these trees, many beekeepers are dependent on the logging roads built by Forestry Tasmania. Unfortunately for many beekeepers, current silvicultural techniques such as clearfelling are reducing the stocks of leatherwood trees and decreasing the bee population (Save Your Leatherwood Honey). This occurs because clearfelling operations remove leatherwoods from the coupe, and the 80-year rotation does not give leatherwoods time to mature enough to flower (Save Your Leatherwood Honey). Beekeepers have formed the Tasmanian Beekeepers Association as well as Save Your Leatherwood Honey to try and preserve the remaining leatherwood tree habitat.

1.4.5 Special Timbers Industry

The special timbers industry is based on the goods made and sold from high quality wood such as Huon Pine, Sassafras, Myrtle, Blackwood and King Billy Pine. These high quality woods generally make up less than 10% of the harvested trees (pers. comm. Harris). The slowest growing trees such as Huon Pine and King Billy Pine are no longer harvested, and the wood used for crafting comes from stockpiles of previously felled trees and deadfall in the forests. Huon Pine is currently supplied at the rate of 500 m³ per year, which should make the current stock last another 60-70 years (pers. comm. Harris). The woodcrafting industry is based on cash and carry items, like those found at the Salamanca Markets and other high quality products, like furniture or boats. The sawmills and veneer mills are a bigger user than the woodcraftsmen, but they still only use a small percentage of the wood used for woodchipping. This is not all due to market demand, as only the choicest logs can be used for sawmills and veneer mills (pers. comm. Harris). Out of the 30 species of Eucalypt in Tasmania, only 4 make suitable sawlogs. The total value of sawn timber and veneer logs to the Tasmanian economy has been estimated at \$20 million dollars annually. It is a small component of the forestry industry, but it is unique enough that it is considered an alternate use. Most of the high quality wood comes from Special Timber Management Units, which total about 7900 ha (Appendix 3). A large percentage of these units are found within old growth forests, so the fight to protect old growth forest has large-scale implications for the special timbers industry.

1.5 Past Studies

The amount of research done into the different usages of Tasmania's forest varies greatly. Most of the research that has been done focuses on either the economic or environmental impacts of the use. Examples of this research include work done by Timber Workers For Forests that examine the ecological and economic impacts of clearfelling. Forestry Tasmania has published large amounts of research on forestry but much less on tourism, leatherwood honey or carbon sequestration. Simon Branigan recently completed a thesis titled *Outdoor Recreation in Tasmania's State Forest: Challenges and Opportunities*, which looks at the different recreational opportunities within the Huon Forest District. This is one of the rare studies focusing specifically on this district. In general, there is a lack of information examining the relationship between the uses, and even fewer that examine them within the confines of the Huon Forest District.

Section 2 Methodology

2.1 Choosing a Region

Tasmania was chosen as the location for my research due to its forest reserves and the controversy surrounding their management. Geoff Moseley helped me develop my interests further and put me in touch with Will Mooney of the Huon Valley Environment Centre. Will focused my interests onto the different usages of state forests and suggested that I concentrate my efforts on the Huon Forest District. This district is good due to the diversity of its forests and the wide range of uses supported by them. It is also home to several pockets of old growth forest that continues to be logged, specifically in the

valleys closest to the Southwest World Heritage Area. In addition to the old growth forests, the region contains the Tahune Forest Airwalk. This is the showcase example of forestry and tourism operating together, and would allow me to assess its impacts and find out people's perceptions of its usefulness. Leatherwood honey production is also active within the state forests as well as specialty timber uses like wood crafting. The mixed uses and the types of forest highlight many of the issues surrounding multi-use forests and the effect of the forest industry on these uses.

Although I would have liked to live in the biggest town within the Huon Forest District, Huonville, lack of housing within the town prevented that. The best alternative option was Hobart, which is where many of the conservation groups and industry advocates have their offices. Hobart is also less than an hour from the Huon Forest District and allowed me to travel there without too much cost. Living in Hobart also provided access to the resources of the State Library of Tasmania and the University of Tasmania.

2.2 Benefits of Interview Based Research

In order to best assess the variety of uses within the state forests, I elected to conduct a series of face-to-face, telephone and email interviews. Due to the nature of my project, which was looking at many different aspects of state forest usage, interviews with experts or stakeholders would provide me with the greatest scope of information. It also allowed me to gauge their perspectives on what the best mix of uses was for Tasmania's state forests. A survey would have been ineffective, as the complexity of forestry usage would limit the number of people who could take my survey to that same group of experts and stakeholders.

2.3 Selecting Interview Subjects

As part of my background research, I examined which organizations were active within the Huon Forest District. Will Mooney and Barry Chipman, the Tasmanian director of Timber Communities Australia, also provided me with a list of people to talk with. In general, I was hoping to talk with a person involved with each specific use in order to get the greatest scope of information. Within that context, I thought it was important to speak with forest industry representatives to gain their insight into the best use of the forests. This was important as Forestry Tasmania is the manager of these forests and has the most say in how they are utilized.

2.3.1 Forest Industry Groups

The forest industry had several organizations that were good candidates for interviews. Within these, I chose to contact Forestry Tasmania, TCA, and Forest Industries Association of Tasmania. Forestry Tasmania, as mentioned earlier, was important to speak with, as they are the managing authority. I called their main office in Hobart and they redirected me to the Huon Forest District's office in Geeveston. From here I had the help of Angela Browning, who put me in touch with Michael Wood the Assistant General Manager of Forestry Tasmania. TCA was easier to get in contact with, as Barry Chipman was very willing to help with the project, and he was the only person listed for TCA Tasmania. FIAT never responded to any of my phone calls or emails, so they were left out of the interview process.

Barry Chipman, in addition to meeting with me, also provided a list of people to meet with who work in the forestry industry. I chose to meet with George Harris, as I had

not yet made plans to contact someone who crafted specialty timbers like Myrtle, Huon Pine or Sassafras.

2.3.2 Conservation Groups

Will Mooney provided me with a list of groups and people who were working to preserve Tasmania’s forests for economic and preservation values. Margaret Blaker, Simon Branigan and Michael Higgins were advocating the conservation of Tasmania’s forests for economic reasons such as carbon storage, leatherwood honey and tourism. Tim Morris from the Green Party provided a look at a range of issues and perspective on how these goals might actually be achieved. These people all focused on particular aspects of forestry usage, whether it was tourism or the politics behind it.

2.4 Timeframe

Table 1

Interview Subject	Date	Organization
Margaret Blakers	11/19	The Green Institute
Michael Wood	E-mail	Forestry Tasmania, Assistant General Manager
Tim Morris	11/26	Tim Morris, MHA Lyons
Simon Branigan	11/29	University of Tasmania Graduate Student
George Harris	11/27	Woodcraft Guild, President
Michael Higgins	11/29	Huon Bush Retreats
Barry Chipman	12/3	TCA, Tasmanian State Co-ordinator

The first two weeks of the project were spent gathering background research and compiling a list of possible interview subjects. It was during this timeframe that I

contacted as many people as possible to schedule interviews. The last two weeks were spent conducting interviews and analyzing my notes from them.

2.5 The Interview Process

For the face-to-face interviews and the phone interview I followed a semi-structured format. I developed a list of questions prior to the interview based on the interview subject's background but only asked those if the conversation strayed too far off topic. This style is informal and is designed to make the interview subjects more comfortable and willing to answer questions candidly.

2.5.1 Goals for Interviews

Prior to each interview I developed a list of goals that I hoped to accomplish during the interview. These ranged from topics that I wanted to cover, to information that I was hoping to gain from the conversation. The goals provided the framework from which the questions were formed in addition to creating a stronger focus for the discussion.

2.5.2 Locations for Interviews

Generally, I attempted to let the interview subject choose where they wanted to meet to make them more willing to meet with me. I conducted three interviews at the University of Tasmania due to my inability to travel to their place of work. The university was a good place to meet, although it was not ideal due to the fact that the person I was meeting with was forced to travel to meet me.

I was unable to meet with Michael Wood from Forestry Tasmania and Margaret Blakers due to my lack of transportation and their busy schedules. For Margaret Blaker I arranged a phone conversation using a landline at the Greens Office in Hobart. I was

unable to arrange a land telephone to talk with Michael Wood, which forced me to develop a list of questions for him to answer through email. This was not ideal, as it does not elicit candid responses.

2.5.3 Developing Questions

Within the framework of a semi-structured interview I developed a list of 7-10 questions for each person. These questions were based on the particular interview subject and their area of expertise, although there were a few standard questions that I asked. The main question I sought to determine was their opinion of the best mix of uses for Tasmania's forests. This question was designed to provide a basis for comparison between the interview subjects.

2.5.4 Recording and Analyzing Interviews

I elected to take notes during the interview rather than record it for several reasons, the first being that tape recorders can make subjects a little hesitant to answer questions honestly. Note taking removes this barrier to frank answers and creates an atmosphere more conducive for meaningful responses. Secondly, note taking during the interview simplifies the process of analysis after the interview. This is important due to the short timeframe allotted for the ISP period. Immediately after each ISP I would analyze my notes and write down general impressions of the interview and anything interesting that occurred to me during the interview.

Section 3 Results

The results in this section are based on the 8 interviews conducted during the ISP period. The 7 interview subjects will be separated into two groups for the purposes of this

study, one being Forest Industry representatives and the other being conservationists. The conservationists grouping is not meant to label the interview subjects as such, it is just for the purposes of comparison. Each usage will then be addressed by looking at the opinions expressed during the interview process.

3.1 Assessment of Forestry

3.1.1 Industry Perspective

Each of the representatives from the forestry industry made the multiple benefits of logging in the Huon Forest District abundantly clear. Michael Wood of Forestry Tasmania summarized its economic benefits the best,

“From the government and community’s point of view, employment in regional communities (both in the forests and in downstream manufacturing industries) and the “flow on” effects thereof.

From Forestry Tasmania’s point of view, revenue to fund the ongoing regeneration and management of forests, including research, conservation, planting / sowing / pruning / thinning / pest control / fire suppression / harvest planning and the use of forests by the public for purposes other than wood production.”

Employment was mentioned by all three of the representatives as an irreplaceable aspect of forestry. Although figures for timber employment in the Huon Forest District could not be found, employment statewide is a good benchmark for employment in the Huon Forest District.

Table 2

Table 1: Employment in the Tasmanian timber industry

Category	Total
Growing, harvesting & management*	
Harvesting & plantation establishment contractors	2,583
Forest management**	517
<i>Total*</i>	<i>3,100</i>
Native forest processing	
Sawmilling, dressing and woodchipping***	1,120
Furniture & craftwood industries****	339
Pulp, paper & panel manufacturers	215
Secondary processors**	178
<i>Total</i>	<i>1,852</i>
Plantation processing	
Sawmilling, dressing and woodchipping***	630
Newsprint	350
Paper	290
Panels	110
<i>Total</i>	<i>1,380</i>

Source: TWFF Jobs Report

As the table shows, growing harvesting and managing forests employs 3,100 people statewide, with a total of 7750 employed in all aspects of the timber industry (Jobs Report).

Barry Chipman stressed the indirect benefits of the timber industry, specifically logging communities. The wages earned by employees are spent within the town, and have widespread benefits to all facets of the economy, including the service sector (per. Comm. Chipman). When 300,000 hectares were preserved in the Community Forest Agreement, the people of Geeveston were devastated. It not only forced timber workers out of work, but it also closed services like bakeries who were dependent on the patronage of the timber employees (pers. comm. Chipman).

The benefits provided to other industries such as Leatherwood Honey and specialty timbers crafting was also seen as an important component of logging. Roads

into the state forest can cost as much as \$80,000 per kilometer to construct, and that without traditional logging for woodchips, the smaller industries would not be able to access the state forest (pers. comm. Harris). He sees logging for the woodchip industry as an important component of forestry usage, and that without it the other industries would not be where they are today. Barry Chipman also mentioned the importance of woodchipping for the leatherwood honey industry. Without woodchipping, they would be unable to fund their own roads (pers. comm. Chipman).

3.1.2 Conservationists View

Conservationists view forestry as an important component of Tasmania's economy, and are not advocating its replacement. Tim Morris from the Tasmania Greens made it clear, however that, the industry needs to transition away from harvesting old growth forest. He believes that adding value to the forestry industry will provide greater returns for the employees of the industry as well as the companies. The Greens strategy for completing this is outlined in their *Forest Transition Strategy* and is summarized below:

- Forest Protection and promotion
 - Protect High value forests and promote shift to plantations
- High Value Native Forest Industries
 - Promote Specialty Timbers Industry through cessation of woodchipping
- Jobs Rich Plantation Processing
- Worker Support and Sustainable Communities
 - Help workers make transition to skills based manufacturing and design

The value of forestry as seen by Tim Morris and the *Forest Transition Strategy* is in higher quality specialty timbers, and in more efficient sawmills and veneer products (pers. comm. Morris). He does not see woodchipping as economically sustainable and believes that the future for Tasmania's forests lies in its world-class wood. Tasmania needs to forget selling wood as a commodity as it will not be able to compete with developing countries. As evidence for this, Tim mentions that woodchipping is the most heavily subsidized industry in Tasmania, and without the government assistance, it would struggle to survive.

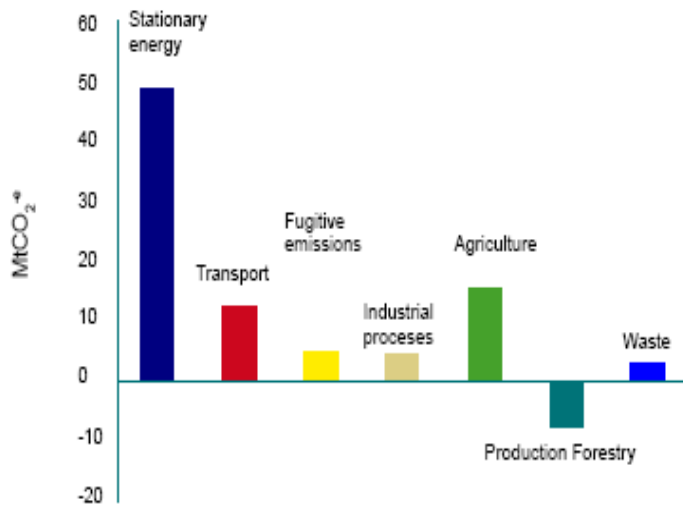
3.2 Assessment of Carbon Storage

3.2.1 Industry Perspective

“Forestry is Australia's only industry sector that stores more greenhouse gases than it releases” (Forestry Tasmania). The timber industry in Australia markets timber as a carbon friendly alternative to products that have a higher embodied energy like steel. An excerpt from a brochure about forests and carbon storage highlights this. “Emissions from land use, land use change and forestry have dropped significantly since 1990, falling from 120.4 to 25.8 million tonnes of carbon dioxide equivalent. This is due to growth in the nation's plantation estate and significant reduction in land clearing” (Forestry Tasmania). Timber is seen as a valuable and renewable alternative to more intensive use products. The chart below shows the carbon emissions from several different industries, with forestry as the only one that stores more carbon than it emits.

Table 3

Australia's greenhouse gas emissions by sector³



Forest industries and climate change

Source: NAFI

The industry actively promotes carbon storage through regrowth, although it does not promote carbon storage in Native Forests. The table below shows the uptake of carbon by plantations on a state-by-state basis.

Table 4

Table 2. Carbon uptake by plantations established since 1990 (Mt CO₂ in 2005). A state by state breakdown is not available for the UNFCCC accounts.

State	Tas	Vic	NSW	Qld	SA	WA	ACT	NT	Total Kyoto	Total UNFCCC
Afforestation/ reforestation Uptake Mt CO ₂	-2.128	-6.726	-1.557	-0.241	-3.621	-6.061	-0.113	-0.113	-19.609	-21.933

Source: Blakers, Working Paper 2

Michael Wood detailed there approach to native forests by saying that while there is no current plan to utilize Tasmania's native forests, Forestry Tasmania does plan to utilize its applicable forests for carbon storage when a national or international carbon trading

market is created. A stipulation to that, however, is that they will not let it encroach into their statutory responsibilities for supplying wood (pers. comm Wood).

3.2.2 Conservationists Perspective

Several of the conservationists interviewed saw carbon storage playing a major role in the coming years. Currently however, it does not play a major role for several reasons. Asked the question of why Carbon Storage was left out of the *Greens Forest Transition Strategy*, Tim Morris responded that they did not include it because it was too new and is still a developing market. There is no current carbon cap and trade scheme in place, so the exact value of Tasmania's forests was unknown. Studies to equate their value are being undertaken by several groups, particularly the Wilderness Society and The Green Institute. He also mentioned that the current accounting scheme is flawed due to the fact that there is no penalty for the clearing of forests (pers. comm Morris). The accounting process and several other aspects will likely change in the Bali rounds of the Kyoto Protocol, as the participants realize it was an oversight (pers. comm Morris).

Margaret Blakers from the Green Institute of Australia is leading much of the research into the use of Tasmania's forests for carbon storage. She disputes many of the claims made by the forest industry, and even calls their numbers "total crap". A large part of this is due to the faulty accounting process and she puts the actual level of emissions from forestry in Tasmania around 3 Mt per annum (5 Mt emitted, 2 Mt absorbed by regrowth). For the regrowth forests to recapture this level of carbon, they would have to be many times the acreage of the cleared old growth forest to make up the loss. They fall short of absorbing all of the emitted carbon because the logging process does not allow them to mature enough (pers. comm Blakers).

According to Margaret, the great value for Tasmania's forests as carbon stores will be in the preservation of forests. Currently, people are able to see the value in planting trees, yet they are unable to see the dangers posed by clearing forest. The current carbon-trading scheme supports this, as there is a direct and immediate benefit from the planting of trees. The clearing of native forest releases 38mt of CO₂ per annum, which is equivalent to 7% of Australia's total emissions (Blakers, Working Paper 2). The table below shows the breakdown of carbon emissions in Tasmania by forest type.

Table 5

Table 1. CO₂ emissions, comparing estimates from log volumes with estimates from logged areas

State	Harvested log volume (2005) m ³	Emissions estimated from log volume Mt CO ₂	Logged area ha	Emissions estimated from logged area (TWS 2006) Mt CO ₂
Tasmania – public forests (04/05)	3 100 569	8.8		
Tasmania – private forests (04/05)	1 570 661	4.4		
Tasmania – total	4 671 230	13.2	34 328	18.9 Mt
Victoria – public forests (04/05)	1 833 922	5.2		
Victoria – total			8995	9.5 Mt
NSW – public forests (04/05)	1 097 270	3.1		
SE NSW			9280	5.1 Mt
Western Australia -- total (04/05)	510 000	1.4		
Balance (NSW and Vic private forests, Qld: by subtraction from total)	1 660 578	4.7		
Total (southern NSW, Vic, Tas)				33.5
Total (all states)	9 772 000	27.7		

Sources: Forestry Tasmania, Annual Report 2005/06; Private Forests Tasmania, Annual Report 2005/06; VicForests Annual Report 2006; Forests NSW Social, Environmental and Economic (Seeing) Report 2005/06; WA State of the Environment Report 2007.

Source: Blakers, Working Paper 2

While the risk posed by native forest logging is great, the benefits of preservation are greater as country wide, native forests store approximately 57 Mt of CO₂ per annum (Blakers, Working Paper 2). Tasmania has 1,246,280 ha of old growth forest, with a large portion of that within the Huon Forest District (Chipman). These forests will be an invaluable carbon store in the future according to the conservationists.

3.3 Assessment of Tourism

3.3.1 Industry Perspective

The forest industry believes that tourism and forestry can coexist and benefit mutually from one another (pers. comm. Wood). The showcase example of this is the Tahune Forest Airwalk, 10 min. outside of Huonville. Located within a state forest and close to several logging coupes, it has become a popular attraction with tourists to Tasmania due to the unique view of the forest canopy afforded by it. Forestry Tasmania has already added two new attractions to complement the Tahune Airwalk and has plans for a similar destination in the northwest of Tasmania. Forestry Tasmania believes that together, tourism and forestry provide the best return for regional communities (pers. comm Wood).

Although the industry representatives interviewed stressed the value of tourism, they also made it clear that tourism could not exist without forestry (pers. comm. Chipman). George Harris states that tourism will never compete with forestry, as the cost of it will be too great for environmental and economic reasons. Again, forestry roads gain access to many tourist attractions including the Tahune Forest Airwalk. Without the existence of the Arve Valley Forest Road, the cost of the Tahune Forest Airwalk would have been \$3.5 million more (Felmingham 2005). The Weld Valley Driving route is also dependent on forestry roads to access Glover's Bluff and Reuben Falls.

In addition to these challenges, George Harris questioned the ability of tourism to offer enough jobs to truly replace forestry. Specifically he mentioned how he could never see retired timber worker's working in the timber industry.

3.3.2 Conservationists Perception

Conservationists also see great value in the tourist industry as a use for the Huon Forest District. Simon Branigan has just finished a master's thesis examining the different recreation opportunities available in the Huon Forest District. These opportunities range from sightseeing drives in the Arve Valley and the Weld Valley to bushwalking, fishing and mountain biking (pers. comm. Branigan). Fishing and mountain biking have a great potential to expand within the area due to the Huon Forest District's river system and state forests. Although neither of these would see a great direct economic benefit, the indirect benefit to the surrounding communities could be great (pers. comm. Branigan).

Most tourists to the region are looking for a forest experience, and the semi-remote nature of the Huon Forest District is able to provide this. Simon sees the Tahune Forest Airwalk as a beginning step for the tourism industry, as it has a narrow focus market. As a stand-alone attraction it is only able to capture day-trippers. Promoting other recreational opportunities will promote longer stays and provide a greater boost to the local economy (pers. comm. Branigan).

The Tasmanian Greens see tourism as an integral part of their strategy to transition away from woodchip production. According to their *Forest Transition Strategy*, placing more land in preserves will provide a better resource for the tourism industry and inspire confidence for investors to construct new attractions in the high value areas. According to their calculations, this transition would create 175 jobs and promote conservation of state forests.

Michael Higgins manages Huon Bush Retreats, which is what many conservationists see as an ideal model for tourism. Huon Bush Retreats is located on 300 acres of land that has been conservation covenanted to prevent future development. Much of the land was former grazing land that was bought and turned into a plantation. Michael and some fellow investors purchased the land from the forestry company and have joined it with several other lots containing native regrowth and old growth forest. Their land is adjacent to 700 acres of protected state forest. The private land now contains some luxury cottages, luxury teepees, campsites and walking trails. With an initial investment of \$1.5 million dollars, Huon Bush Retreats now returns over \$200,000 a year (pers. comm. Higgins). It is estimated that for every dollar spent at the retreat, two dollars is spent in the local community. Michael also estimates that 50% of his guests visit the Tahune Airwalk during their stay, but 80% are attracted to the region because of Huon Bush Retreats (pers. comm. Higgins). Conservationists market this model of tourism because it is good for the environment and also very profitable.

3.4 Assessment of Leatherwood Honey

3.4.1 Industry Perceptions

Leatherwood Honey is generally produced in state forests managed by Forestry Tasmania. Forestry Tasmania's management policy for leatherwood trees impact the industry on many levels both positively and negatively. Currently, Forestry Tasmania is attempting to strengthen ties with the Tasmanian Beekeeper's Association through a series of discussions aimed at "improving management arrangements and resource security for beekeepers" (Forestry Tasmania 2007). They are looking at implementing

alternatives to clearfelling that would retain leatherwood tree stands within harvested areas (Forestry Tasmania 2007). The monetary benefit for Forestry Tasmania from Leatherwood Honey production is only a few thousand dollars per annum in royalties (pers. comm. Wood). Forestry Tasmania does recognize the value of leatherwood production in the community, whether it is the services provided to the horticultural industry through pollination or the sale of Leatherwood Honey (pers. comm. Wood).

The preferred outcome for the forestry industry would be for beekeepers to gain access to the “magnificent” stands of leatherwood that exist in Tasmania’s forest reserve system (pers. comm. Chipman). Currently they are unable to access these forests due to park regulations and the fact that European Honeybees are an introduced species.

Forestry also recognizes that current logging practices, such as clearfelling and burning make it hard for leatherwood to regrow. This is because it is a rainforest understorey species that is out competed by Eucalypts in regrowth (pers. comm. Chipman). Because of this, it is hard for leatherwood honey production and logging operations to coexist. As Barry Chipman put it, everyone is competing for a cake that continues to get smaller.

3.4.2 Conservationists Perspective

Conservationists see leatherwood honey production as another component of the transition away from commercial forestry operations. Even conservationists recognize the scale of their industry, which only produces \$2 million dollars from harvesting annually (Courtney). Although the monetary benefit of the industry pales in comparison to the \$1.3 billion timber industry, they argue that there are many reasons it is worth saving. Leatherwood Honey is a product that is unique to Tasmania, as the leatherwood tree only grows in Tasmania. It comprises 3/4 of the honey industry in the state and is sold

worldwide (Courtney). Beekeepers are struggling to save the industry that has been passed down through generations and see it as a product synonymous with the character of Tasmania (Courtney).

3.5 Assessment of Specialty Timbers Industries

3.5.1 Industry Perceptions

Specialty timbers are seen by the forest industry as important, but it is still a small percentage of overall forestry operations. Due to its small size, the special timbers industries are dependent on woodchipping to gain access to areas of forest. Like leatherwood honey, they are unable to afford the cost of building roads into state forests. Essentially, the 9/10 logs that go to the pulp mill make the 1/10 logs that go to the sawmill economically feasible (pers. comm. Harris). Forestry Tasmania is trying to harvest the highest quality logs possible, but less than 10% of all logs harvested meet the high standards required for sawlog, veneer log, or woodcrafting. In order to prevent waste, the timber industry utilizes the remaining logs for woodchipping (pers. comm. Chipman). Woodchipping provides a market for low quality timber. The forest industry wants to expand the market of special timbers, but due to the high quality required by it, it will never exist without woodchipping. They need both to make the forests as profitable as possible.

Woodcrafters are a small group of highly specialized craftsmen that utilize the finest woods to make cash and carry items and upscale consumer goods. They rely on the stores of wood existing in Specialty Timber Management Units and deposits like Island Specialty Timbers for their supplies (pers. comm. Harris). Using these woods, they

develop goods to sell to tourists as well as upscale furniture and art that is often displayed in galleries like the Wood Design Collection in Launceston (pers. comm. Harris). Despite its high price and high demand, George Harris sees limitations to the growth of the industry. Even if the supply of wood increased, decreasing its cost, there would not be enough craftsmen to work the greater amounts of wood. He jokes that unless every person in Tasmania starts whittling wood, there will be a limit to the autonomy of woodcrafting. The forestry industry realizes the importance of specialty timber industries, yet it does not believe it can exist without lower grade wood production like woodchipping.

3.5.2 Conservationist Perceptions

The *Forest Transition Strategy* advocated by the Tasmanian Greens places great emphasis on the development of special timber industries. They see special timbers industries as an alternative to woodchipping operations due to its greater value and smaller impact on the environment. They hope to achieve this by updating the technology used in sawmills and veneer mills from circular saws to belt saws. This change would allow for a greater recovery rate than the current standard of 35% (pers. comm. Morris). Economics have prevented this change from occurring (pers. comm. Morris). They also want to transition away from native forest harvests for specialty timbers. This would be achieved by researching the possibility of specialty timber plantations, like a Blackwood plantation that has just started (pers. comm. Morris).

Specialty Timbers are important for the Greens *Forest Transition Strategy* because it decreases Tasmania's reliance on selling timber as a commodity. By adding

value to their products and marketing the incredibly high quality of Tasmania's timbers, conservationists hope to expand the market for specialty timbers (pers. comm. Morris).

Section 4 Discussion

4.1 Differing Opinions of Uses

The views of conservationists and the forest industry varied greatly from use to use. As expected, conservationists promoted uses that had a smaller impact on the state forests. Tim Morris highlights this perspective by stating that we need to defend as many forests as possible (pers. comm. Morris). The economic value of the forests is important, but they play a greater role than that. This is a key difference between the approaches of the forest industry and conservationists. Conservationists see an intrinsic value in the forests that cannot be quantified, but must be experienced. It is hard to equate in a study, as there is no measure for it. Still, this intrinsic value has benefits for society through the experiences it affords when it is protected. The forest industry sees the forests of the Huon Forest District as a resource that needs to be managed and utilized. They are not advocating its destruction but are instead hoping to use it in a way that enhances their economic return for as long as possible.

This difference became evident when I discussed clearfelling with industry representatives and conservationists. George Harris, who saw no problem with sensible clearfelling, focused on safety issues. He argued that logging in a forested area is extremely dangerous due to falling trees and limbs. A clearfelled area is much safer to work in because there is a wide landing area for the tree. Barry Chipman mentioned that

without clearfelling operations, many of the other uses would not be economically viable due to the costs of infrastructure like roads.

Speaking with conservationists about clearfelling produced a much different reaction. For them, they saw the alternate uses as an opportunity to reduce clearfelling operations. Through these uses they saw a viable economic argument for reducing clearfelling operations in the Huon Forest District. Tim Morris and the Greens have laid out a comprehensive plan, the *Forest Transition Strategy*, which focuses on replacing logging for woodchips with tourism and specialty timber industries. Margaret Blaker sees carbon storage as a possible catalyst for the termination of native forest logging in the future. They see a real benefit in these alternate uses and believe that they can be competitive with traditional forestry.

This leads to another key difference between the two groups. The forestry industry, specifically Forestry Tasmania, sees each of these uses as compliments to their logging operations. They are willing to promote the development of alternative uses as long as it does not inhibit their ability to meet the production quotas set for them. This became clear when Michael Wood from Forestry Tasmania wrote, “Forestry Tasmania will endeavour to pursue benefits from any aspect of a national and/or international carbon trading market for which any or all of the forests that it manages are eligible, provided that doing so does not compromise its statutory responsibilities”. It is important to note that nearly half of the 1.5 million hectares managed by Forestry Tasmania are managed for uses other than wood production (pers. comm. Wood). Barry Chipman’s emphasis on the necessary role of woodchipping to make other uses economically feasible supports this.

The conservationists I spoke with are not looking at management of the Huon Forest District with statutory responsibilities in mind. In place of that statutory responsibility is their goal to protect forests from intensive uses. They see tourism, carbon storage, and Leatherwood Honey as opportunities to utilize the forests while not harming the forests ecological integrity. Instead of the main use being wood production, they see a greater role for the alternative uses.

4.2 Assessment of Values

Logging is an integral part of forestry use. Without it, access into the forests would be limited, hundreds would be unemployed, and the economy of the Huon Forest District would suffer. It is clear that traditional logging has accomplished a great deal for the community, but its role in the future is questionable. With other industries moving into the state forests, the economic feasibility of woodchipping is uncertain.

The success of tourist operations like Huon Bush Retreats challenges forestry. Michael Higgins questioned whether a logging coupe the size of his property could come close to the value he extracts from it. Michael attributes the bad will directed towards him from the timber industry to the success of his business. It is a threat to the economic viability of logging. Simon Branigan's study highlights the huge opportunity for forest-based tourism in the Huon Forest District. If these opportunities are supported and marketed correctly, they could bring thousands into the region. The success of the Tahune Forest Airwalk is testament to the need for tourism attractions in the Huon Forest District.

Tim Morris and the Greens are advocating a decreased reliance on the commodities side of logging, particularly woodchipping, which makes sense from an

economic perspective. Tasmania is known for its high quality timber, and capitalizing on this could prove beneficial. Although this looks good on paper, the current feasibility of a transition like this is unlikely. New technology or harvesting methods must be developed before the Special Timbers Industry can stand on its own.

Carbon Storage will play an increasingly important role in the Huon Forest District. If the next round of the Kyoto Protocol incorporates full carbon accounting it will make it very costly for the timber industry to harvest native forests. Full carbon accounting should also provide greater benefits for the planting of new forests, whether they are plantation or native regrowth. As climate change continues to become a global issue, the importance of Tasmania's forest will increase greatly.

Leatherwood Honey is a small player in the battle for use of the Huon Forest District. It needs to be incorporated into the other uses for it to be truly successful. Logging needs to change their methods to protect leatherwood trees, or the industry may not last another 10 years (Courtney). Incorporating it further into the tourism industry would also help its bottom line. Although leatherwood honey's role in the forest may not increase in the coming years, they need to be assisted as the loss of a truly Tasmanian industry would be a great loss to the state for more than economic reasons.

4.3 Huon Forest District as a Case Study

The Huon Forest District was chosen because it has many different natural resources that can support several different industries. Many of the same issues complicate forestry usage in other regions of Tasmania and Australia, so this data is not just useful for the Huon Forest District. Still, I feel this project is most important for the Huon Forest District due to the limited research that has explored state forest usage.

Section 5 Conclusions

5.1 Are Tasmania's Forests Being Utilized Efficiently?

Based on the data collected from my literature review and interviews, I have concluded that the Huon Forest District is not being utilized efficiently. This is due to the unequal distribution of resources to the respective industries. Forestry operations throughout Tasmania have access to nearly 50% of Forestry Tasmania's forests. These operations, although necessary in many parts of the state, sacrifice many of the natural resources of the forest that are necessary for other uses. There needs to be a better mix of uses within the forests that promote more diversified capital investments in order to avoid market failures caused by environmental collapse or a shift in market demand. Focusing too solely on one industry, in this case woodchipping for pulp mills is extremely risky. Woodchipping does have a role in this more efficient forest. The lowest grade woods that are harvested from plantations and native regrowth should be utilized for woodchipping. It would be wasteful to not utilize this wood, although the forestry industry should see it as a byproduct rather than the main profit maker.

Currently, tourism within the Huon Forest District is the most obvious alternate use. Forestry Tasmania is pursuing tourism opportunities like the Tahune Forest Airwalk, but more support needs to be given to the industry. Recreational opportunities, as shown by Simon Branigan, need to be marketed and the infrastructure needs to be established. Fishing, mountain biking, and walking trails all have the potential to greatly expand the tourism industry. Many opportunities such as the Weld Valley Driving Route are either

unnecessarily difficult, or the infrastructure does not exist. The ability of tourism to coexist with forestry operations for much of the year excluding the burning season makes it an even more attracting alternative. It is wasteful for these opportunities to not be utilized, as they would provide more jobs to the region and diversify the Huon Valley's economy.

Again, the full potential of carbon storage is not being explored or utilized within the Huon Forest District. This is due to several reasons, the first being that little is known about the potential of carbon storage. When talking to forestry representatives, I was amazed how they were unaware of the carbon stores of old growth forest, or that native forest regrowth is much more valuable as a carbon sink than plantation growth. The same is true to a lesser extent of the conservation organizations. It is still a new use for forests, but it is important that managing organizations like Forestry Tasmania learn about carbon storage's potential. Information on the carbon storage capacity of Tasmania's forests exists; people just need to be exposed to it. The next round of the Kyoto protocol may force carbon storage into the forefront.

Leatherwood honey production and the specialty timbers industries have some opportunity for expansion, just not as much as tourism or carbon storage. Leatherwood honey is highly dependent on forestry operations, and its low monetary value makes it hard to justify as a legitimate use for the Huon Forest District. Culturally, however, it is important for Tasmania and protection needs to be put in place for the remaining Leatherwood forest stands. The specialty timbers industry may never expand to the extent proposed by the Greens in their *Forest Transition Strategy* due to its dependency on woodchipping and other low grade uses to make it economically viable. Unless the price

of timber skyrockets, it will likely never be economically feasible for the timber industry to just cut down the highest quality logs. Improvements in technology, however, may make sawmills and veneer mills more efficient. This would allow them to utilize lower quality woods, while retaining a higher percentage of the milled wood.

5.2 Barriers to Achieving Efficiency

Each of these uses has a greater potential for use, although current regulations and guidelines make expansion very difficult. Many regulations are designed to support the forestry industry, which is not surprising considering that the timber industry has been the dominant union and employer in Tasmania for decades. If this is to change, the other industries need to gain a voice. The tourism industry was widely criticized in my interviews as being in the pockets of the forestry industry. Their acceptance of the burning season and the fact that they don't attempt to preserve many of Tasmania's natural resources is surprising. Lack of knowledge in cases like carbon storage is also slowing its implementation. A dependence on the forestry industry for infrastructure will also prevent the best use of the forests. Until other industries can stand operate autonomously, forestry will continue to be the dominant user of the Huon Forest District.

5.3 Recommendations for Further Study

There is currently very little research examining the roles of these uses within the Huon Forest District. For further study, the specific uses need to be examined in more detail. Due to the time constraint of one month, it was difficult to schedule enough interviews and gather enough background data to fully analyze each usage. The more that is known about the uses for the Huon Forest District, the greater the likelihood of their implementation. Carbon storage is one specific usage that needs much more research.

Margaret Blakers and the Wilderness Society are doing an excellent job examining its value, but more work remains to be done.

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Appendix 1

Appendix 2

Appendix 3