Many plantations in north-eastern Tasmania were planted before the Forest Practices Code governed forestry operations. In those days plantations were planted right up to streambanks. This can mean that during harvest light debris accumulates in stream channels and after heavy rainfall the debris can accumulate as dams, which can burst causing stream erosion and damage to culverts and roads. Timberlands Pacific Ltd. manages plantations in this area and has been working on this issue.

Using gabions to control debris accumulation in plantation streams

Chris Ringk, Area Forester and Forest Practices Officer, Timberlands Pacific Pty Ltd

Two years ago Timberlands received funding from Natural Resource Management (NRM) North’s ‘Tamar Estuary and Esk Rivers (TEER) Sediment Demonstration Grant’ scheme to test the effectiveness of in-stream gabions for trapping light harvest debris in streams draining the Fingal plantations.

A gabion is a cage, cylinder, or box filled with rocks, concrete, or sometimes sand and soil. Gabions have various uses in civil engineering, including erosion control.

One of the successful gabion structures is shown above. The gabions were positioned in line with stream flow, and placed on a heavy shingle base, about 100 m downstream of high slash levels following harvesting. They covered about 40 per cent of the stream width. The design allowed sufficient water to bypass the structures but still managed to capture debris from the stream in flood. This debris would otherwise have accumulated at the downstream bridge, potentially causing road and structural damage.

Banner photograph: Caroline Docking sent in this image of research in plantations to the 2010 Forest Practices Photographic Competition. Check out the back page for details of the competition, which is being run again this year.
The aim of the Fingal plantation trial was to determine whether strategically placed gabions could trap debris at points where it could be easily cleared, before it reached critical infrastructure like culverts and bridges. When debris accumulates at bridges and culverts it can alter the water flow and could cause extensive damage. Two years have now passed since gabions were installed at six locations.

‘Murphy’s Law’ applied for the first year after installation as the frequent high intensity rainfall events that had occurred in north-eastern Tasmania over the past seven to eight years did not eventuate. The gabions remained in place and only small amounts of debris were captured. However, a lot has changed recently. There were frequent high rainfall events in the north-east during the 2013 winter and spring, particularly in August and November. Although the Mathinna region did not get the totals other areas of the state received (e.g. 246 mm at Gray in 24 hours on 12–13 November), enough rain fell to test the integrity of the in-stream gabions.

Whilst this was not a scientific study, some observations have been made on the usefulness of in-stream gabions (see images and captions).

One of the successful gabion structures is shown on the front cover. The gabions were positioned in line with stream flow, and placed on a heavy shingle base, about 100 m downstream of high slash levels following harvesting. They covered about 40 per cent of the stream width. The design allowed sufficient water to bypass the structures but still managed to capture debris from the stream in flood. This debris would otherwise have accumulated at the downstream bridge, potentially causing road and structural damage.

The four key ingredients to the success of in-stream gabions appear to be:
- a solid stream base (i.e. larger gravels/ boulders >100 mm diameter)
- proximity to harvest debris (<500m)
- keeping the percentage of streambed the gabion occupies to about 30–40 per cent
- placing gabions with their long axes in line with streamflow.

More information on NRM projects to manage sediment issues can be found on their website.

http://www.nrmnorth.org.au/sediment-demonstration-grant-case-studies

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All photographs by Timberlands Pacific Ltd.

(Left) In Pig Creek the gabions were positioned transverse to water flow, (occupying approximately 80 per cent of the streambed) on a recent shingle accumulation. The combination of an unstable bed, funneling of water by the gabions, and natural downcutting by the river into the loose shingle caused the gabions to be undermined. They were ineffective in trapping debris.

(Below left) In the Cox Creek catchment a different configuration was tried: two gabions across the stream with one positioned in line with the stream flow slightly upstream of the other two. The first gabion occupied only 10 per cent of the stream bed and the remaining two approximately 25 per cent. The total stream width occupied by the gabions was too low, allowing debris to easily pass and then be trapped at the next road culvert downstream: exactly what we were hoping to avoid.

(Above) Several cubic metres of debris was removed from behind the successful gabions and can now be inspected on the Pig Creek picnic ground. (Timberlands will dispose of the debris at the earliest opportunity.)
Thismia rodwayi (fairy lantern) is a small herb that grows at the soil surface and is only visible when its bright orange lantern-like flowers appear on the forest floor (Plate 1). Thismia is listed as rare on the Tasmanian Threatened Species Protection Act 1995. Since 2002, FPA staff and other botanists have been studying the species and it has been found at new locations. Most of the Thismia discoveries were made during targeted surveys. However, occasionally a lucky find is made when least expected.

One such discovery occurred recently when Kevin Bonham was searching Togari Forest Block for keeled snails, also a rare species. Togari is located in the northwest of Tasmania, approximately 16 km southwest of Smithton. Wet eucalypt forest with a broad leaved understorey dominated by dogwood (Pomaderris apetala) and musk (Olearia argophylla) is common in Togari and this forest type is potential habitat for both the keeled snail and Thismia.

Kevin was searching such habitat within a streamside reserve when he stumbled across a little piece of gold, which turned out to be the distinctive flower of a Thismia plant (it’s worth noting that Kevin also found plenty of keeled snails during his survey). The search method for the keeled snail and Thismia is similar and involves carefully sorting through the leaf litter and exposing the soil surface, which is the perfect place to find Thismia flowers.

Thismia had not previously been discovered so far west, with the closest record being from Meander in the state’s north (Figure 1). It has been speculated that, as for many species, its absence in the north-west relates to the ecological divide roughly following the Arthur Lineament stretching from Wynyard to Corinna. The record from Togari is a significant and exciting range extension of 111 km, extending the linear range of the species from around 240 km to around 350 km and the potential areal range from around 25 000 km² to around 31 000 km². The next task is to fill in the apparent distribution gap between the Southern Forests, Meander and Togari.

This range extension supplements a long-term monitoring project recently completed by FPA, ECOtas and Forestry Tasmania in the Meander area. Thismia was re-detected at monitoring sites in a Huntsman coupe ten years after logging operations. A paper on the conservation and reservation status, including the details of the new range extension and the results of the long-term monitoring study will be published in the current issue of The Tasmanian Naturalist. To read the full article or obtain a copy of The Tasmanian Naturalist please visit www.tasfieldnats.org.au.

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Plate 1. Lantern parade: Thismia rodwayi is normally only detected when its lantern-like flowers appear through the leaf litter. (Photo by Mark Wapstra)

Figure 1. Distribution map for Thismia rodwayi, illustrating the significance of the new record from Togari.
In 2007 Jason Wiersma began work at the FPA as our resident raptor specialist. At this time we received external funding which enabled us to begin a long-term project monitoring the nests of wedge-tailed eagles. The main aim of the project was to see if management prescriptions, which have evolved over the years, have mitigated any negative effects of forestry activities on breeding eagles; we also wanted to increase our understanding of eagle breeding ecology.

The results of the first five years of this study were published earlier this year in a report available on the FPA website – so check it out if you haven’t already. However, we do realise that not everyone will have time to read the full 104 pages of this fact-filled report, so we thought we’d provide you with a few special highlights here.

Most of the data used in the report was collected during Jason’s summer flights. Each November Jason (and assistant spotters) head up in a small fixed-wing plane to survey a selection of known wedge-tailed eagle nests. Jason uses a GPS to locate each nest, then the experienced pilot flies in circles around the nest, getting lower and lower until the nest is spotted and the contents of the nest can be seen (and the assistant spotters hang on to their stomach contents!). The surveys are timed to occur when the chicks are young, white and fluffy and can be easily seen from the plane. Sometimes the age of the chick can be estimated.

In the first part of the project, we used the data collected to calculate the proportion of nests surveyed that produced a chick, and found that the rate of nest success varies between years. We then related this data, using statistical modelling methods, to the attributes of the nest site – including topography, vegetation composition and disturbance etc.

The models suggest that the size of our prescribed nest reserves (>10ha) appears to be adequate to ensure nest success (i.e. chick production), although further research is needed to confirm this result.

The data also seemed to indicate that nests were less likely to have a chick if there was a forest operation within 1 km of the nest during the 12 months prior to the breeding season, but a closer examination of the data suggests this is because forest operations were closer to inactive nests than active nests. Therefore although this study has its limitations, we have found no evidence to date that forestry activities conducted under current management prescriptions are having a significant impact on the nest success of wedge-tailed eagles.

The next part of the project used the data collected to determine the timing and duration of the breeding season – the time of year when the birds are most sensitive to disturbance. We used data on eagle chicks of known age (from Jason’s November flights, and from photos sent in by foresters), and used published information on the duration of breeding to estimate when the egg was laid, and when the chick is likely to have fledged. The results indicated that the breeding season changes slightly between years and the management period may need to be extended in some years if breeding is later than usual.

As part of this project we used the data to improve existing models of potential nesting habitat to help with pre-harvest nest searches. To do this we used all the known records of eagle nests, a modelling program called ‘maxent’, and some GIS layers that we thought might reflect the areas that eagles choose for nesting. We produced a state-wide map that indicates the relative likelihood of finding an eagle nest. This map seems to perform much better than existing models of eagle habitat, and feedback from planners indicates that they are finding it useful. A copy of this map should be available on our website, the Biodiversity Values Database and the Natural Values Atlas in the near future.

Our nest monitoring work suggests that the time and effort put into implementing prescriptions for our threatened eagles is worth it. We’ve learnt a lot about eagles over the years, but our work wouldn’t have been possible without the support of industry planners and funding agencies (Roaring 40s, the Mohamed bin Zayed Species Conservation Fund and the FPA). The monitoring work has also been supported by the CRC, DPIPWE, specialists Nick Mooney and Bill Brown, and numerous other people including a number of industry personnel. However, while we’ve answered some questions there are still many which remain unanswered.

The FPA has been investigating wedge-tailed eagles for the last six years, building on many years of research on Tasmanian eagles. Read on to find out what we have found out...

Forest Practices Officers and species specialists from the FPA and DPIPWE have been working together since the early 1980s to develop and implement actions to ensure successful breeding by Tasmania’s eagles. Research by Nick Mooney, begun in the late 1970s, resulted in prescribed nest reserves and restriction of forestry activities around eagle nests during the breeding season.

Eagle-eyed research: Are our wedge-tailed eagle nest management actions working?

Amy Koch, Research Biologist, Forest Practices Authority (left)
Jason Wiersma, Ecologist, Forest Practices Authority (right)
We hope you all had a good holiday at the end of the year and are now back at work raring to go! There was only one issue of Forest Practices News last year, so no doubt you are all keen to catch up on news about forest practices in this issue.

The Forest Practices Photographic Competition is back! We are looking forward to all the great entries coming our way. The deadline is in April, so you have some time still to get snapping.

We’re planning on continuing the nest surveys each November, and are looking at other ways to understand more about eagle ecology and what we need to do to protect them (see the article on the student grant in this edition of Forest Practices News). So keep an eye on our website and see future editions of this newsletter for more exciting eagle news!

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The FPA’s annual report is also available on our website as we have again decided not to print it to save expenses. The annual report can also be accessed through the homepage or the publications page.

‘We’re planning on continuing the nest surveys each November, and are looking at other ways to understand more about eagle ecology and what we need to do to protect them.’

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Deadline for contributions to next Forest Practices News:
Monday 14 April 2014
Training and attention to detail paid off recently for Jerard Flakemore from Forestry Tasmania’s Southern Region. While marking out the boundaries on coupe KD043H, in the Kermandie forest block, he found what he suspected to be a masked owl’s nest.

Masked owls’ nests are typically difficult to locate, with only 39 known nest sites and two roost sites known across the state. Nests are usually located in large trees with large hollows or spouts, and may have evidence of use (e.g. pellets of regurgitated skin and bones; feathers; droppings) at the base of the tree. While large trees with hollows and spouts are obvious, evidence of use may not be clear.

Jerard has completed FPA fauna training on eagles and other raptors, which included information on masked owls. He was also recently involved in work in coupe AR054H, in the Arve forest block, with Jason Wiersma, the FPA’s eagle specialist, which involved assessing a number of large trees for potential masked owl nests. While work in AR054H did not result in any nests being located, the FPA training, work with Jason and a good eye paid off in KD043H.

During marking of KD043H, Jerard came upon a number of large trees, one of which had a half-eaten ring-tailed possum and some feathers at its base (see images). Jerard was confident that he had located a masked owl nest tree and he photographed the remains and feathers, and discussed this with Penny Sangster, Forest Practices Officer in the Huon district.

The photographs were forwarded to Jason and he confirmed that the feathers were those of a masked owl. Subsequent field inspections by FT staff and the FPA has resulted in the nest tree and surrounding suitable nesting habitat being added onto an existing wildlife habitat strip and excluded from the planned operation.

Map of the coupe, showing the reserve for the masked owl nest/roost site – the green semi-circle added on to the formal reserve in the lower centre of the map. Other reserves include a network of formal and informal reserves, streamside reserves, and a wildlife habitat clump.
In addition to mapping the nest site and establishing the reserve, prescriptions relating to the masked owl will be included in the forest practices plan. Jerard will discuss these and other natural and cultural heritage prescriptions with the contractor to ensure that they are implemented in the field.

Masked owl pellet collected under shelter belt trees in the Huon Valley by Dave Cunningham, a Dog Handler with the Fox Eradication Program. Masked owls produce large and distinctive pellets from their crop composed of indigestible remains of their prey. Because they are large birds with a wide gape, they commonly swallow small mammals whole. This particular pellet is the skeletal and fur remains of a whole adult sugar glider. Photograph by the Invasive Species Branch, Department of Primary Industries, Parks, Water and Environment.

A masked owl feather (above) and a half-eaten ring-tailed possum (left), which indicated that there was a masked owl’s nest in the neighbouring tree.

Down in one – sugar glider provides a sweet mouthful for a masked owl

Masked owl pellet collected under shelter belt trees in the Huon Valley by Dave Cunningham, a Dog Handler with the Fox Eradication Program. Masked owls produce large and distinctive pellets from their crop composed of indigestible remains of their prey. Because they are large birds with a wide gape, they commonly swallow small mammals whole. This particular pellet is the skeletal and fur remains of a whole adult sugar glider. Photograph by the Invasive Species Branch, Department of Primary Industries, Parks, Water and Environment.

For information on masked owl on management http://www.fpa.tas.gov.au/fpa_services/planning_assistance/advisory_planning_tools/Biodiversity_values_database

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All photographs by Forestry Tasmania
A reflection on the experience with compliance and enforcement of Tasmania’s forest practices system over the last 25 years

Graham Wilkinson, Chief Forest Practices Officer

The prestigious international journal, *Forest Policy and Economics*, has published a paper for publication on the evolution and implementation of Tasmania’s forest practices system since the inception of the *Forest Practices Code* in 1987. The paper was written by Graham Wilkinson and Mick Schofield of the FPA and Peter Kanowski, Professor of Forestry at the Australian National University and Deputy Director of the Centre for International Forestry Research in Indonesia.

Tasmania’s forest practices system is widely recognised as one of the most prescriptive globally and the most comprehensive in Australia. It has evolved over the last 25 years in response to public demands for high standards of governance, accountability and transparency of forest regulation on both public and private land, during a time of strong contestation, in Tasmanian and Australian civil society and politics, about appropriate forest policies and practices.

The Tasmanian forest practices system offers an informative case study of a co-regulatory system. The key to its effective operation is the role played by forest practices officers (FPOs), who have the powers to certify operations, report on compliance and take action to enforce the rules as required. The potential conflicts of interest of the self-regulatory aspects of the FPO system are transparently managed through the statutory monitoring and enforcement powers of the FPA as the independent regulator.

The paper describes the genesis and evolution of the Tasmanian forest practices system, and summarises the range of measures employed to foster high levels of compliance, with an emphasis on training and education, self-monitoring and reporting by the industry, independent monitoring by the Forest Practices Authority, and corrective actions, backed by enforcement provisions. The paper focuses on the measures taken to improve compliance and enforcement: challenges faced by forest regulators throughout the world. It does not deal with other important aspects of the forest practices system, such as planning and research, which are stories that need to be told and recognised in their own right.

The authors conclude that well-designed and implemented co-regulatory approaches, with high levels of transparency, can effectively deliver good technical standards of forest practices and high levels of compliance. However, these will not in themselves mitigate public concern about forest management practices unless the policies governing those practices have broad support in civil society. Core elements of Tasmanian forest policy, such as decisions about the allocation of forested lands to particular tenures, permissible silvicultural systems, Aboriginal peoples’ rights, and community participation in forest management, have been the subject of vigorous public and political debate, and numerous inquiries and agreements between the Tasmanian and Australian governments, over the past four decades. However, there is often a lack of differentiation in the public’s mind between the forest policy settings that are the province of government and the regulation of technical standards for which the FPA has responsibility.

It is pleasing that a record of our experience, successes and the key strengths of the forest practices system is published for an international audience. Hopefully it will help other countries in their quest towards good systems of forest regulation. More locally, the lessons learnt over the last 25 years should not be forgotten as Tasmania makes its transition to the new, post-TFA, era of forest policy and management.

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The FPA has just finished running the Forest Practices Officers Training Course, which ran over 2012 and 2013. The final assignments are in the process of being marked. The course had 16 participants, although two of these were attending to gain general experience and one only needed to attend one module. Only one participant dropped out of the course as they got a new job inter-state. Feedback from the participants has been positive.

This course was the second to be run under the structure of a nationally accredited course – 69812 Course in Forest Practices (Forest Practice Officer). The course participants were issued with a formal training resource manual, which is comprised of 15 modules containing learning outcomes for each module. The FPO Training Resource Manual can be accessed through the FPA website.

However there were some changes to the way the course was delivered compared to the first time that the new course was run in 2009. The FPA is not a registered training organisation (RTO) and so needs to run the course under the auspices of an RTO. This arrangement is expensive and the FPA took the decision not to enter into an auspicing arrangement in order to keep the costs of the course down. We also decided not to renew the accreditation of the course when this ran out in October 2013 as the fees for doing this jumped considerably. Consequently, the course was more affordable but was not a nationally accredited course.

Module 13 on ‘Communications/conflict resolution’ was not run this year.

The subject-matter experts listed below presented the modules. Some of these experts are no longer working with the organisations listed but they were working with them at the time that the module was delivered.

Module 1, Forest Practices Act 1985, Jo Field and Graham Wilkinson, FPA

Module 2, FPA policies and FPO responsibilities, Jo Field, FPA

Module 3, Road location and construction, Kerry Wakefield, Forestry Tasmania (Bass)

Module 4, Timber harvesting, Heath Blair, SFM Forest Products

Module 5, Fire management in forest practices, Justin Cashion, Gunns Ltd

Module 6, Cultural heritage, Jason Bolch, Gunns Limited

Module 7, Geomorphology, Peter McIntosh, FPA

Module 8, Visual landscape management, Scott Livingston, consultant

Module 9, Native forest silviculture prescriptions, Mark Neyland, Forestry Tasmania

Module 10, Plantation silviculture prescriptions, Robin Dickson, Gunns Limited

Module 11, Soils and water, Peter McIntosh, FPA

Module 12, Biodiversity, Sarah Munks, Tim Leaman and Anne Chuter, FPA

Module 14, Forest practices plan preparation, Vanessa Thompson, Forestry Tasmania (Derwent)

Module 15, Monitoring and compliance assessment, Mick Schofield, FPA.

The next FPO Training Course will be run when we have enough participants to make it feasible. Expressions of interest in the next FPO course can be emailed to Chris Grove.

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### FPA training program

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<th>Duration</th>
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<td>FPO briefings</td>
<td>Chris Grove 6165 4082</td>
<td>2014</td>
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<td>Briefings for all FPOs on the application of the Forest Practices Code under the Tasmanian Forest Agreement.</td>
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<td><a href="mailto:Chris.Grove@fpa.tas.gov.au">Chris.Grove@fpa.tas.gov.au</a></td>
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<td>Identification of hybrids</td>
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Andreas wrote this article on his return to Germany, after he spent six months researching the potential for biomass energy production in Tasmania.

The current total use of forest biomass for energy generation over Tasmania is about 700,000 green tonnes per year, which corresponds to about 6.5 per cent of Tasmania’s total energy supply. The largest proportion of this is domestic firewood (70 per cent). A smaller proportion is used for industrial heating, mostly by the wood processing industry for kiln drying.

These figures are small when compared to the use of forest biomass for energy generation in Europe (Figure 1). It is obvious that from a resource point of view there is a vast potential in Tasmania; according to my conservative estimates, the potential use of forest biomass for energy generation from both public and private forests is about 3.3 million green tonnes per year which would meet about 30 per cent of Tasmania’s total energy demand.

A possible increase of the use of forest biomass for energy generation raises ecological issues relating to the source of the material. Table 1 shows that most of the potential forest biomass for energy generation could be sourced from pulpwood grade timber. Using pulpwood for energy generation would have a minimal effect on harvest policy and on-the-ground coupe management.

Sourcing forest biomass for energy generation from native forest harvesting residues which are not presently removed from coupes has the greatest ecological implications. The removal of too much coarse woody debris can affect biodiversity and removing nutrient rich components such as small twigs and leaves can reduce soil fertility. Therefore, best management guidelines for biomass use for energy should apply standards for coarse woody debris and nutrient management.

For my biomass-for-energy estimates for Tasmania, I made the very conservative assumptions that all leaves, branches, bark, and more than 90 per cent of dead wood and 30 per cent of stem wood is left on site. Thus the calculated potential easily fulfills best management guidelines and should be sustainable in the long term. However, average figures for all of Tasmania can’t guarantee that such a harvesting intensity is sustainable at the coupe-scale. Therefore it is important to ensure that standards (e.g. for coarse woody debris retention) are developed not only at the state-level but also at the coupe-scale.

In Tasmania, concern has been expressed that increased biomass harvesting in native forests could drive forest harvesting. Although Tasmania is far from such a situation, the European experience shows that this could occur if biomass harvesting for energy generation became more widespread. Therefore forest policy should ensure that biomass harvesting for energy generation occurs in a sustainable way. In order to avoid excessive ‘red tape’, guidelines could be integrated into the existing forest practices system, e.g. into forest practices plans. In addition the establishment of industrial plants using biomass for energy or pellet production should be based on regional studies on...
the sustainable supply of feedstock, made available to the Forest Practices Authority. Although the recent Tasmanian Forest Agreement reserved large forest areas, Tasmania still has a comprehensive forest resource. There is a large quantity of low quality timber and wood/harvesting residues waiting for a profitable outlet. In Europe, using these products for energy production has become an interesting market and a similar market in Tasmania may be possible. A sensible use of forest biomass for energy can generate both economic and ecological benefits. An intelligent application of forest policy instruments will be an important part of this sensible use.

For more information refer to Andreas Rothe's report: *Forest biomass for energy: Current and potential use in Tasmania and a comparison with European experience*


You can also watch his Forest Talks presentation on:

http://www.youtube.com/watch?v=WOGrkASs77c&feature=c4-overview&list=UULkj_lMOI8ATFyvX2AHl

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Author photo by Forestry Tasmania

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**FPA 2012–13 annual report highlights**

For the year ending 30 June 2013

• Specialists from the Forest Practices Authority provided advice on natural values in response to 274 notifications (584 were lodged last year on both on natural and cultural values) lodged by Forest Practices Officers.

• Forest Practices Officers certified 315 forest practices plans (399 plans last year) for native forest and plantation operations, totalling 13 937 hectares (15 901 hectares last year) on public and private land.

• Forest practices plans were certified for 83 hectares of new plantations (285 hectares last year). This is the first year that all new plantations have been established on previously cleared land (178 hectares last year) and no plantations have been established on ex-native forest sites (107 hectares last year).

• A total of 1313 hectares (937 hectares last year) of native forest and plantations were converted to non-forest use, primarily for agriculture.

• The net effect of clearing and new plantings of forest in Tasmania in 2012–13 was an overall decrease in the total area of forest by 1230 hectares during the year (last year there was a decrease of 759 hectares).

• 762 hectares (703 last year) of native forest was converted to other uses, resulting in a decrease of 0.02 per cent (0.02 last year) in the area of Tasmania’s native forest during 2012–13.

• The cumulative decrease in the area of Tasmania’s native forest between 1996 and 2013 is 152 198 hectares (151 433 last year), or 4.7 per cent (the same as last year).

• The annual assessment conducted by the FPA found that the implementation and effectiveness of forest practices plans on State forest and on private land managed by companies were generally above the nominated standards for the majority of factors being assessed.

• Five (six last year) fines totalling $5000 ($17 000 last year) were imposed for offences under the Forest Practices Act 1985.

• One prosecution (two last year) resulting in a fine of $5500 plus costs was resolved by the courts for an offence under the Forest Practices Act 1985.

The annual report is on the FPA’s website at http://www.fpa.tas.gov.au/publications/annual_reports

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*The main driver of native forest clearance in Tasmania is now agriculture, rather than plantations.*
For over 20 years Private Forests Tasmania (PFT) field staff have employed forest practices consistent with the Forest Practices Code on farms in the Midlands. With help from PFT, farmers have successfully established and managed both local native and exotic species for wood production and environmental benefits including farm shelter, soil stabilisation and increased biodiversity.

In 2012 NRM North obtained over $450 000 funding for a two year ‘Biodiversity in Irrigated Landscapes’ project funded by the Australian Government’s Biodiversity Fund, which is part of the Clean Energy Futures program. Funding was initially for work in the Northern Midlands and Meander Valley municipalities. The project focuses on protecting forest remnants and establishing areas of native species during 2013 and 2014 in order to create corridors and linkages to larger forest areas.

PFT has been engaged by NRM North to provide technical assistance for the revegetation aspect of the project, including preparation of property-level revegetation plans, ongoing support and advice to landholders, monitoring establishment and growth, and providing specialist equipment for ground preparation and direct seeding. Although certified FPPs were not required, planning was consistent with the Forest Practices Code.

Often landowners engage professional contractors, such as NW Forestry Services, a Division of Devonfield Enterprises, to plant and guard trees. Under this project, NW Forestry Services supervisor Barry Graue, and his team of people with disabilities planted about 15 000 trees on seven sites on one property, ‘Symmons Plains’, as well as on several others.

The Symmons Plains project required some 13 tonnes of wooden and bamboo stakes, several tonnes of tree guards and several tonnes of weed mats. These were distributed ahead of the planting crews using a mix of transport companies and farm utes, trailers or trucks.

PFT’s control of the operations, together with a ‘forestry eye’ over the on-ground operations, ensured that the works were successfully completed on time, within budget and to a high standard. Recent surveys, carried out three months after planting, show tree survival to be greater than 60 per cent on very harsh sites and over 90 per cent on average sites.

PFT seeks to continue to expand the forest estate through helping farmers better integrate trees into both irrigated and dry land properties. Approaches include property management planning and education about the role of trees and the direct and indirect benefits they can bring when integrated into agricultural systems.

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All photographs by PFT
Tasmanian code for forest plantations
the best in Australia

Graham Wilkinson, Chief Forest Practices Officer, Forest Practices Authority

In 2010 the Australian Government commissioned the CSIRO to undertake assessments of the codes of practice for plantations within all Australian states and territories. The assessments were undertaken to assess the effectiveness of the codes in meeting the national principles defined in the Department of Agriculture, Fisheries and Forestry document Forest practices related to wood production in plantations: national principles as required under the Export Control (Unprocessed Wood) Regulations 1986 (section 4). The national principles address environmental care, safety, planning, access, establishment and maintenance, timber harvesting, forest protection and monitoring and review. If a code is assessed as meeting the national principles then the export of unprocessed wood (which includes woodchips) from that state does not require an export licence; if the code does not meet the national principles then every shipment of unprocessed wood requires the approval of the Federal Minister.

The reports on the individual states and territories have now been completed and released on the website of the Australian Government Department of Agriculture. The eight reports prepared by CSIRO have been provided to the Parliamentary Secretary for Agriculture, Fisheries and Forestry who has approved the codes for all states and territories except for Queensland. A national overview report was also prepared by CSIRO but this report was not released by the Australian Government. It was also evident that the forest industry supports the forest practices system and contributes to it through participatory approaches.

It is pleasing to see that Australia’s premier scientific organisation, CSIRO, rates Tasmania’s Forest Practices Code so highly. Plantations are an increasingly important part of the forestry sector and it is good to get official confirmation that the management of our plantations meets the highest standards of environmental care.

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References
CSIRO reports on the assessment of codes for plantation forestry in the states and territories are on the Department of Agriculture website:
http://www.daff.gov.au/forestry/australias-forests/plantation-farm-forestry/principles

Plantation near Mole Creek: the drainage depressions have not been cultivated, in accordance with the Forest Practices Code.
Norske Skog Boyer (NSPM) have approximately 300 ha of freehold softwood plantation in the Florentine Valley on a site locally known as the Settlement, much of which was cleared during the 1800s for grazing. The plantation overlies karstic limestone bedrock and was planted before the publication of the 1987 Forest Practices Code which required consideration of karst features. Subsequent thinning operations were conducted in compliance with the Forest Practices Code but large sections with obvious karst features were omitted from operations because karst manuals did not provide adequate advice for thinning in these complex sites.

The Settlement is characterised by frequent large and deep sink holes, cave entrances, very rocky and broken ground with sharp ridges, and includes some failed and low stocking plantation areas in what is otherwise a very productive plantation site. Some preliminary work had been undertaken by NSPM staff around the most karstic areas during planning for thinning operations in consultation with previous FPA Geoscientists and it was agreed the area needed to be surveyed in greater detail. In 2002 and 2007 consultant geologist Chris Sharples provided two very detailed reports on significant issues affecting management at a landscape level.

Chris’s work showed that intensive surveys of each proposed coupe were required as part of forest practices plan (FPP) preparation and that significant karst features could be impacted by FPP operations. It was also evident that the safety of harvesting and reforestation contractors working on karst had to be considered.

The first clearfall coupe was scheduled for late 2011 and survey work commenced in April with intensive strip line karst feature surveying undertaken by local contractor Crafty Timbers (Tony Wells and employees) and a Dutch forestry student working for NSPM (Merlijn Heugen AKA ‘the wizard’) The survey located and classified karst features within operational areas and this process was repeated by NSPM staff for the 2013 coupe currently being harvested.

Following the 2011 survey, several field inspections were made with the FPA Geoscientist Adrian Slee resulting in development of FPP prescriptions to manage plantation karst features. Numerous potential caves were also evaluated during this process. A sinkhole soil movement trial was established at this time and monitoring of sinkholes is continuing.

For safety and scientific reasons, additional caving expertise was required to survey and map the extent of the many potential caves discovered during the survey. Initially the NSPM and the FPA contacted DPIPWE scientist and caver Rolan Eberhard. After a site visit and some cave exploration he suggested that NSPM contact the Southern Tasmanian Caverneers caving club (STC) and request assistance. This was done promptly and the club and NSPM had a productive 2011 winter Sunday evaluating the remaining potential caves. The author pretty much watched the experts go at it in awe of the ability of real cavers to fit in small cave entrances and return. The cooperation of club members was invaluable. In summary 2011 operations proceeded with excellent work by both harvesting and reforestation contractors ensuring operations complied with the FPP.

Two years down the track and NSPM had the next Settlement coupe (FO12xyz) scheduled for harvesting. Karst surveying of the 2013 coupe was undertaken by NSPM in consultation with Peter McIntosh, now managing FPA Earth Sciences. Following the survey 36 potentially enterable caves were highlighted and STC was again
Cooperation on caves and karst: a successful Settlement (continued)

contacted. Two of the 2011 cavers (Alan Jackson and Stephen Bunton) organised the 2013 trip, ably assisted by other club members including Chris Sharples (some of the entrances were originally recorded by Chris), FPA staff (Amy Koch) and friends. The day went well. Most caves proved quite limited in extent but significant passages were tagged and surveyed by the club. The final cave for the day was judged by the author and Kevin Williams of NSPM to be potentially the most significant due to the duration of acoustic feedback when pinecones were fed into the small opening. When Alan emerged to collect surveying equipment after a couple of minutes inside, he stated that it was a ‘real cave’. Those that could make their way through a tight entrance passage to the first cavern shared Alan’s realisation that it was in fact a real cave in pristine condition. They were soon rightfully organised by thoughtful club members to remain put as haphazard exploration is not a good conservation practice. It was obvious that a detailed survey was required so the cave could be protected during operations, and there was not enough time left on the day for the survey. We made our way back out with Alan and Stephen, keen to survey the cave at a later date with fewer people in the party. Strangely enough, the cave is named Twenty Pinecones (thanks Alan). Twenty Pinecones also contains significant silt deposits of scientific interest and evidence of fauna use with tracks, snails, leeches and possible possum nests encountered.

Alan, Stephen and myself (observer) returned to survey the cave on 25 August and the resulting high quality cave map attached is provided courtesy of Alan. Interestingly it is also noted by Chris (indisposed at the time of the survey) ‘that the Settlement is well on the way to becoming one of the most intensively inspected areas of karstic ground of comparable size in Tasmania.’

The harvesting operation commenced in late October with Geoffrey Muskett of BR & KF Muskett and Sons in charge. The operation is progressing well and the interaction between the FPA, NSPM and STC members has been invaluable through the planning process. It has ensured karst features are fully evaluated where possible and managed in a way to preserve the features and ensure operations can be conducted as safely as possible. It is also good to note that we were able to learn from the 2011 operations and simplify the FPP, reducing the document by four pages. The final Settlement softwood clearfall coupe is scheduled for 2014 with many more articles possible in relation to FPP operations and research ongoing in the Settlement area. Experience so far shows that significant features are still being found in Tasmanian karst landscapes; caves are being protected as per the Forest Practices Code, guidelines and site-specific scientific advice; and concise FPPs provide effective guidance to coordinators and contractors on cave and karst management, including the issue of establishing native revegetation around sensitive areas.

Note: This article was prepared with the help of Alan Jackson (STC), Kevin Williams and Sandra Hetherington (NPSM), Amy Koch (FPA) and Chris Sharples (Consultant).

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In 2008, I embarked on a study of native ground-dwelling mammals in wet Eucalyptus production forests of Tasmania for my PhD project at the University of Tasmania. The aim of the study was to evaluate the responses of native mammals to an alternative forestry practice, aggregated retention (a type of variable retention), in comparison to their responses to clearfell, burn and sow. I used unlogged native forests as controls.

Variable retention (or retention forestry) was developed with the objectives of ‘life-boating’ (see box) species and processes, retaining structural complexity in the landscape (e.g. leaving logs and dead standing trees, commonly called stags), and improving connectivity in the landscape.

Aggregated retention involves retaining patches of unlogged forest as isolated ‘islands’ within the harvested area or alternatively leaving ‘edge’ patches on the margins of the harvested area where they are connected to the surrounding forest. Although this practice has been successful in retaining biodiversity and mature forest species for some taxa, there have been relatively few studies of its effects on small ground mammals, particularly in the Southern Hemisphere, and very little attention has been given to landscape connectivity.

My study focussed on two native rodent species: the swamp rat (Rattus lutreolus) and the long-tailed mouse (Pseudomys higginsi). These two species both occupy wet Eucalyptus forests and share many similar traits, e.g. longevity (1–2 years), breeding cycle (spring/summer) and diet (predominantly herbivorous), but differ in their habitat requirements. The swamp rat is known to be a cover-dependent species while the long-tailed mouse is thought to be more of a habitat generalist. By using species with similar life histories but differing habitat niches, I could learn more about species’ responses to habitat disturbance.

My project involved several different studies, including (1) rodent abundances and habitat use, (2) physiological responses of rodents in different habitats, and (3) genetic implications of forestry practices on the cover-dependent swamp rat.

The first study showed that the abundance of the cover-dependent swamp rat declined with increasing disturbance among the three treatments: abundance was highest in unlogged forest, lowest in clearfelled sites and intermediate in aggregated retention. This pattern was also seen in the different habitat types created within aggregated retention sites, with lowest abundances in the harvested area, highest in the forested edges and intermediate in the forested islands. There was also a significant positive relationship

What does ‘life-boating’ mean?

Life-boating means providing refugia for elements of biological diversity that might otherwise be lost from the harvested area. This includes the retention of species, populations or processes. Life-boating of species and processes assists recolonisation during forest regeneration.

Swamp (velvet-furred) rat Rattus lutreolus

This common species occurs in a variety of habitats, ranging from wet and dry sclerophyll forests to buttongrass moorlands and coastal heath. It forms extensive systems of runways beneath dense vegetation. Grasses and sedges form the main component of the diet, although insects are occasionally taken. Breeding begins in spring and runs to autumn. More than one litter, of three to five young, may be raised per season. Females from the first litter of the season may give birth themselves during the same breeding season, as sexual maturity is reached at three months. Longevity is about 18 months.

Source: www.parks.tas.gov.au/?base=4911

Long-tailed mouse Pseudomys higginsi

The long-tailed mouse is the only species of rodent endemic (restricted to) Tasmania. The species reaches about 70 grams in weight and is distinguished by its two-tone tail – white below and dark above. The tail is longer than the head and body.

The species occurs in rainforest and wet and dry sclerophyll forest. It is particularly common in sub-alpine scree – indeed, the unusually long hindfeet of the species suggest that it may hop from rock to rock in such a habitat. Its broad diet includes lichen, bryophytes, ferns, seeds, fruit and some insects.

Breeding occurs from late spring to late summer, with one or two litters averaging three or four young, being produced each year. Gestation is 33 days. Longevity is about 18 months.

Source: www.parks.tas.gov.au/?base=4911
The effects of different forestry practices on two native rodent species (continued)

between swamp rat abundance and lower strata vegetation cover in harvested areas. In contrast, the abundance of the long-tailed mouse was not significantly different between treatments or between the different habitat types in aggregated retention sites, and there were no clear relationship of abundance with vegetation cover. The abundance results indicated that swamp rats were highly sensitive to harvesting while long-tailed mice were resilient and able to persist in harvested areas.

The abundance results indicated that swamp rats were highly sensitive to harvesting while long-tailed mice were resilient and able to persist in harvested areas.

Interestingly, the physiological data (blood profiles and body condition) did not reflect this result, with no indication of stress responses or differences in general condition in swamp rats between treatments, although long-tailed mice showed poorer body condition in clearfelled sites compared to unlogged sites. Long-tailed mice may only inhabit harvested areas out of necessity rather than showing resilience to disturbed habitats.

Swamp rats were rarely found in harvested areas and may be minimising physiological impacts by preferentially residing in forested areas. Alternatively, swamp rat populations may be experiencing elevated physiological stress in both harvested and unlogged sites due to fragmentation of the latter by minor roads. This speculation is discussed in greater detail in my thesis.

Habitat fragmentation can impede movement of animals between suitable habitat, restricting dispersal and gene flow, and resulting in distinct genetic differences between populations. Analyses of swamp rat genetic samples from aggregated retention and unlogged sites revealed no evidence of inbreeding, but increased relatedness was apparent in aggregated retention island patches, which is most likely due to restricted dispersal across the ‘hostile’ harvested area. Surprisingly, analyses also revealed that swamp rats do not often move across unpaved, narrow (< 10 m) and seldom-used roads. While harvesting may result in immediate and large-scale changes to suitable habitat, roads may pose a longer-term hindrance to dispersal as the forest regenerates but the road network remains.

My project has highlighted the importance of using multiple disciplines (e.g. ecology, physiology, and genetics) to investigate anthropogenic disturbances on wildlife. Despite persistence within the harvested matrix, long-tailed mice showed decreased body condition, which may have longer-term health and reproductive consequences. Additionally, while swamp rat populations appear to be thriving in unlogged forests, genetic population differentiation is occurring due to the presence of unpaved, narrow, and seldom-used roads acting as dispersal barriers.

...using aggregated retention as an alternative to clearfelling is beneficial for small ground-dwelling mammals for the objective of life-boating, but may not be providing landscape connectivity...

My project also confirmed that the practice of using aggregated retention as an alternative to clearfelling is beneficial for small ground-dwelling mammals for the objective of life-boating, but may not be providing landscape connectivity as there are some restrictions for dispersal of cover-dependent species, at least in the short-term.

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All photographs by Helen Stephens

1Helen received an FPA Student Research Award, was co-supervised by the FPA’s Sarah Munks and was supported by the CRC for Forestry.
Why are Tasmanian devils important?
The Tasmanian devil is one of the most iconic Tasmanian animals. Once found on the mainland, the Tasmanian devil is now only found here and so has come to represent the uniqueness of our island. However, devils not only play an important role culturally, they are also important ecologically. As the largest ground-dwelling native carnivore, they help to stabilise the ecosystem.

This important role of the Tasmanian devil has been highlighted in recent years as the population has crashed in many areas due to the devil facial tumour disease (DFTD) which is slowly spreading westwards. The disease has now reached most of the state, from the east coast to as far west as Mawbanna, causing some regions to have a 95 per cent decline of devil numbers.

Primarily due to this threat, the Tasmanian devil is now listed as endangered on the Tasmanian Threatened Species Protection Act 1995 and the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.

Why do the devil management recommendations delivered through our forest practices system focus on denning habitat?
Tasmanian devils are highly mobile with a home range of 4–27 km² and they use a broad range of habitats. Tasmanian devils are found in all terrestrial native habitats, plantations and pasture, but they avoid extensive areas of pasture with no native vegetation, steep slopes and rocky areas. The density of devils tends to be higher in coastal scrub and sclerophyll forest and lower in rainforest, alpine areas, dense wet heath and open grassland.

Within their range, devils require both hunting habitat (open understorey mixed with patches of dense vegetation) and shelter (e.g. dense vegetation, hollow logs, burrows or caves). This need for shelter becomes very important during breeding.

Protection of all potential devil habitat is unrealistic as they have large home ranges and use a range of vegetation types. A more effective approach is to ensure that potential denning habitat is protected.

Why is potential denning habitat important?
Devils have specific requirements when it comes to denning habitat suitable for raising young. There may be few potential dens in their range, and it is likely that only one or two of these have the right features for raising young. If these are destroyed or the area around them modified, the dens will become unusable or unsafe to leave their young. In areas affected by DFTD, it is now rare for female devils to produce more than one litter before they die of DFTD so loss of dens may mean they never breed. It is important to protect potential denning habitat to ensure that devils are given the best chance to breed and remain in the local landscape.

Identifying potential denning habitat and monitoring its use by devils – A case study
Tasmanian devils’ dens are difficult to confirm without the assistance of tracking technology such as remote cameras, radio/GPS tracking and hair capture traps. Evidence such as devil scats, footprints, prey remains and smell can indicate that a den is being used. However, an absence of these signs is not proof that the area is not being used by devils as studies have suggested that some females may avoid leaving signs in order to better disguise their dens. Consequently all potential denning habitat should be considered when planning a forestry operation.

Chris Ringk, Area Forester for Timberlands, recently contacted FPA Ecologist Jason Wiersma, requesting advice on how to manage potential denning habitat for Tasmanian devils in a plantation coupe. Chris had located a 4 metre high rocky outcrop, with a large cavity running down the centre, in a remnant patch of native forest during a field survey for an FPP. The coupe, in north-eastern Tasmania, had other areas of remnant native forest in some gullies but there was not much potential denning habitat for the devil in the surrounding area.

Rocky outcrops are identified as being potential denning habitat and while Chris was able to exclude the area from the planned operation he was interested to see if a cave he had found in the outcrop was actually being used as a den by Tasmanian devils. Jason suggested that the best way to do this was to use a remote camera. ‘We set the camera up on a tree at the end of November last year, looking towards the crack in the rocky outcrop,’ Jason explained. ‘We left it there for about two months and it was set to record videos, as it is often easier to identify animals from a video than from a still image. Recording took place on the passive infrared setting, which can record images in the dark. Recording is activated by a change in temperature, which can be caused by a nearby animal or by the sun going behind a cloud! This means that most of the footage recorded shows an animal and you don’t have to watch weeks of footage to find them. This camera cost around $250.’

The camera recorded a large number of videos, none of which showed a Tasmanian devil but several of which showed that the rocky outcrop was being used by other...
Investigating a potential Tasmanian devil’s den using remote cameras (continued)

small mammals such as the native long-tailed mouse, pademelon and brushtail possum.

‘This confirmed what we suspected – that the cave was not deep enough to be used by a Tasmanian devil as a maternal den,’ Chris said. ‘However it was still a useful exercise as it showed that the rocky outcrop was being used by other animals.’

On advice from the FPA, Chris placed prescriptions in the FPP to protect and enhance the site by:

- minimising disturbance to the remnant vegetation within 30 m of the site
- ensuring that any plantation trees within 30 m of the site would be felled away from the site and preferably manually felled
- siting the cable skyline operation as far away from the site as practical
- re-establishing native streamside reserves to full Forest Practices Code width for long-term protection of the site.

The site has created a bit of interest from staff and contractors alike who are all keen to see what a potential devil den site ‘might’ look like. ‘It’s definitely something that we don’t see everyday in plantations and I think it’s great that contractors are genuinely interested in the species and its preservation,’ Chris said.

While remote cameras can be useful in confirming that potential denning habitat is actually being used by devils, they can only provide a snapshot in time of the value of that habitat. It should be noted that a negative result at one moment in time does not necessarily mean that the habitat will never be used and is therefore not important for the species. There is still a lot to learn about devil denning ecology, particularly denning by breeding females, so a precautionary approach should be taken when interpreting survey results.

If anyone is interested in using remote cameras to monitor the effectiveness of retained habitat in forestry areas, please contact FPA Biodiversity Program Research Biologist, Dr Amy Koch and FPA Ecologist, Jason Wiersma.

Images captured by the remote camera: (clockwise from top left) long-tailed mouse, brushtail possum and wallabies. These are infrared images taken in the dark and so they are black and white.
The devil’s plantation

Sarah Munks, Biodiversity Manager, Forest Practices Authority
John Webb, FPO, Norske Skog

Unfortunately our threatened species do not know the difference between a plantation and native forest (reserved or unreserved) and this can create a management headache with sometimes serious consequences as illustrated by recent news headlines:

Thousands of koalas have taken refuge in timber plantations in south-east Australia. Australia’s largest exporter of woodchips, Australian Bluegum Plantations, recently had its environmental certification stripped for killing koalas.

Like the koala, the Tasmanian devil has been found to live in or use some plantations. Devil habitat includes all native vegetation communities, plantations and agricultural areas. They require shelter (e.g. dense vegetation, hollow logs, burrows or caves) and open areas to hunt in (open understorey mixed with patches of dense vegetation). An FPA-supported honours study by Jillian Smith found that a wide variety of den types are used by devils but that they appear to prefer dens with surrounding cover, such as that provided by a pile of logs. The large windrows left following the conversion of native forest to plantations provide ideal denning habitat for the devil. Windrows are no longer created on land managed by industrial forest companies and on State forest but may still occur on other private land in Tasmania.

Following the recent devil and quoll field days run by the FPA, Norske Skog initiated a day out visiting various softwood plantation sites to look at potential denning habitat and discuss appropriate management approaches with FPA biodiversity staff members and devil specialists. Norske Skog planners and contractors demonstrated operational issues encountered when managing devil habitat, such as track location and burning debris post-harvest, at three different plantation sites. The first thinning phase of plantation management was identified as the time when operational constraints on the management of devil habitat would be the highest.

Seduced by the scent of pine, the neat workmanship of the feller-processor and the skills of an engine mechanic, FPA specialists were occasionally distracted from the purpose of the day. However, the discovery of a very promising looking den site at one site turned attention back to evaluating the risk of impacting on the devil by disturbing windrows. A risk assessment approach was discussed taking into account location, proximity to native forest, age of the plantation and age and composition of the windrow. The potential for using Lidar hill shade and Lidar 5 m contour to identify windrows that may be used by devils was raised (see image on next page).

Norske Skog recently organised a field day for FPA specialists and other experts to discuss managing plantations for the Tasmanian devil. Large windrows, such as the one above, provide ideal denning habitat for the devil.

FPA ecologist Dydee Mann points out what could be a potential devil’s den in a windrow.
The devil’s plantation (continued)

The Lidar hill shade image clearly shows where ex-native forest windrows and log heaps are present. These Lidar images may help to determine where to look for devil denning habitat in a plantation and, following the results of a field check, where to apply devil habitat management prescriptions in a forest practices plan.

It became clear throughout the day that the importance of habitat within plantations depends on the age of the plantation and the availability of habitat in the surrounding landscape. In second rotation plantations, where the windrows are predominately softwood slash and debris, protection efforts should focus on any native vegetation within and surrounding the plantation rather than on the windrows themselves.

The likelihood of a plantation area being used by devils may also depend on the location of the plantation in the state. Further work on plantation use by devils is needed, perhaps utilising remote cameras (see article in this issue) to identify the different types and location of structures used for denning.

This field day provided an excellent opportunity for industry planners to demonstrate the operational constraints to the management of devil habitat within plantations and to discuss some simple practical solutions which will result in good outcomes for both the devil and those managing plantations. Norske Skog should be commended for their proactive approach that will contribute to the conservation of one of Tasmania’s most iconic endangered species.

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Biodiversity Program updates

There are a few changes in the Biodiversity Program to report on. Tim Leaman, one of the program’s Ecologists, was seconded to work with the Environment and Heritage Unit at DIER for six months. Tim is now back with the Biodiversity Program for two days a fortnight in January and then will return full-time from June. Lisa Cawthen, who was supported during her PhD on bats by the FPA, is back working with the program on research projects.

The Biodiversity Program is also supporting three international university students who have chosen Tasmania as a place to gain some professional experience.

Tierney O’Sullivan

This year the FPA have awarded a student grant to Tierney O’Sullivan, an Honours student in the school of Zoology who is being co-supervised by Amy Koch. Tierney is from the USA, and received a Fulbright scholarship to study eagle breeding behaviour in Tasmania. She is hoping to learn more about how breeding eagles respond to disturbance while they’re on the nest. She is using specialised field techniques to minimise the impact of her presence on the birds. To help with this, Tierney has been shown how to establish observation hides (i.e. a camouflaged tent) and has been given special training on approaching and observing eagle nests by FPA’s raptor specialist Jason Wiersma.

Forest Practices Officer John Webb from Norske spent a day helping Tierney establish some hides, and Norske, SFM and Forestry Tasmania have agreed to provide financial support for this project. This is an exciting project and we wish Tierney the best of luck. We'll provide more news on what she discovers during her project in a future edition of Forest Practices News.

More details on the FPA student grant can be found at http://www.fpa.tas.gov.au/research_and_monitoring/opportunities_for_students

tierney06@gmail.com

(continued overleaf)
I am working as an intern at the FPA for nine months on evaluating the use of hollow-bearing trees and other habitat features retained in harvested and unharvested forest by pygmy possums. I am from Germany and am taking my degree in Forest and Landscape Engineering at the University of Copenhagen in Denmark. I have just started my third year in university and this internship is a mandatory part of my studies. Besides theoretical studies, I have also had a practical ecology placement working with the Forest Hamburg in Germany. My principal duty was organising sensory and playful activities for children to encourage them to experience the forest and nature. I also gained knowledge in forest management and native flora. I have developed a strong interest in conservation and botany during my studies. With this internship at the FPA, I hope to learn about different flora and fauna than you find in Europe. I also would like to gain hands-on experience in forest management and conservation.

As I want to work with conservation and restoration projects when I graduate, I think an internship with the FPA can help my career: I am especially interested in working with the FPA because I can get the chance to get involved in many different projects. Projects I have had a chance to work on include monitoring the wedge-tailed eagle nesting behaviour; monitoring the effectiveness of the keeled snail management plan and developing a planning and management approach for the Tasmanian burrowing crayfish risk mitigation project.

Nora.Ohlsen@fpa.tas.gov.au
I am a French student, studying forestry courses at AgroParisTech, France’s Institute of Technology for Life, Food and Environmental Sciences. I started my degree two years ago, and after a year of agriculture and food-processing classes, I finally began my forestry studies last year. I am taking advantage of a gap year to discover Tasmania’s forests and forest practices system, and thanks to Amy – who had to cope with my lack of paperwork-related skills – I eventually overcame all the obstacles that stood between Tassie and me. My official objective during this internship is to learn about forest management in native forest here in Tassie – especially the way you manage at the same time to ensure an economically viable production of wood and respect the environment. My unofficial one is to try and bring back home a couple of Tassie devils; I still have not given up.

Since I have landed on Van Diemen’s Land I have taken every opportunity to go in the field with FPA staff. I’ve seen possums with Amy and Thismia with Anne, checked a coupe with Mick and several times I joined Peter when he left to monitor sinkholes or give advice on watercourse protection. All of this in addition, of course, to the wedge-tailed eagle nest survey I took part in, helping Tierney, a UTas honours student, to monitor the breeding behaviour of this emblematic bird of prey.

I have been surprised by how Tassie looks similar to France’s countryside: from afar, if you don’t look at tree species. The hilly landscapes, grazing cattle and dispersed farms remind me of the central region of France. But what is true for the land is not true for the weather: even in the worst part of Brittany we don’t have such uncertainties. There’s one upside though: I have not seen as many rainbows in twenty years in France as in one month and a half in Tasmania!

As a conclusion, I will say that my experience so far has been highly enjoyable, and I have no doubt it will only get better. I am really looking forward to discovering all of Tasmania’s forests!

Anthony.Rispal@fpa.tas.gov.au
We held our first ever forest practices photo competition in 2010 and it was such a success that we have decided to run it again in 2014. Hopefully some of you will have some time over the summer and autumn to take some photos and send them in to the competition. The winners will be announced in the May issue of Forest Practices News. There will be prizes for each category and one overall winner.

The winning photos of the first competition have been used in many FPA publications, including the cover of our annual report. So this is you chance for fame, if not fortune!

Who can enter?
Anyone can enter. To eliminate any personal bias, the judges will not know who took the photos that they are considering. This means that even FPA staff can enter!

What kinds of photos can I enter?
You can enter as many photos as you like in any or all of the following categories:
- Working in the forest
- Natural values – flora
- Natural values – fauna
- Natural values – rocks and water
- Cultural values
- Forested landscapes
- Quirky

What format should the photos be in?
The photos must be in electronic format. Please ensure that the images are of high enough resolution to print well – email Chris Grove if you are unsure.

How do I enter my photos?
Please download the electronic form on the news section of the FPA website’s home page, fill it in and email it to Chris Grove, attaching the electronic image(s). Please make sure that the file name matches the name you have entered on the form. Entries must be received by close of business on Monday 14 April 2014.

If you do not have internet access, please call Chris Grove on 6165 4082.

What are the conditions of entering the competition?
Entry is free, but the FPA may use your photo in future publications. If we do use your photo, you will be acknowledged.

What are the prizes?
There will be a small prize for the winner in each category, and a bigger prize for the overall winner. The winning photos will be published in a colour supplement of the April issue of Forest Practices News.

Who will judge the competition?
The competition will be judged by a panel including FPA staff members and external judges.

Contact:
Chris Grove@fpa.tas.gov.au

This image from Nigel Richardson won the prize for the ‘Forest landscapes’ category and was also the overall winner in the first photo competition.