

Forest Practices news

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Front-foot forestry and the art of communication

Graham Wilkinson, Chief Forest Practices Officer, Forest Practices Board

A headline from *The Advocate* (8 March 2003) proclaims "Positive forestry talks". Now there's a newspaper headline that we would all like to see more often! The newspaper article talks about a public meeting convened by Forest Practices Officer Brett Miller to discuss a proposed logging operation in the Gunns Plains area. Although the logging only involved a small eucalypt plantation, Brett knew that there would still be public concerns about the loss of an attractive patch of trees in a quiet, scenic valley. So he went on the front foot and organised a public meeting to hopefully allay concerns and avoid the adverse response that may have resulted from the logging going ahead without proper community consultation. The

positive media report highlights Brett's great efforts! Two key principles emerge from Brett's great example:

1. *Consult before plans are fixed so that any issues can be genuinely addressed.* It's hard to consult when the various parties have adopted entrenched positions and are hurling grenades at each other!
2. *Give and take.* Reasonable people appreciate and respect the rights of others. This was very evident in Brett's example, where the owner of the plantation respected the scenic and amenity value that the community placed on his plantation and he also respected that reforestation back to native forest was in the longer term interests of the

environment (the plantation was located on sensitive karst) and the community. In return, his neighbours respected his right to harvest his plantation, recognising that the owner had made a significant economic investment for his future retirement. The neighbours accepted a short-term loss of amenity in return for a better long-term outcome.

Whilst Brett's example made it into the media, we know that the vast majority of neighbourly issues are resolved without fanfare through amicable consultation and negotiation. We also know that it is generally the difficult, unresolved disputes that feature in the media, fuelling calls for appeal rights and more formal means of conflict

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The inboard and outboard

Mark Wapstra and Fred Duncan, editors, FPNews

This edition sees our term as editors ending. As we hand over our trusty red pen to the new editors, Nathan Duhig and Karen Richards, we want to thank everyone who has contributed articles and made *FPNews* a successful newsletter. Our particular thanks go to David Hinley for his fantastic efforts in compiling the newsletter. We hope *FPNews* has remained interesting and diverse, and provided food for thought as well as useful information.

As we replace our editor's caps with our trusty botanical headgear (Fred's actually has a cow on it, and Mark's has a moose), we want to emphasise that *FPNews* is YOUR newsletter. The articles from the FPB specialists only tell part of the complex story that is sustainable forest management. FPOs and other forest planners and managers have much to contribute: how things are practically applied in the field, innovations and thoughts on the forest practices system. Keep those articles coming!

This edition focuses on the topical issue of cultural heritage in our forests. A quote in our final article probably sums up a deep-seated attitude shared by most people who work in Tasmanian forests... *It is about looking at the landscape. You look at why people are drawn to that place; you look at how people modify the landscape and how they adapt to the landscape.*

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Communication

from front page

resolution. It is ironic that people who call for 'rights' generally advocate highly legalistic and adversarial approaches (which tend to favour the rights of one group over another), rather than consensus approaches. I know of very few people who given a choice, would seek to resolve disputes in a legalistic manner rather than through a non-adversarial, negotiated approach.

Notwithstanding the great work done by many forest practices officers, there is clearly more that can be done to improve the way that we communicate our forest practices. This was highlighted as one of the major recommendations arising from the five-year review of the RFA. So what more can we do? I offer the following thoughts:

1. *Extend the Good Neighbour Charter* - the Charter is an excellent example of industry's commitment to consult and seek mutually agreeable outcomes. We need to build upon its success in three ways. Firstly,

we need to formally extend the philosophy and approach of the Charter from its current plantation focus to include all forest operations. Secondly, we need to measure and report on its effectiveness. By failing to report on its success, we fail to gain recognition for the excellent outcomes that are achieved under a consensus approach. Thirdly, we need to recognise the need for a 'last resort' appeal process for intractable disputes. The success of the Good Neighbour Charter is based on the principle that reasonable people will act with goodwill. Unfortunately we know that a small minority of people may seek to place unreasonable impacts on the rights of others. There will also be times when otherwise reasonable parties may not be able to fully resolve their differences. For these reasons, the Charter needs an independent arbiter. The challenge will be to ensure that this is a fair and equitable process of last resort, and does

not become the commencing point for dispute resolution.

2. *Improve our communication strategies and skills* – providing information about the operation of the forest practices system to neighbours, stakeholders and the broader community is a large and continuing task. We all have a role to play as part of an integrated strategy. The Board, in collaboration with other parties, is reviewing the way that its staff and forest practices officers are equipped to provide information. A subset of this is training in communication and negotiation, which the Board considers to be part of the armoury of skills required for effective 'front-foot forestry'.

A commentator recently called for antagonists in the forestry debate to get out of their trenches and engage in consultations. A proactive and sensitive communication strategy should avoid people digging trenches in the first place.

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Gunns Plains landscape: The forest described in this article is in the middle distance. After they are harvested, areas of plantation will be regenerated to native forest. (Photo: Bruce Chetwynd).

Soils

Gentle treatment recommended for depressions

Peter McIntosh, Senior Soil & Water Scientist, Forest Practices Board

Drainage depressions are temporary watercourses, which is why the Code says that they should not be cultivated. There is a second reason for keeping machines out of drainage depressions: most of them are water-saturated for significant parts of the year and unless the

cultivation time is well-judged the weight of the cultivation machine or the cultivation itself is likely to cause significant damage to soil structure, thereby reducing the aeration (oxygen supply) of the soil and inducing poor drainage. A third reason for not cultivating drainage depressions is that the

vegetation cover (or the random woody debris remaining in a native forest coupe designated for conversion to plantations) is a good trap for sediment and also prevents gullying after heavy surface runoff.

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Figure 1 is a perfect job. Cultivation is at a slight angle to the contour, directing runoff to the drainage depression, which has been left uncultivated. The grassy cover will slow water flow, trap sediment and prevent gullying.



Figure 2 is a job that started off well – cultivation stopped at the drainage depression. But the contractor who came in later to smooth the mounds must have been ill-advised. Working in wet weather he used the drainage depression as a turning area and, to use the vernacular, comprehensively “stuffed up” the careful work of his predecessor.



Figure 3 shows what happens when you treat drainage depressions as narrow drainage lines. On flat to undulating land water moves slowly and often over a broad area. Drainage depressions can be quite wide. When cultivating in summer the water flows in winter need to be predicted.



Figure 4 shows the unfortunate effect of a culvert discharging over a shallow drainage depression in ex-native forest cultivated land. As the culvert was in position long before windrowing and cultivation occurred, topsoil loss and gullying could have been prevented by leaving the burnt area around the culvert exit undisturbed for about 50 m downslope.

Flora

Forest wire-grass – a distinctive “threatened” forest plant

Mark Wapstra, Scientific Officer, Forest Practices Board

Brian French, Technical Officer, Forest Practices Board

Tim Ashlin, Technical Forester, Forestry Tasmania

The forest wire-grass (*Ehrharta juncea*) is probably not familiar to most foresters in Tasmania, but those who have worked in the wet eucalypt forests of Victoria may be acquainted with the tangled masses of the plant growing through the undergrowth, making field work not too dissimilar to bashing through the cutting grass infested Southern Forests of Tasmania. The forest wire-grass can reach about 5 m in height, forming impenetrable thickets in some situations. It is widespread in temperate NSW and Victoria, has become a fire management problem (its vigorous growth resulting in very high fuel loads).

In Tasmania, however, the forest wire-grass is listed as Rare on the Tasmanian *Threatened Species Protection Act 1995*, and must be considered if it occurs in operational areas. After it was located in a proposed State forest coupe in the Crayfish Creek area near Smithton, Forestry Tasmania and FPB decided to conduct a broader investigation of the species' distribution and habitat requirements. This also involved liaison with the Threatened Species Unit of DPIWE.

Tim Ashlin from Murchison

District was handed the (enviable) task of surveying several hundred hectares of State forest in the Crayfish Forest Block for forest wire-grass. Sixty-two plots and several kilometres of roads and tracks later, Tim found the species to be locally abundant in the Crayfish Block, including in several coupes proposed for clearfelling and either regeneration to native forest or conversion to hardwood plantation. Its distribution in this area appeared to be related to disturbance history. Wildfires and selective logging (and the associated network of old tracks) seem to be important factors affecting the spread of the species.

We decided to extend the survey of the species' distribution and habitat beyond the Crayfish Creek area. After trawling through databases, Mark Wapstra and Brian French visited many of the known sites. The species has a disjunct distribution across northern Tasmania occurring in the Mt Maurice Forest Reserve near Scottsdale, in the Dazzler Range in the West Tamar area, in the Claytons Rivulet catchment south of Ulverstone, and in several localities in the Far Northwest.

The Crayfish Creek area is the stronghold area for forest wire-grass, with the species occurring over wide tracts of State forest and private property, often in very high numbers on disturbed sites. It was also strongly associated with disturbance in the other areas surveyed. For example, the Dazzler Range population occurs in regrowth *E. obliqua*, clearfelled in 1975: the species is prolific along roads within this coupe area, but doesn't extend far into the less disturbed surrounding forest.



A tangled thicket of *Ehrharta juncea* growing over understorey shrubs in the Dazzler Range, a familiar sight to many Victorian forestry workers!

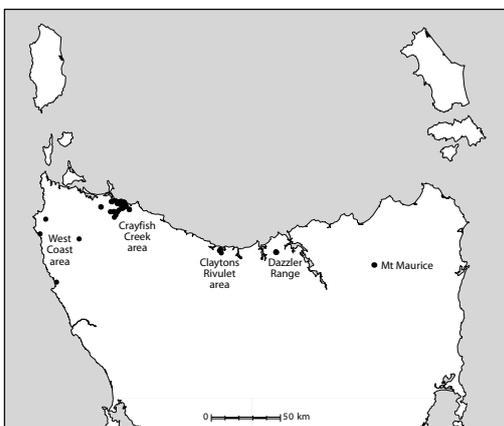
Ehrharta juncea is a good example of a forest species that has a very restricted occurrence in Tasmania, which can be compatibly managed in production forests. Management procedures to take account of the species have been developed by FPB, Forestry Tasmania and DPIWE. A report on the species' distribution in the Crayfish Creek area has been prepared (Ashlin 2002), and the results of this and the wider survey are given in a recent *Tasforests* article (Wapstra *et al.* 2003).

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Locations of *Ehrharta juncea* in Tasmania

Flora

***Mentha australis* (river mint) re-discovered!**

Mark Wapstra, Scientific Officer (Botany), Forest Practices Board

You never know what a routine coupe survey can turn up! While surveying (what turned out to be) relatively uninteresting grassy *E. amygdalina* forest in the Lake Trevallyn area late in January



Mentha australis growing along the shores of Lake Trevallyn (photo: Nick Fitzgerald).

2003, I got diverted by what I thought would be more interesting lake shore vegetation.

What I found was a small population a mint which I did not recognise. I took some specimens and keyed it out using the *Student's Flora of Tasmania*, easily identifying it as *Mentha australis*. The *Flora* stated that its

distribution was "local in marshes in northern and central districts" (apparently how Leonard Rodway described its distribution in 1903!). However, as the most recent Census of Tasmanian Plants records the species as "extinct" in Tasmania, I took the specimens to the Tasmanian Herbarium for checking. Dennis Morris and Alex Buchanan confirmed the species as *Mentha australis*, and we added the specimen to their collection (the Herbarium only held a few early records with scant collection details).

Officers of Bushcare have since visited the site but did not find additional populations. The site will be well protected along the shores of Lake Trevallyn. The conservation status of the species will now be re-assessed as it had already been formally recommended for listing on the *Threatened Species Protection Act* as Extinct!

The species occurs elsewhere in Australia and it is collected and grown as a culinary herb (it has a "wonderfully pungent fresh



Mentha australis, close-up (photo: Nick Fitzgerald).

spearmint aroma and flavour." Apparently aborigines used it as a food flavouring and for treating colds. So for anyone with a keen eye (and nose—its name is correct), keep a look out in slow-moving or still water bodies in "northern and central districts"!

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Acacia dealbata or *Acacia schueckeri*?



Bob Schuecker from Forestry Tasmania (Huron District) sent Fred Duncan this photo of a silver wattle growing on a sandstone road cutting beside the Arve Road, which prompted this response from Fred: "It is an amazing plant - I've never seen anything like it. Have you any explanation? I assume you haven't been deliberately grooming and pruning it for the purpose of getting an *Acacia schueckeri* named after yourself (these things have a habit of backfiring for production foresters, when they are classified as endangered species that require reservation and a large buffer). Who would have thought the silver wattle had this sort of horticultural potential? Perhaps someone should try growing some cuttings....."

Genetics

Hybrid eyes

Fred Duncan, Senior Botanist, Forest Practices Board

This article deals with the possibility of the transfer of genes from *Eucalyptus nitens* to compatible native eucalypt species. It uses information from research programs being conducted by the University of Tasmania and the Co-operative Research Centre for Sustainable Production Forestry. Studies into the extent and potential effects of hybridisation are in their early days, and the long-term effects are speculative. Forest Practices Officers can help with this important research by contributing information that will allow a more accurate picture to emerge of the extent and implications of such hybridisation. This will assist in developing prescriptions to ensure that important local gene pools are not adversely affected.

Eucalyptus nitens (shining gum) is native to localised upland areas in Victoria and southern NSW. Its growth rate, and its ability to withstand cool temperatures, has favoured its use as a plantation species in many areas of Tasmania.

Eucalypt plantations contribute to Tasmania's forest productivity. Wood from plantations compensates for loss of wood resource resulting from reservation of native forest with high conservation values. By December 2002, about 135,000 ha of hardwood plantation had been developed in Tasmania by conversion of native forest and planting on already cleared land. Most of this is *E. nitens* plantation that has been established since 1996.

The expansion of eucalypt plantations has an environmental cost. Some of the costs are obvious. They include loss of native species diversity at a local or subregional level – this may be associated with an increase in abundance and diversity of weed species. However, one of the potential effects may be less evident, taking place gradually over several generations. This is the transfer of genes from plantation eucalypts into nearby populations of genetically compatible native species. Gene flow could also occur in the other direction, but the processes of growth, harvesting and re-establishment of plantations mean that such transfer will have no effect on plantation productivity or the genetic integrity of *E. nitens* used in plantations.

Eucalyptus nitens belongs to subgenus *Symphomyrtus*, along with half the eucalypt species

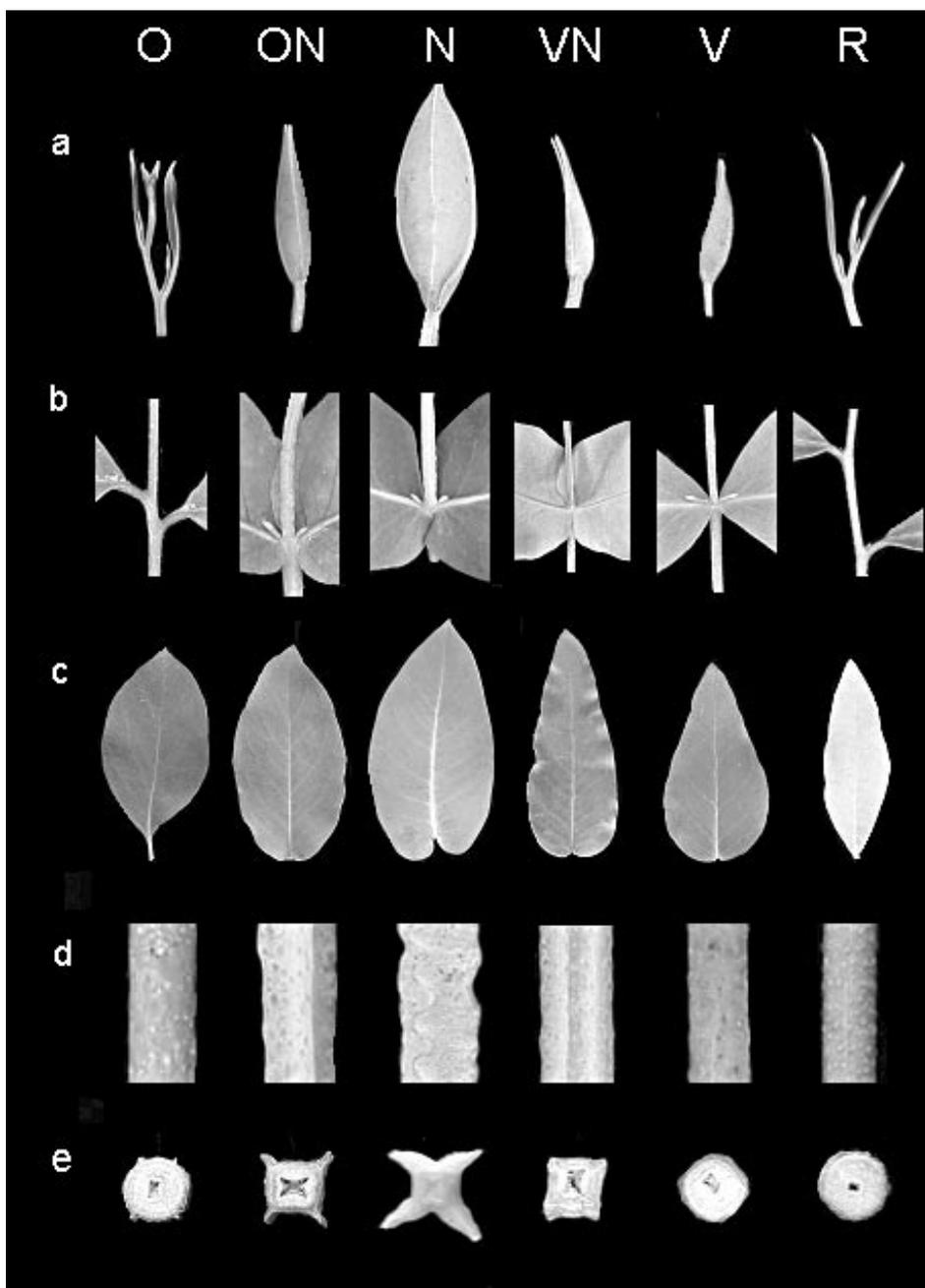


Chart showing characteristics of: pure *E. ovata* (O), *E. nitens* (N), *E. viminalis* (V) and *E. rodwayi* (R); and hybrids between *E. ovata* and *E. nitens* (ON) and *E. viminalis* and *E. nitens* (VN). The characteristics shown are: young adult leaves (a); attachment of juvenile leaves to the stem (b); juvenile leaves (c); longitudinal view of juvenile stem (d) and cross-section of juvenile stem (e). The chart is courtesy of Robert Barbour (School of Plant Science, University of Tasmania). It can be seen in colour on the FPB website.

Genetics

native to Tasmania. They include *E. viminalis*, *E. gunnii*, *E. johnstonii*, *E. globulus*, *E. ovata* and *E. rodwayi*. There are many records of hybridisation amongst Tasmanian *Symphomyrtus* species: *E. ovata* x *E. viminalis*, *E. gunnii* x *E. dalrympleana* and *E. brookeriana* x *E. globulus* to name a few. Now the new boy on the block, *E. nitens*, has begun to contribute its genes to the mix. Researchers at the University of Tasmania and the Co-operative Research Centre for Sustainable Production Forestry, have been examining hybridisation between *E. nitens* and co-occurring native species (Barbour *et al.* 2001, 2003). At first glance, the closely-related *E. globulus* may seem to be the main candidate to hybridise with *E. nitens*. However, the great difference in flower size of these two species means that the pollen tubes of *E. nitens* are not able to successfully reach the ovules of *E. globulus* (though *E. globulus* pollen can fertilise the ovules of *E. nitens*).

Robert Barbour and his co-workers have been examining hybridisation adjacent to 8-14 year old *E. nitens* plantations in the Huntsman, Lilydale, Nunamara and Hollow Tree area. *Eucalyptus ovata* and *E. viminalis*, both with the potential to hybridise with *E. nitens*, occur close to the plantations.

There were two main parts to Robert's research:

1. Conducting a germination trial using seed collected from trees of *E. viminalis* and *ovata*, located close to the *E. nitens* plantations.
2. Searching for hybrid seedlings near the plantation edge (e.g. on disturbed sites such as track edges).

This work showed that *E. nitens* hybrids were occurring in open-pollinated seed collected from *E. ovata* at all sites. At Huntsman, hybrids between *E. nitens* and *E. ovata* comprised an average of 4.19% (range 0.4 to 16%) of seedlings germinated from seed collected from *E. ovata*. The highest levels of hybridisation

were observed from trees close to the *E. nitens* plantation. Hybridisation declined to low levels by 300 m (the limit of the study area). There was no evidence of gene flow between *E. nitens* and *E. viminalis*, which demonstrated little overlap of flowering period on the Huntsman site (this situation may not always occur).

A similar picture emerged with hybrid seedlings that were recorded in the field. Eighty *E. nitens* x *ovata* seedlings were found, the furthest being 310 m from the plantation edge.

What are the implications of these findings? Time and further research will tell. It is possible that few hybrid individuals will survive until maturity, and produce seeds and pollen. The results of the Huntsman research may also reflect chemical treatments of some of the *E. nitens* trees to enhance flowering. However, there are clearly potential ramifications for maintaining the genetic integrity of populations of some native species in plantation-rich landscapes.

It is important to obtain more information on the extent and success of hybrids between plantation species and genetically compatible native species. It has implications for reserve and

general conservation planning, including maintenance of local provenances of Tasmanian eucalypts. This is underscored by the fact that forests dominated by *E. ovata* and *E. viminalis* have very high priorities for conservation on both public and private land. These eucalypts also provide resources to some animal species (e.g. nectar for swift parrot), that may be diminished through hybridisation with *E. nitens* (which has relatively low nectar content in its flowers – see article in *FPNews* 5.2).

Eucalyptus nitens commences flowering at about 5-8 years of age – fairly early compared to most other eucalypts. At this stage, most plantations of *E. nitens* that have been established since 1996 have either not commenced flowering, or flowering has only just begun. While not all plantation environments are conducive to flowering, the extent of plantation development in Tasmania means that a substantial amount of *E. nitens* pollen will be dispersed into the landscape in the next few years. Many areas of *E. nitens* plantation occur in parts of the state that contain localised or remnant populations of *E. ovata* or *E. viminalis*, a substantial proportion of which occur in reserves.



E. ovata seedling (left) and *E. ovata* x *E. nitens* seedling (right) growing together at the Huntsman research site. Note the opposite juvenile leaves of the hybrid seedling. Photo: Robert Barbour.

Flora

FPOs can contribute to research on hybridisation involving *E. nitens* by keeping their eyes open for hybrid seedlings close to the edge of plantations. The accompanying figures show characteristics of the juvenile leaves and stems of *E. nitens*, *E. ovata* and *E. viminalis*, and hybrids between *E. nitens* and the two native species. Characteristics of *E. rodwayi* (a species related to *E. ovata*) are also shown. The figure can be viewed in colour on the FPB website (www.fpb.tas.gov.au/fpb then go to Botany program menu).

What other species could hybridise with *E. nitens*? The necessary attributes are:

- genetic compatibility;
- occurrence in the same geographic area as *E. nitens*;
- overlapping flowering period (peak flowering period for *E. nitens* is January to March).

It is only *Symphyomyrtus* species that are genetically compatible with *E. nitens*. Table 1 lists native Tasmanian eucalypts that have the potential to hybridise with *E. nitens*, based on the above attributes. Note that hybrids between *E. nitens* and most of these species have not been found in the

field, though several have been verified by artificial crosses using *E. nitens* as a female (Tibbits 1988). The distributions and flowering periods of these species are given in *Tasforests 8* (see Williams and Potts, 1998). *Tasforests 8* can be accessed on Forestry Tasmania's website (www.forestrytas.com.au then go to Publications menu). Many other publications (e.g. Kirkpatrick and Backhouse 1999) have illustrations or of Tasmanian eucalypts: scanned images and a key are also available on FPB's website.

Hybrids are most likely to be found close to plantation edges on disturbed sites (e.g. track edges and landings) or in areas that have been burnt recently.

If you think you have found a hybrid, take a photo or sample of the plant and check it against the website image, or send it to the FPB botany section for checking. Compare the suspected hybrid with other seedlings near the site: if hybrids are present there is a good chance that pure seedlings of the native species are also in the area. It is best not to destroy the suspected hybrid at this stage – it may be useful to have it on-site for confirmation or to determine its longevity

and vigour. As far as possible, record details in the form below (give the range of characteristics if more than one hybrid is found on the site) and send it to FPB or Forestry Tasmania (Plantation Section) if the site is on State forest.

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Mainly lower altitude (< 400 m)	Mainly higher altitude (> 400 m)
<i>E. brookeriana</i>	<i>E. dalrympleana</i>
<i>E. cordata</i>	<i>E. gunnii</i>
<i>E. johnstonii</i>	<i>E. perriniana</i>
<i>E. ovata</i>	<i>E. rodwayi</i>
<i>E. viminalis</i>	<i>E. rubida</i>
	<i>E. urnigera</i>

Table 1: Tasmanian eucalypt species with the potential to hybridise with *E. nitens*. Species that do not occur close to current plantation locations are not included. Typical altitudinal occurrence of the species is indicated.

<i>Suspected hybrid details</i>
<i>Suspected hybrid</i>
<i>No. of hybrid seedlings on site</i>
<i>Height of hybrid seedlings</i>
<i>Health of hybrid seedlings</i>
<i>No. of E. nitens seedlings on site</i>
<i>No. of seedlings of other parent on site</i>
<i>Distance from plantation edge</i>
<i>Age of plantation</i>
<i>Other characteristics of hybrid site</i>
<i>Location</i>
<i>Map and grid reference</i>
<i>Recorder</i>
<i>Date found</i>
<i>Other relevant details</i>

Noticeboard

Forward Training Program – Forest Practices Board

Course (Contact)	Timing	Duration	Location	Course Content
Forest Botany Manuals (Fred Duncan/ Mark Wapstra)	To be confirmed	1 day	Various locations	Train FPOs in use of the new Botany Manuals
Forest Practices Officer course (Chris Mitchell)	26-27 Aug, 30 Sept – 3 Oct, 21–23 Oct, 10-12 Nov	12 days total	Orford Port Arthur Deloraine Orford	Pre-requisite course for appointment as FPO
Forest Practices Manager training (Chris Mitchell)	Late 2003	1 day	Hobart and Launceston	Update forest managers on requirements of the forest practices system
Cultural heritage (Denise Gaughwin)	October or November 2003	4 days	To be confirmed	Identification and management of Aboriginal and historic cultural heritage sites
Landscape Planning Officer (Bruce Chetwynd) ¹	Late 2003	3 days each	Hobart and Northern Tas.	Intensive training of Landscape Planning Officers. Format will be workshop and field sessions with small groups
Forest practices training for supervisors (Chris Mitchell) ²	May 2004	4 days	To be confirmed	General training in forest practices for forest industry supervisors

1. Course is dependent on demand.
2. Course will be run jointly by Forestry Tasmania and FPB and is dependent on demand.

Tree fern tags

The *Fee Units Act* determines the price of a tree fern tag and is adjusted annually by Treasury. The Forest Practices Board has been advised that from 1 July 2003 until 30 June 2004 the price of a tag will be \$2.22.

Contributors

Tim Ashlin	Chris Mitchell
Fred Duncan	Kerri Spicer
Brian French	Mark Wapstra
Peter MacFie	Suzette Weeding
Peter McIntosh	Graham Wilkinson

Guidelines for contributors

Forest Practices News is published quarterly by the Forest Practices Board, Tasmania. *FPNews* provides a means for communicating new ideas and developments among those interested in the sustainable management of Tasmania's forests. We particularly welcome contributions from practising Forest Practices Officers. We welcome both feature articles and shorter contributions of even just a paragraph or two. Please include illustrations with your contributions if at all possible. Contributions can be supplied either as hard copy or electronically. If forwarding material electronically, the address is info@fpb.tas.gov.au. Please ensure that figures/pictures are sent as separate files and not embedded in Word documents. We look forward to seeing you in print in *FPNews*!

Forest Practices Officers: are you moving?

To help us maintain an accurate database and to ensure that circulars reach you, please advise us if you are transferring, resigning or retiring. Thanks.

Kylie and Sheryl – phone (03) 6233 7966; email info@fpb.tas.gov.au

Fauna

Raptor nest search training day a success!

Suzette Weeding, Scientific Officer, Forest Practices Board

The first of the Forest Practices Board Zoology Section's training days for 2003 was held in Launceston on the 19th of February. The purpose of the day was to provide information and training to fauna officers and field staff in the searching for raptor nests. The day primarily focussed on the wedge-tailed eagle, white bellied sea eagle and grey goshawk, but also touched on the masked owl, a species that has recently been added to the *Threatened Species Protection Act 1995*, and other raptor species whose nests may be encountered in the field.

The morning began with an introduction to eagle nest searching by Bill Brown, the species' specialist and wedge-tailed eagle recovery plan Project Officer with DPIWE. Participants were provided with details on the nesting requirements of the species, information on how to identify potential nesting habitat based on topography, PI type, aspect and proximity of known nest sites and the general theory behind ground-based searching. A planning exercise at the end of Bill's talk gave participants the opportunity to put their new (and old) skills into practice and raise queries/issues with the specialist and FPB staff.

A talk on the grey goshawk and other raptor species followed, presented by myself, and the morning session was completed with an introduction to the habitat requirements of the masked owl by Raymond Brereton.

The afternoon was spent in the field trekking up and down a steep, rocky bank (dodging loose rocks!) to a known nest site at Nunamara where an on-site discussion and question and answer session took place. The tour then continued to the area



The elusive masked owl, skilfully captured on film by Chris Bond (FT Geeveston). The draft species profile for the masked owl is now available via the FPB web page. All sightings of this species are important and can be reported to FPB Zoology using Technical Note 9, or by phoning 6233 3054.

east of Mt Barrow, focussing on the morning's planning exercise, before completing the day with more on-site discussions.

All in all the day was a success with all participants showing a keen interest in the species discussed and obtaining further information to hone their nest search planning and searching skills.

While on the subject, I'd like to take this opportunity to thank all field staff and fauna officers for their sterling efforts in eagle nest searching this season. Nearly 30 new nests have been found and recorded since the start of 2003! Since I began working for the Board I've noted with interest the marked increase in effort and

resources progressively being applied to nest searching, and am pleased to report that the numbers are showing that this is correlating in a reduction in the number of nests found during operations - excellent results for both the birds and industry.

Well done and keep up the good work!

If you have a suggestion for any other field/training days, whether focussing on a particular species or particular fauna issue, please let us know! We rely upon your feedback to determine where further training, information or field sessions may be required.

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Cultural heritage

Fifth National Conference on Australian Forest History – a review

Andrew Wilson, Librarian, Forestry Tasmania

Well, hasn't forest history been in the news recently! The past sure is now! Recherche Bay and Labillardière giving rise to the postcard slogan *Don't Clear-fell History: let's have another vision*. And then the photogenic Skull and Crossbones Archaeological Consultancy (see photo in the last article) confirming that the nineteenth century Chinese miner who lived in the recently discovered site near Moorina had a liking for opium and spirits. Yet another vision?

You've read about the Fifth National Conference on Australian Forest History held in Hobart in February 2002 (*FPNews* vol 5 no 1). Now we have the proceedings published by the Centre for Resource and Environmental Studies, The Australian National University. This is, as may be guessed, the fifth in the series *Australia's Ever-changing Forests* and it continues a proud tradition

of making more generally available the papers that reflect the interests of a small but productive body of forest historians. Each person has their own forest and the variety of themes covered by the conference reflects this.

Themes in forest history

Mark Elvin's Chinese poems on forests and trees cover three thousand years of exploitation of the Chinese forests ending in the nineteenth century with a commercial capitalism which Mark suggests is already close to its early modern Western counterpart.

Elizabeth Johann's paper on the IUFRO Forest History Research Unit stresses the comparisons possible between forestry and civilisation in northern developed countries and the parallels in contemporary developing countries.

Jan Oosthoek details the changes which have occurred since the mid-1970s regarding ancient woodland management and conservation and the contributions which this understanding has made to current treatment of these areas in terms of management and restoration.

John Dargavel deals with the sources and silences in Australian forest history: most notably the treatment of our indigenous peoples and concludes that there is much for Australian forest historians to do.

Steven Legg's localism in Victorian forest conservation before 1900 involves discussion of competing issues and the trends involved: natural evolution of the language from various influences, changing perceptions of forests and forest use, and real shifts in the issues.

Forest science

Sybil Jack's paper on Charles

Darwin's contemporary, Joseph Dalton Hooker and Tasmanian flora informs us that his botanical interest was tightly focussed on the plants, not on any plant community associations he may have formed.

J.C.G. Banks' paper on Wollemi pine, the tree find of the 20th century, demonstrates that there are still botanical discoveries to be made and that taxonomy is not the only means of advancing the botanical realm. Subsequently we have had the discovery of another tree of the Proteaceae family in NSW.

Roger Heady's paper on the micro-structure of the Araucariaceae has some fascinating microphotographs of the structures.

Tasmania

Peter MacFie's paper on government sawing establishments in Van Diemen's Land, 1817-1832 deals with the change from an incentive system for the convict sawyers in the Birch's Bay station to the fully punitive system when they were transferred to Port Arthur and provides interesting detail of the working of the convict system in the early days of the colony.

In 1831 wattle bark was fourth on the list of exports from Van Diemen's Land following wool, wheat and whale oil. Kaye McPherson's paper describes the destruction of an Aboriginal landscape of wattle groves as the demand for tannin was met.

The paper by Brian Rollins describes life in a lost Tasmanian rainforest in the winter of 1827 as Henry Hellyer, the Van Diemen's Land Company surveyor and his eight-man party surveyed a road through the rainforest of



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the northwest coast of Tasmania. Hellyer's diary written on a daily basis, here quoted as extracts, ran from 3 July - 29 August, arguably the most miserable conditions of the Tasmanian year.

Stefan Petrow's paper on the Tasmanian Forest League and the development of forest reform in Tasmania 1912-1920 terminates with the "resolution" being the creation of the Forestry Department in 1921.

Robert Onfray's paper on Lorinna over the bridge is already familiar to readers of the *FPNews* (*FPNews* vol 5 no 1).

Debbie Quarmby's paper on the early national parks movement in Tasmania, and Kevin Kiernan's paper on Mount Field National Park which argues that Lake Pedder was not the birthplace of Australia's conservation movement, highlight some of the issues in management of competing values in the public arena and demonstrate that the contemporary debate on land and resource use has been in process for more than a century.

"Hard Work to Starve" is the transcript of the play written by John Dargavel staged at the Forest and Heritage Centre at Geeveston as part of the post-conference tour and details the human impact of "historical events" on the families and community. An interesting and engaging way to make history more accessible.

Other states and territories

Brett J. Stubbs and Alison Specht's paper on the reconstruction of the New South Wales "Big Scrub" from historical survey recounts the uses of those records for present purposes: the debate about pre-European forests and landscapes and current restoration efforts.

The paper by Jane Lennon deals with the assessment of cultural significance of Long Creek in NSW and shows the need for historical records for forest managers and

others and counterpoints this with the cultural values of place which are paramount for local residents.

Daniel Lunney and Alison Matthews discuss the ecological changes to forests in the Eden region of NSW with a view to interpreting change on a landscape scale and assisting in managing regrowth and restoration strategies.

Peter Davies uses the example of Henry's No. 1 Mill in the Otways State Forest between 1904 and 1927 to explore the notion of forest community and the transitory nature of some settlements.

Libby Robin's paper on nature (arbor, bird and wattle) days in Australia contrasts the dollar valuation of environment with the quality-of-life and imaginative responses to nature in more simplistic times.

Peter Holzworth in his paper on early Queensland forestry and Jenny Mills on Kim Kessell demonstrates the influence of creative individuals on the progressing of forestry in Australia.

Robert Boden's paper on heritage trees provides two specific examples from our national capital and discusses the concept of heritage trees.

Anitra Nelson's Wombat Forest Society paper minutely details the ongoing struggle to resolve seemingly intractable conflict between industrial and social needs within the present Victorian social microcosm.

Beyond Australia

Paul Star's paper on New Zealand forests 1900-1914 concludes with the observation that New Zealand

society seeks spiritual sustenance through its native forests in particular while being physically removed and gaining no material sustenance from them.

Judith Miller's paper on Allied logging and milling in Papua New Guinea during WW II documents the requirements of wartime resourcing and the strategies as well as the positives accruing from intense investigations of the useful species and compensation paid to PNG.

David Ryan's paper is a short history of fire management in the USA showing the cyclical and recurrent nature of fire cycles and accompanying political debates on the vexed issue.

The proceedings are highly recommended for an understanding of the uses of forest history, the variety of approaches, the importance of documentary records, human/environment interactions and the silences that remain unresolved. Local historians, foresters, ecologists, social historians among others will find useful papers in this collection.

Good value at \$37.50 (includes p&h) and can be ordered from publications@cres.anu.edu.au.

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Thomson Hut at 'Lorinna over the bridge. (photo: Robert Onfray)

Cultural heritage

The Hartz Track – an archaeological and community consultation success

Kerri Spicer, Senior Forest Planner, Forestry Tasmania (Huon District)

The Hartz Track (Photo 1) was one of the original tracks cut to provide access to the southwest for exploration. It provided an access route from Geeveston to the Hartz Mountains and was utilised for some of the earliest tourism in the state. Lower sections of the track follow a tramway formation that had been used for timber getting. The majority of the Hartz Track is on State forest: 10.5 km of the total 12 km is located within protection forest or in National Park. The track is managed as part of the Adopt-a-Track program and has local residents involved in the track's management/maintenance. In early 2003, Forestry Tasmania Huon District undertook consultation with the local community in relation to a section of the Hartz Track located through a proposed harvesting coupe, KD023B.



Photo 1. Track sign with Mt Snowy (left) and Hartz Peak (right) in the background.



Photo 2. Early tourism, Hartz Mountain Villa, 1909.

History of the Hartz Track

The Geeves have had a long association with Geeveston (Geeves Town for those who don't know how it got its name) and Geeveston has had a long association with the timber industry (the welcome sign states it is 'Tasmania's Forest Town') as well as, to a lesser extent, tourism. Associated with all of these is the Hartz Track.

Geeves

The Hartz Track was constructed in 1894 by Arthur Geeves who had tendered successfully to complete this pack horse track (Gowlland, 1975). The track was used initially as a general access track for mineral exploration of the Southwest but was then also utilised for the growing recreational use of the Hartz Mountains (Pearson & Young, 1997). In 1897 tragedy struck the Geeves family and Geeveston when the cousins, Arthur and Sydney Geeves, died of hypothermia when caught in a blizzard whilst returning from a prospecting expedition in the Southwest with three other members of the Geeves family. Two of the surviving members walked

into Geeveston late at night with the news and at first light 120 men from Geeveston were on the track to bring back the bodies of Arthur and Sydney (Read).

Tourism

The Hartz Track has played an important role in tourism associated with the Hartz Mountains. Fish for the lakes and materials for building the huts in the National Park area were taken in along the track by packhorses (McConnell, 1988). In 1895, William G. Geeves and his wife ran the "Hillcrest" Boarding House in Geeveston and offered guided tours of the Hartz Mountains which were conducted by Arthur Geeves (mentioned above). After the original Hartz Mountains hut (constructed in 1896) burnt down, the government built a four bed room cottage (Photo 2) and a bunkhouse which were leased by Richard Geeves and used for trips throughout the summer until World War I. The tramways and railways constructed in the 1900's were utilised for excursions into the forest and by parties accessing the Hartz Track. The Hartz Track was the only access track onto

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Photo 3. The Hartz track following the old tramway formation.

the Hartz Plateau up till the 1960's when the current road was constructed (McConnell, 1988).

Timber

In the 1850's, the Geeves Brothers commenced the construction of wooden tramways up the Kermandie River valley to access the timber resource in the Kermandie Basin (Kostoglou, 1995). In 1902 the Geeves Brothers sold their tramways and sawmills to the Huon Timber Company (Kostoglou, 1995). The Huon Timber Company upgraded the tramway system of wooden rails and horse drawn jinkers and converted it to a railway system with steam locomotives running on steel rails. The timber from the Kermandie Basin was transported by the railways to a huge band mill at Port Huon, constructed by the

Huon Timber Company in about 1902. This mill functioned until 1926 when logging ceased in the Kermandie and Lidgerwood Basins and the entire railway system was salvaged with plant auctioned or moved abroad (Kostoglou, 1995). Two old tramway formations exist in coupe KD023B, and a section of the Hartz Track is located along one of these formations (Photo 3).

Community Consultation Process

An initial meeting with local community members was undertaken in January 2003 to inform them of the proposal for future harvesting of KD023B in the immediate area of the Hartz Track. The meeting was also used to obtain their knowledge of the history of the Hartz Track and to determine the social significance of the track.

It became apparent that it is difficult to discuss a forest area when sitting in a meeting room and a field visit was organised. The field visit enabled everyone to become acquainted with the section of the track in question, its condition, the surrounding environment and the tracks association with other historical aspects, including tramway formations, old stumps, stack of split timber from the 1930's (Photo 4). Denise Gaughwin (FPB Senior Archaeologist) attended this field visit to assess and provide advice on the archaeological value of the walking track and tramways. Potential options to manage the harvesting of the coupe, the walking track and associated tramways were discussed. It was agreed there were three main options (Table 1).

The pros and cons of the three options were documented and circulated prior to a meeting to decide the preferred management option. During the field visit it was recognised that the section of the Hartz Track in the coupe that follows the old tramway has a higher historical and aesthetic value and there were strong feelings that this section should be protected. This fact, combined with a realisation that to achieve an outcome that satisfied both parties some compromise needed to occur, resulted in a unanimous decision that Option 3 was the preferred management option. Table 2 details the relative benefits of this option.

Table 1. Management options for the Hartz Track associated with coupe KD023B

Option 1	Protect the Hartz Track in its current location.	25 ha reserved 50 ha harvested
Option 2	Relocate the Hartz Track into protection forest outside the coupe boundary.	0 ha reserved 75 ha harvested
Option 3	Relocate a portion of the Hartz Track into protection forest outside the coupe boundary, but retain <i>in situ</i> the section of the track associated with the old tramway formation and incorporate this into protection forest.	13 ha reserved 62 ha harvested

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Table 2. *Benefits of Option 3*

Benefits for Forestry Tasmania	Benefits for the community members
Majority of the timber revenue realised.	Total length of the Hartz Track protected in perpetuity within protection forest.
Access to the coupe (road access was not possible if the track was retained in its current location).	The most historic and aesthetically significant portion of the track is retained and protected.
Community support.	There is an opportunity with re-routing the track to undertake maintenance works on the full section of the track.

Community consultation has continued following this management decision, with local knowledge of the forest area and of track maintenance and construction being utilised in locating and constructing the new section of the track. Forestry Tasmania is also ensuring that the local community is kept informed of the commencement and progress of operations.

This process of community consultation has produced an excellent result. Forestry Tasmania has been able to realise the economic value of the coupe whilst also ensuring the historic, aesthetic and social values associated with the Hartz Track are protected. It

has also created a positive link between Forestry Tasmania and the local community, whereby Forestry Tasmania has gained community support and the local community has gained recognition of their knowledge and association with the forests of the Huon.

The Hartz Track can be walked in total or in a range of sections. The total length of the track from Kermandie Road to the Hartz Mountains takes approximately 5½ hrs one way (obviously easier if you start from the Hartz Mountains and walk downhill). Sections that can be walked:

Riawunna Road to Kermandie Falls (15 mins one way).

Kermandie Road to Kermandie Falls (1 hour one way).

Riawunna Road to Bennetts Road (2 hours one way).

Bennetts Road to Hartz Mountains (2½ hours one way).

The approximate location of the track is marked on the Leprena 1:25,000 mapsheet.

Next time you are down south, consider a side trip to retrace our early pioneers' footsteps.

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Photo 4. Discussion of management options on site. Left to right: Denise Gaughwin (FPB Senior Archaeologist), Lyn Jackson (Track Coordinator, Adopt-a-Track), Dudley Geeves, Peter Pepper (FT Community Liaison Officer), Kaye Geeves, Daniel Tuan (FT Planning Coordinator).

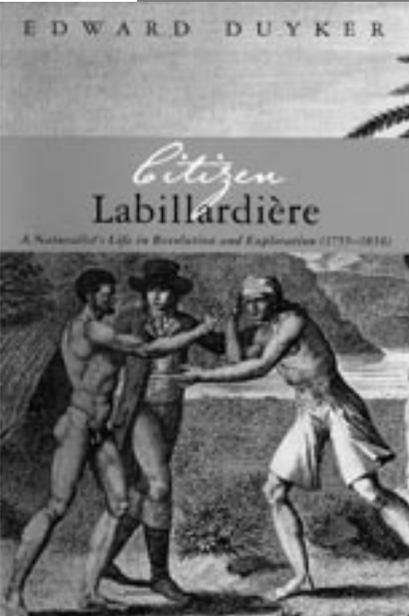
Book review

Citizen Labillardière: a naturalist's life in revolution and exploration (1755-1834)

by Edward Duyker (published by Miegunyah Press, Melbourne)

Reviewed by Fred Duncan

Jacques-Julien Labillardière was one of the great naturalists of the 18th Century. His travels took him from France to many parts of Europe and the middle East, but it is for his voyage to the South Seas on D'Entrecasteaux' expedition (1791-1795), that he is best known - both for his achievements in natural history and his account of the expedition itself.



Edward Duyker's biography of Labillardière is the epitome of authoritative research. The text is supplemented by some 70 pages of notes and appendices. Although the book is heavy with detail, its style is elegant and often evocative. There would be few Tasmanians who could not identify with the author's depiction of the D'Entrecasteaux Channel: "...In the early morning sun the D'Entrecasteaux Channel presents a vast luminous sheet of water, framed by the steel-grey silhouettes of the hills on both Bruny Island and the Tasmanian mainland... On a clear night the sky bears a lavish spray of stars from the eastern to the western horizon and the sea adds its own sparkling band of glowing plankton to the shore, thereby defining the current limits of the tide."

The industry, courage, foibles and humanity of Labillardière (and his compatriots) are described with warmth and, at times, a gentle humour. The whole account is fascinating, but the explorations, collections and ethnographic observations in Van Diemen's Land will be of particular interest to Tasmanian readers.

In Tasmania, Labillardière collected and described over 200 species that were new to science. They include the blue gum (*Eucalyptus globulus*) – Tasmania's floral emblem and arguably its greatest export to the world. He is recognised in the scientific names of several species, including the climbing blueberry (*Billardiera longiflora*), tussock grass (*Poa labillardierei*) and the pademelon (*Thylogale billardieri*), as well as Bruny Island's Labillardière Peninsula (where the two ships, the *Recherche* and *Espérance*, ran aground on a sandbar).

The scientists' collecting expeditions on land will be appreciated by many forest workers – their difficulties traversing the dense wet forests, the size of the eucalypts and the exhaustion and cold of being benighted in driving rain with no food. On one occasion Labillardière killed a couple of ravens, which were "immediately broiled and eaten, as if they had been the most delicate food."

Labillardière's description of the Tasmanian rainforest will also strike a chord, both for its beauty and its grasp of ecological processes: "We were filled with admiration at the sight of these ancient forests, in which the sound of the axe had never been heard. The eye was astonished in contemplating the prodigious size of these trees, amongst which there were some myrtles more than 50 metres in height, whose tufted summits were crowned with an ever verdant foliage; others, loosened by age from their roots, were supported by the neighbouring trees, whilst, as they gradually decayed, they were incorporated piece after piece with the parent-earth. The most luxuriant vigour of vegetation is here contrasted with its final dissolution, and presents to the mind a striking picture of the operations of nature, who left to herself, never destroys but that she may create."

The expedition's friendly relations with the Aborigines of the South East tribe are described by Duyker with empathy and insight. Valuable ethnographic entries from the journals of Labillardière and others are interspersed with amusing descriptions of cultural exchanges that show the common elements and curiosity that bind the races of the world. They include the surprise shown by the Aborigines at the apparent absence of women on the ships – the young and beardless members of the crew endured intimate confirmation of this fact with good humour. The Aborigine's songs reminded Labillardière of those of the Arabs of Asia Minor. When an officer attempted to introduce them to the pleasures of his violin, Labillardière notes that the Aborigines "stopped their ears with their fingers, that they might hear no more". Meanwhile, young children busied themselves trying to remove buttons from the Frenchmen's jackets – at times succeeding with the aid of knives they had just been given.

It is ironic that the book was completed only a short period before the recent discovery of the "French garden" at Recherche Bay. Duyker uses the journals and maps of the expeditioners to describe the layout, construction and raison d'être of the garden, as well as the response shown to it by the Aborigines – its intended beneficiaries.

Edward Duyker captures the spirit of Labillardière, and also the period of social, political and scientific upheaval in which he lived. This turbulence is encapsulated by the atmosphere on the *Recherche* and *Espérance* (and, ultimately, the fate of the ships). The simmering philosophical differences between sailors and scientists with Royalist sympathies and those supporting the Republic (Labillardière being a leading member of the latter group, as suggested by the title of the book), erupted following the death of the charismatic D'Entrecasteaux. The tale of the expedition's voyage back to France, after four long and dangerous years roaming the seas, is truly harrowing. It includes imprisonment in Java, conspiracies and charges of mutiny, the forced appropriation of their ships by the Dutch authorities, and the death from disease of almost half of the expeditioners. In 1796, Labillardière finally returned to a France in post-revolutionary turmoil. However, the expedition's scientific collections, travelling separately on a Dutch ship, were captured by the English (then at war with Napoleonic France). Most of Labillardière's specimens were eventually returned, partly through the intervention of Sir Joseph Banks, allowing Labillardière to complete *Novae Hollandiae plantarum specimen* – the first authoritative flora of Australia.

I recommend *Citizen Labillardière* to anyone with an interest in Tasmania's natural and cultural history. I would also recommend it to anyone wishing to read a remarkable tale of adventure, science and politics, which is remarkably well told. The standard of the research and writing, and the intrinsic interest of Labillardière's life and times, are sufficient to justify the retail price of \$60. In addition, the overall quality of the production is very high – the standard of editing, 16 pages of photographs and illustrations, informative maps and the quality of the binding. The book is available in hardback only and has a print run of 1000 copies.

From our archives ...

The history of the Huon Timber Company is described by Kostoglou (1995 – see previous story for reference); the outline and excerpts below are very much based on his report.

The Huon Timber Company was formed in 1901, with substantial financial backing from Scottish investors. An Act of Parliament facilitated the company acquiring rights to some 24,000 acres (9,600 ha) of freehold and leasehold land in the Southern Forests, including the Geeves Brothers' forest holdings, tramway network, mills and jetty. Machinery was purchased from North America, a wharf and mill were constructed at Whale Point, and by the end of 1904 the mill (reputedly the largest in Australia at the time) was producing over 300,000 superfeet of timber a week. Five steam driven locomotives hauled timber along a complex series of tramways from, amongst other areas, the Arve Valley, Kermandie Range and Lidgerwood Basin (where a substantial bush camp was located).



A Shay locomotive at the end of the Huon Timber Company line in the Southern Forests. The photograph comes from *The Tasmanian Mail*, September 28, 1907.

A *Mercury* reporter, riding the length of the tramway network and witnessing first hand a logging operation, wrote: "A morning wintry in its chillness; lowering clouds and thick rain; a cheerless beginning of a supremely interesting experience. We climb aboard the open wagons of a service train and pack ourselves among the workmen... From peaceful fruit valleys we are transported into the heart of a forest where, in spite of the wreckage made by axe and fire, the sense of the unbroken wilderness remains... The line twists and curves past streams filled with fallen logs. Blue gums and stringybarks, denser than the forests of British Columbia, close around us. Ascending ever higher we are festooned with the clinging, white, starlike, waxy blooms of the clematis, and the giant stems of the eucalypts rise to meet the clouds. After a run of eleven miles the line ceases, having

attained an altitude of 1400 feet. We then walk or rather slide and slither into the virgin forest. The doom of a monarch among the trees is written, and we watch his fall and hear the forest lamenting in deep reverberations. We follow the progress of a huge trunk from the depths of a gorge to the loading platform. It is the triumph of intelligently directed force over inert weight. On the railway level there is an engine of 16 horse, geared 12 to 1 for hauling... This stationery engine pulls a long wire hawser, which is cunningly fastened to the log, and worked through pulleys at the required angle, men and horses co-operating at the readjustment of the strain; and the log, protesting the while, has to go... We accompany a train load of monster logs to the well equipped sawmills of the Huon Timber Co., where they are rapidly converted into marketable timber. The descent is even more striking than the ascent, for at places the laden wagons seem to tie themselves into a knot, and we are depending on the action of gravity modified by brakes. Undoubtedly, Tasmania has a big asset in its forest wealth."

Unfortunately, the fate of the company mirrored that of the laden wagons, partly because of the extravagance of the tramways that transported them, but also because of trade depression and labour problems. In 1911, the Huon Timber Company was taken over by the multi-national Millar Karri & Jarrah Company, and periods of closures and resurgence continued till 1926, when its equipment was sold to "leaner enterprises which gathered around the corporate carcass to strip it". At its peak the mill employed 170 people, half of them bushmen. The company was the first in Tasmania to use American aerial cable logging (high lead) techniques, "with colourful local stories bearing testimony to the effects of swinging logs on standing trees."

Some contemporary remains of the Kermandie Mill and the Whale Point wharf survive near the later APM Mill. Elsewhere, the history of the Huon Timber Company is mainly represented by cuttings and embankments, and the occasional wooden vestiges of bridges and tramways. And some of Tasmania's finest regrowth forests.

Historical photographs of Tasmanian forests and timber getting will be a regular feature in FPNews. Your contributions (photos and text) are welcome.

Cultural heritage

A Florentine slice.....from Canada!

Peter MacFie

Last year I went on a study tour of forestry and historic sites in Canada and the United Kingdom. My visit to the British Columbia Forestry Centre on Vancouver Island underlined the logging connections between British Columbia and Tasmania generally, and the Florentine Valley in particular.



Restored Climax logging locomotive, in the British Columbia Forestry Centre.

The Forestry Centre is located in a 100 acre (40 ha) historic park and wildlife sanctuary, and has a mandate to collect, research, conserve, and interpret the relationship between people and the forests of British Columbia. The centre has a museum and a restored logging town, and hosts



The Skagit heel boom loader on display in the grounds of the BC Forestry Centre.

a great range of logging machinery from different eras, including locomotives that now haul many of the visitors around the site on a 2.4 km narrow gauge railway. The machinery, and its setting, triggered thoughts of a long-term project of mine: documenting the history of the Maydena timber community, and the lives and experiences of those who worked in the tall forests of the Florentine Valley. This project was initiated by Australian Newsprint Mills (ANM), and has subsequently been supported by Norske-Skog.

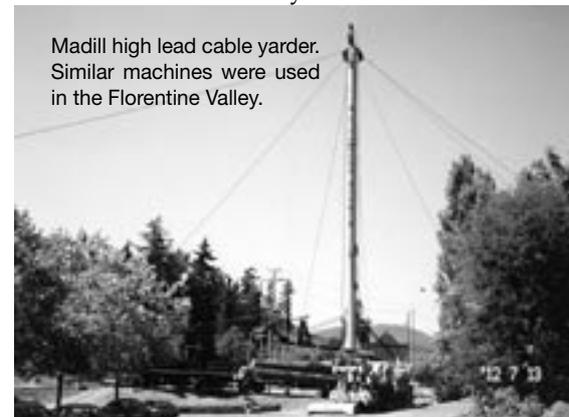
Machinery similar to that shown in these photographs was used in the Florentine by ANM. The Climax logging locomotive at the Forestry Centre was built in 1911, and was “abandoned in the woods” (according to its plaque) in 1927. Its gradual incorporation into a coniferous ecosystem was rudely arrested in the 1970’s, when it was recovered and restored to its current glory. A Climax locomotive also hauled log wagons on the Risbys Basin Line, in the Florentine, in the mid-1940’s. It too was left to rust in peace, but was also rescued and is now housed in the Glenorchy Transport Museum. Similar locomotives were used elsewhere in Tasmania (for example the Shay locomotive operated by the Huon Timber Company – shown in the photo on page 17).

The ‘Skagit’ heel boom loader in the photo was used in British Columbia to load trains and trucks – its cables and workings protected from wayward logs by reinforced cages. Skagit loaders were also used in the Florentine to load trucks between 1970 and 1990, after rail transport of logs ceased in the 1960s.

The Madill high lead cable yarders were widely used for logging steep country in Canada and

the United State after World War II. The original machines were actually based on tanks that were veterans of this conflict. Tracked Madill yarders were introduced to Tasmania in the 1960s, increasing opportunities and efficiency in logging steeper slopes (but also leading to the unique skills of the high lead fallers and their teams becoming superseded). Madill high lead machinery is still being used in the Florentine Valley and in other areas of better quality production forests in Tasmania.

ANM’s Tasmanian operations were often the first in Australia to trial and adopt North American logging machinery and practices – many of these subsequently spread from the Florentine to other parts of the State and Country.



Madill high lead cable yarder. Similar machines were used in the Florentine Valley.

The first newsprint made from Tasmanian eucalypts was processed in British Columbia, at the Ocean Falls mill in 1934. The successful trial was an important impetus to the flow to Tasmania of good old North American know-how. However, the trial almost sank before it began, when the Canadian stevedores (accustomed to unloading buoyant local conifers) heaved the first few eucalypt logs into the water. The effect of different wood densities soon became obvious as they disappeared into a watery grave, and the rest of the Tasmanian

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Fragments of old China

Reproduced courtesy of The Examiner from an article by Michael Lowe (with pictures by Tim Hughes) published on Saturday 5 April 2003

Michael Lowe tells how shards of the forgotten lives of Chinese tin miners were revealed this week in the far North-East. A chance find deep in the bush near the Ringarooma River has led to a major archaeological dig and increased knowledge of early Chinese tin mining.

Archaeologists this week dug a flat 8 m x 6 m site near Moorina in the North-East and found a wealth of pottery, bottles and other household items, some with Chinese inscriptions.



LONG GONE: Consultant archaeologist Parry Kostoglou holds a ceramic bottle that the Chinese miners probably used for alcohol.

The evidence led the team to conclude that the site was the home of Chinese miners who

had worked a nearby creek, about 30 m away, for tin and probably abandoned the site after two to six years. Forestry Tasmania and the Forest Practices Board funded the dig in State forest after a forester assessing the site for logging made the discovery.

Former forester of 30 years Sean Blake was walking the proposed 50 ha logging coupe in September when he noticed abandoned mine workings. He searched and found a small cleared area. He recognised this as potentially a hut site and told Forest Practices Board senior archaeologist Denise Gaughwin, who explains that the board is required to assess logging sites for "special values", including environmental and cultural features. It had employed Mr Blake as a consultant to check the area for special values, and a mining camp certainly qualified. So the site was declared a reserve and this week a team of archaeologists and helpers excavated it.

"It was a pure accident - I was just walking through" Mr Blake said. "I walked down to the creek and saw the old mine workings. I recognised it as small- scale,



PRECISION: Surveyor Kerry Wakefield works out the exact location of the dig and where objects are found.

possibly Chinese, so there might be a dwelling. So I did some circles (of increasing diameter) and by the second time round I stumbled on this. I have seen these (hut sites) before but they have always been disturbed. So I was quite excited when I found it had not been disturbed".

Board senior archaeologist Denise Gaughwin said inspection had

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logs and billets were unloaded onto land.

Within a year, editions of the Hobart Mercury and the Adelaide Advertiser were printed on the Canadian-made paper – the first time eucalypts were used as newsprint in Australia. The Canadian link was reinforced with the opening of ANM's Boyer Mill in 1941, when a team of 12 Canadian newsprint workers supervised the initial paper runs

and trained the local workforce. Interestingly, the availability of newsprint from Boyer meant that newspapers in Australia were not greatly curtailed by a shortage of newsprint in WWII – unlike the situation in the First World War, when complete reliance on material imported from Europe caused severe rationing of both newsprint and news.

The British Columbia Forestry Centre gave me the opportunity to learn about the Canadian

timber industry – its development, technology, products and the lives of its workers. There may be opportunities for similar interpretation in this state. Perhaps a future Canadian visitor to Tasmania will see a restored Madill yarder, a Skagit loader or even a rusting loco, and will also appreciate the connections between our communities.

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Cultural heritage



EXPERTISE: Forestry Tasmania's Meaghan Newson and museum conservator Linda Clark on site.

confirmed the site's potential. So she returned this week with consultant archaeologist Parry Kostoglou, employed by Forestry Tasmania, to dig the site.

Scottsdale High students helped with the dig and the 8 x 6 m site revealed bottles, bowls and other household items and tools that confirmed the site as a former Chinese mining hut. The site is being excavated in 2m-wide sections, and Mr Kostoglou said he expected the digging to go no deeper than 200mm, as that would be the extent of the artefacts. He has catalogued the finds according to their position on the site and depth, or context, of discovery. Queen Victoria Museum and Art Gallery conservator Linda Clark helped with the dig and will take the items to Launceston for restoration and display. All that remained above ground was a pile of rocks that had been the chimney and the flat hut floor, benched into the gentle slope. It was grassy with small trees and looked like normal bush.

Mr Kostoglou said the hut would have been destroyed by weather, time and bushfire - but the site had probably been occupied in

the 1880s by three to six Chinese men who would have stayed up to six years mining the creek bed for alluvial tin. He said the process involved redirecting the creek to expose the bed and then using water to sluice the tin from the dirt. Because it needed a lot of water, it would have been done during and after the winter rains. The miners probably stayed on site during the warmer seasons, tending a garden and making repairs and improvements while they waited for the next rainy season.

"They lived in horrible conditions and carried the tin out on their backs" Mr Blake said. "They dug it by hand. Everything they got here, they earned it".

Ms Gaughwin said the Forest Practices Code required significant heritage sites to be protected, and the site had been listed on the Tasmanian heritage register. She said the miners lived as they had in China - food and equipment would have been imported from their homeland, and their diet was probably supplemented by a vegetable garden near the hut. Few settled permanently. Instead they hoped to make their fortunes and return home. Mr Kostoglou said commodities ran in cycles and the 1880s had been a good time for tin mining.

The Chinese community had been an important part of the mining industry in North-East Tasmania, with more than 1000 working the tin mines by 1890. Soon afterwards the industry declined and most returned to China. He said that in the late 19th century the area around Moorina, Derby and Weldborough had been more closely settled than today. The site dug this week was only a few hundred metres from a much larger mine, and other mines were dotted through the area. Moorina was big enough to have its own court house.

Artifacts from this week's dig will be combined with information



FULL OF CHARACTER: Found near the fireplace, this object is probably an ink holder.

about the hut layout, deduced from soil disturbances, and the layout of the larger site to piece together the lifestyle of the inhabitants.

"It is about being methodical and going through the soil sufficiently slowly to see the subtle nuances," Mr Kostoglou said. "All this indicates behaviour - how they lived here. Archaeology is a puzzle. It is about looking at the landscape. You look at why people are drawn to that place; you look at how people modify the landscape and how they adapt to the landscape. The objective to recover as much information as we can." Mr Kostoglou has worked extensively on the mining and whaling history of the State and is doing a PhD on the sealing history of Australia's sub-Antarctic Heard Island.



DISCOVERY: Forester Sean Blake, who found the site.