Let science prevail in conservation and forestry

A submission to the Legislative Council Select Committee on the Tasmanian Forests Agreement Bill 2012

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December, 2012

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The author's position statement

I consider the Tasmanian Forests Agreement Bill 2012 to be fatally flawed. The reservation proposal at its heart arose through the gross abuse of conservation science. Perversely, and largely because of this fraudulence, the Tasmanian Forests Agreement (TFA) is likely to deliver outcomes that are the polar opposite of its stated intention (as articulated in the Bill's *Schedule 1, Vision for Tasmania's Forests*).

I therefore recommend that the Bill be rejected in its entirety: rewarding bad behaviour is not good public policy. In its place, Parliament should re-engage with the State's own conservation and forestry professionals in initiating transparent, honest, state-wide, tenure-blind and science-based processes for (a) identifying and fixing any genuine gaps in the existing reserve network, and (b) entrenching a model for native forestry that recognises the important contribution that it can make to a coherent and effective nature conservation (and carbon sequestration) strategy.

Summary

I am driven to write this submission by the desire to see science, critical thinking and rationality play a more central role in developing an ecologically sustainable future for us all. In Tasmania, nowhere is the lack of these attributes more evident than in the politics of forestry and conservation. I see the Tasmanian Forests Agreement (TFA) as the latest manifestation of this phenomenon – and the most threatening, too, because of its calculated abuse of science aimed at deceiving the Tasmanian public into believing there is more substance to the agreement than is actually the case.

It is claimed by some proponents of the TFA – and taken for granted by many in wider society – that the reservation proposal at the agreement's heart has a sound basis in conservation science, and that the proposal has been scientifically validated accordingly. In this submission I demonstrate that this is very far from the truth, and that the initial reserve selection process and subsequent validation exercise were parodies of due scientific process designed to deliver a preconceived outcome conforming to an essentially political agenda. I vouch that any formal, independent scientific peer-review process of the underlying documents would corroborate this statement.

My submission mainly deals with the science of selecting areas for reservation. I conclude that the Environmental Non-Governmental Organisations' (ENGOs') concept of high-conservation-value forests (HCVF) has no scientific credibility: labelling a forest HCV tells us nothing about its true conservation value or about its need for reservation.

It is important also to be aware that, while the TFA deals only with reservation (as befits the doctrine of the proponents), this is but one aspect of an effective conservation strategy. Indeed, effective forest conservation relies as much on what happens outside reserves as within them, because of the scales of space and time over which ecological processes play out. I contend that, had the proponents followed due scientific process rather than dogma, they could have delivered a TFA worth supporting, both for its strategic reservation component and for embracing the conservation benefits that can accrue beyond the reserve boundary with sympathetic management of native production forests.

Tragically, the conspiracy of abuse and subversion of science means that, in my opinion, the TFA is destined to deliver perverse outcomes that are the polar opposite of its stated objectives. Through reliance on massively unstrategic reservation and on compensating the forest products sector for the concomitant loss of productive capacity, it will make real nature conservation gains harder to achieve, all the while reducing the prospects for socially acceptable and ecologically sustainable forestry. Polemicists will continue to monopolise the media. The forestry wars will not end.

In the meantime, the slack in local production may be picked up through importation of wood products from outside the region. Given that Australia already has a $2 billion trade deficit in wood products, I suggest that the slack is most likely to be picked up by our near neighbours in the Pacific, most of whom have much lower environmental standards than we do and who still have unharvested green banks in the region: they're called tropical rainforests. This is no idle speculation: when the Western Australian government bowed to political pressure and reduced harvesting in its native forests, at least one Australian timber trader switched to sourcing his wood from the rainforests of New Guinea instead.

If the conservation benefits accruing from the TFA are, as I maintain, largely delusory, I also have good reason to consider the carbon sequestration benefits equally so, because they ignore the dominant carbon benefit of native forestry, which is wood's market substitution for higher-emissions products such as aluminium, steel, concrete and cement. However, I will leave others more qualified in this area to make this case.

I have my own views on what has driven the original proponents of the TFA to their devious tactics, and why it is that society as a whole is largely oblivious of, or indifferent to, the sham science that underpins the TFA; but these views are not the focus of my submission. However, I note here that, in my view, the engineers of this agreement have shown extreme contempt for due process, both scientific and political, and in doing so have rendered the outcome essentially illegitimate.

My recommendations are that:

1. the Bill be rejected in its entirety. Rewarding bad behaviour is not good public policy.
2. the proponents of the TFA be publicly exposed and condemned for conspiring to perpetrate such a grand deception on the Tasmanian public.
3. a publicly funded campaign be initiated, to inform the Tasmanian public about the strengths and weaknesses of existing conservation and forestry practices, regulations and policies.
4. parliament re-engage with the State's own conservation and forestry professionals in initiating transparent, honest, state-wide, tenure-blind and science-based processes for (a) identifying and fixing any genuine gaps in the existing reserve network, and (b) entrenching a model for native forestry that recognises the important contribution that it can make to a coherent and effective nature conservation (and carbon sequestration) strategy.

About the author

I have a PhD in forest ecology, a MSc in forestry and its relation to land use, and a BSc in biological sciences specialising in conservation. Though I no longer work directly in the fields of nature conservation or forestry, I have more than a decade of experience working as a forest conservation biologist, planner and environmental manager in Tasmania, having been employed by Forestry Tasmania in these roles from 2001 to 2012. I also have many more years of experience from before this time in working in the fields of nature conservation and forestry overseas. I have an academic publication record to match this experience, principally in the form of peer-reviewed papers in scientific journals such as *Forest Ecology and Management*, *Biological Conservation* and *Journal of Insect Conservation*. I have also written numerous articles for a broader readership, for instance in natural history magazines and on-line.

I was a member of the Wilderness Society until I moved to Tasmania in 2001 and noticed the disparity between their version of reality and mine. I was a member of the Australian Conservation Foundation until they joined with the Wilderness Society and Environment Tasmania in promoting *Places for Protection* and the ensuing 'peace process' that resulted in the TFA.

Preamble: Conservation *versus* forestry or conservation *and* forestry?

In this submission, I will want to frequently refer to conservation and forestry in the same phrase. This is because the two issues are linked in so many ways. In some people's minds they are polar opposites. In mine they are merely different angles of the same phenomenon of land stewardship. Rather than referring to the current impasse as the 'conservation' issue or the 'forestry' issue, I prefer to dub it the **'conservation-and-forestry' issue - CAF**.

It is human nature for people to believe only what they want to believe. The diversity of beliefs within society on a particular issue is generally enriching for society as a whole. But when an issue becomes contentious, as CAF has, beliefs can polarise. People become selectively gullible, and selectively closed-minded, in their thinking patterns. In conflict situations, particular subcultures defined by a common belief-system provide myths and fallacies with fertile conditions for propagation and for rapid acceptance as fact; while contrary messages fall on deaf ears or are treated with outright hostility – the syndrome of 'if you're not with us, you must be against us'. Meanwhile, lying and deception can be systematised and conscripted into serving the cause – justified as a means to a legitimate end.

Some lies and deception, and their more innocent cousins the myths and fallacies, only need to be just believable enough to instil the intended sense of unease or conspiracy – the sense that 'there's no smoke without fire'. Others are dressed up to sound like plain common sense. The ideas they portray, and the language used to portray them, can be given so much airing in the media that the fallacies spill over into the mainstream and are normalised. The broader public, who may have had little interest in the underlying issue, now unquestioningly and unwittingly accepts these as outright truths. Show me any daily compilation of CAF-related media articles and I will show you the fallacies in almost every single article.

Thus, with the media's connivance, we are led to believe the Tasmanian CAF war has only two 'sides'. On the one side we have loggers and millers – the utilitarians, ostensibly concerned only about jobs and dollars. On the other side we have environmentalists, who call themselves conservationists, and who are ostensibly concerned more about trees and the planet. Both 'sides' in this war have their own set of values, each built partly on lies, deception, myths and fallacies: after all, truth is the first casualty of war. Though we may not understand the rationale for the war, many of us feel pressured to pin our allegiances to one side or the other.

At this point I have to say that from where I stand, the conflict appears very asymmetrical: one side does most of the attacking, while the other does most of the defending. Masters of the attack are the ENGOs. They would like the rest of us to believe that they occupy the moral high-ground in this conflict, and act accordingly. I contend that the reality is very different and that, perversely, their tactics are counterproductive for genuine improvements in CAF. That's why I refuse to call them genuine conservationists.

Two or three years ago, the relentless campaigns of the ENGOs eventually persuaded the utilitarians, under extreme duress, that they could either negotiate or capitulate. It is in this environment that the Tasmanian Forests Agreement (TFA) was formulated. Given what I have written above, it should come as no surprise to hear that I believe the TFA was founded on little more than CAF fallacies – a house of cards just waiting to collapse.

Amid the media coverage given to the TFA, there has been little public recognition that there is also a middle ground: people who accept that forests can be utilised for human ends, on the condition that utilisation goes hand-in-hand with conservation. This middle way (let's call it the 'stewardship' option) is very different from the TFA's 'compromise' solution of more reservation and more support for the forest products sector. I contend that the stewardship option offers the best escape route from the CAF conflict, as well as being in the best interests of CAF.

I reason that if we peer into the heart of the TFA through examining the documents underpinning the CAF claims (particularly those concerning HCVF), we will be able to explore and expose its many fallacies. This is what I do in the first three sections of my submission. Having got this seemingly destructive part of the process out of the way, I hope that we will be in a much better position to consider a more rational, scientifically defensible approach that can chart a more productive and durable way forward – one that recognises that CAF works best when driven by science, not fallacy. This is what I will introduce in the fourth section of my submission – though I cannot offer comprehensive coverage of this important topic here.

I have also attached some appendices. The first one provides some recent research-based evidence of the conservation benefits accruing from existing CAF practices. The second and third are two of my published essays in which I tackle some of the ENGOs' fallacies, particularly those concerning HCVF, and suggest some steps that could be taken to develop a more transparent, socially inclusive and rational way forward for conservation and forestry. The fourth is a compendium of the letters on forestry and conservation matters that I have written to the editors of Tasmania's newspapers.

The 'let's replace fallacy with science' message really needs to be heard. That science should lie at the heart of sensible CAF (i.e. stewardship) is already well understood by professionals working in this area, including many employed by the State and Australian governments – but not, it seems, by broader society nor by those prosecuting the CAF 'wars'. People need not understand the details of the science, but it is important that they appreciate that any agreement on CAF is built on firm science-based foundations and not on shaky fallacies. Science should be given the chance to provide those foundations.

I say, let's give peace a chance by giving science a chance!

Section 1: *Places for Protection* – the ENGOs' ambit reservation claim

In June 2011, the Australian Conservation Foundation, Environment Tasmania and The Wilderness Society released a joint paper, *Places for Protection*[1], to justify their choice of areas of State forest for inclusion as 'high conservation-value forest' (HCVF) reserves. The document appears to be in response to increasing criticism of the lack of transparency in their HCVF selection process. For instance, earlier in the same month the Legislative Council Government Administration Committee 'A', reporting on '*The impact of the proposed transition out of public native forest management and harvesting in Tasmania*' noted (p35) that '*The methodology used by the ENGOs to identify the HCVF areas as part of the SOP is ambiguous and appears to be largely based upon ideology rather than scientific methodology or reasoning*'[2].

In this section of my submission I offer a critique of the ENGO approach based on a consideration of its scientific merits. I identify many flaws – some trivial, but many fundamental. In the interests of keeping this critique to a manageable length, I focus on the ENGOs' overall approach to selecting areas for reservation. Six fundamental deficiencies are covered, which, in aggregate, entirely annul their own HCVF concept:

1. Assumption that reservation is the only means of securing the conservation values identified
2. Restriction of land-base for selection of HCVF to a single land tenure
3. Locking-in of HCVF areas before formally evaluating their relative or absolute conservation values
4. Choice and weighting of conservation criteria for evaluating HCVF areas
5. Failure to relinquish low-scoring areas in the light of results of the evaluation process
6. Failure to act on a comparison of the scoring performance of HCVF areas versus other unreserved areas of State forest

These deficiencies are considered in turn below.

1. Assumption that reservation is the only means of securing the conservation values identified

The HCVF concept, as espoused by the ENGOs, is that high conservation values can only be secured through reservation. This is a very simplistic view, and goes against conventional conservation science thinking. There are some values that probably *can* only be secured through reservation – wilderness, for example, as is ably reserved in the Tasmanian Wilderness World Heritage Area (TWWHA)[3]. For many other values, a

[1] http://www.wilderness.org.au/pdf/Tasmanias-Native-Forests-Places-for-Protection

[2] http://www.parliament.tas.gov.au/ctee/Council/Reports/GovtAdminA_TransitionOutofPublicNativeForets%20-%20Report.pdf.

[3] http://www.environment.gov.au/heritage/places/world/tasmanian-wilderness/index.html

mixture of reservation and sympathetic management (e.g. management-by-prescription under the Forest Practices Code[4]) can suffice; while some conservation can be achieved entirely without reservation (e.g. rare and threatened yet disturbance-tolerant or fire-adapted plants). The Regional Forest Agreement and the Environmental Protection and Biodiversity Conservation Act (1999) specifically recognise these principles[5], which are translated into practice through the Forest Practices Code (which applies to both public and private land). The ENGO interpretation of HCV also stands in contrast with that of the Forest Stewardship Council and WWF. These organisations recognise that the values inherent in HCVF do not necessarily require reservation. For instance, in 1997 WWF produced a report, *High Conservation Value Forests: The concept in theory and practice*[6], in which it was stated:

> '*There has been some debate about whether HCVFs should be declared 'no-go' zones for logging or whether they can be subject to controlled logging. The concept was originally developed within a sustainable forest management approach (i.e. FSC certification) and was never intended to preclude all forms of logging in all cases. Rather, it is designed as a tool to enable forest managers to develop conservation-based management plans. The key is to base all management decisions on the preservation or enhancement of the high conservation values identified, and to use the Precautionary Principle when in doubt. In some cases this may mean formal protection of the HCVFs, in other cases it may mean deferred logging, and in still other cases sustainable extraction methods may be appropriate. Carefully logged areas can still contribute to conservation by, for example, providing wildlife corridors between protected areas.*'

In Appendix 1, I provide some summaries of recent Tasmanian landscape ecological research that does indeed support the case for the paradigm of 'conservation through a combination of reservation and off-reserve management' that is at the heart of the Regional Forest Agreement.

2. Restriction of land-base for selection of HCVF to a single land-tenure

In considering areas for reservation as HCVF, the ENGOs restricted their selection to State forest. This goes against conventional conservation science practice because (a) it does not allow forest on other tenures to be considered as potential HCVF, and (b) it does not allow the ENGOs' choice of HCVF to be put in its necessary context. In reality, State forest (and Crown land more generally) is much better provisioned with reserves (relative to known threats to nature conservation values) than is private land. Forest, in

[4] http://www.fpa.tas.gov.au/

[5] http://www.environment.gov.au/epbc/about/index.html

[6] http://wwf.panda.org/what_we_do/footprint/agriculture/palm_oil/publications/?93560/High-Conservation-Value-Forests-The-concept-in-theory-and-practice

its turn, is much better reserved than non-forest ecosystems[7]. For instance, the JANIS criteria under which the Comprehensive, Adequate and Representative (CAR) reserve system was established[8] under the Regional Forest Agreement (1997)[9],were based on a set of conservation values that sought comprehensiveness, adequacy and representativeness in the reserve system for all Tasmania's forest types. While the CAR reserve system encompasses forests on both Crown and private land, the emphasis was on seeking reservation of private land only where overall targets could not be met on Crown land. Furthermore, a supplement to the RFA in 2005[10] saw further extensive reservation of State forest, with an emphasis on reserving more oldgrowth wet eucalypt forest. Most remaining unattained reservation targets can only be met through increased reservation on private land. DPIPWE's Protected Areas on Private Land program[11], which contributes towards Australia's strategic National Reserve System[12], seeks to fill in gaps left by these previous processes.

3. Locking-in of HCVF areas before formally evaluating their relative or absolute conservation values

The areas of State forest considered by the ENGOs as qualifying as HCVF were delineated without a formal evaluation of their relative or absolute conservation values. It is only in retrospect that a formal (and far from conventional) evaluation was conducted (see point 4 below). This goes against conventional conservation science practice because it does not allow for delineation to be based on an objective evaluation of relative or absolute conservation values. It assumes that all delineated areas have high conservation values; and rationally, the converse assumption ought to apply: that high conservation values are absent from excluded areas (other than areas already reserved through other processes). These *a priori* assumptions are extremely unlikely to hold up in a formal analysis (and did not hold up in the ENGOs' own *post-hoc* analysis – see points 5 and 6 below).

4. Choice and weighting of conservation criteria for evaluating HCVF areas

There are many means of choosing and weighting criteria for evaluating the conservation values of different parts of the forest estate. Opinions will differ among experts on what constitutes a scientifically robust choice in any particular circumstance. But the ENGOs' choice puts them outside the domain of conventional conservation science, because they chose selection criteria for reservation that give most weight to the values espoused by the environmentalist community rather than to conservation biologists. Their scoring

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[7] See, for example, Mendel, L.C., Kirkpatrick, J.B. (2002). Historical progress of biodiversity conservation in the protected-area system of Tasmania, Australia. *Conservation Biology* **16**: 1520-1529.

[8] http://www.daff.gov.au/rfa/publications/reserve-system

[9] http://www.daff.gov.au/forestry/national/forest-mgnt/conservation

[10] http://www.daff.gov.au/forestry/national/info

[11] http://www.dpiw.tas.gov.au/inter.nsf/WebPages/DRAR-7T8VB6?open

[12] http://www.environment.gov.au/parks/nrs/index.html

system[13] favours forest with attributes that are already well represented in the reserve system, and particularly in the TWWHA, such as unroaded areas, tall eucalypt and rainforest. The original delineation of the TWWHA was based on an assessment of a composite of natural and cultural criteria[14]. The ENGO approach downplays characteristics of greater interest to conventional conservation biologists, such as threatened species – only ten threatened fauna species get to contribute to the HCV score, and only at the rate of one point each out of a total maximum score of 38. If the forest is close to existing reserves it gets extra points under the ENGOs' scheme. The concept is presumably that the additionally reserved forest will 'buffer' the already-reserved forest – but this begs the question as to whether there is then a need for more reservation to buffer the additionally reserved forest, *ad infinitum*. Reserves do indeed benefit from being buffered from 'hostile' land-uses such as agriculture and urban land; and managed native forest can be considered eminently suitable for this buffering purpose. This being the case, it would have made more ecological sense to award more points the *further* an area of forest was from an existing reserve, because this would help identify geographical gaps in reserve coverage and would be a likely surrogate for biological distinctiveness and vulnerability.

5. Failure to relinquish low-scoring areas in the light of results of the evaluation process

The *post-hoc* evaluation process employed by the ENGOs resulted in no revision of the proposed HCVF areas to take account of the wide range of HCV scores identified across these areas (apparently 0-29) and across the remaining unreserved area of State forest (also apparently 0-29). This goes against conventional conservation science practice, which would have used the derived scores to determine one or more cut-off points along the continuum of scores. These cut-off points would be used to classify forest into categories differing in their conservation values (e.g. high and low; or high, medium and low). This classification would enable a sub-set of the area to be selected as HCVF, with the remaining area deemed not to qualify. The ENGOs went as far as to combine similar scores into score-groups, but they used these groupings only to aid data-presentation. Figure 1 is a reinterpretation of their data, used here to demonstrate the distribution of score-classes within their HCVF area. It is unfortunate that their lumping of scores was non-linear. For instance, the '8 to 10' and '11 to 13' categories each represent just three consecutive scores; the categories on either side of these two represent four or five

[13] The ENGOs' criteria are: remoteness (>250 m from roads and tracks scores 2 points; > 500 m scores 4 points); World Heritage value (Geoff Law 2009 version – scores 2 points); old growth (2010 ENGO GIS layer – scores 4 points); carbon (FT tall eucalypt and rainforest layer – scores 3 points); reserve buffer (<1 km from formal reserve – scores 2 points); National Estate (Tasmanian National Estate layer – scores 2 points); and finally ecological values: floral bioregion distinctiveness (centres of endemism for flora species; vegetation community richness; primitive and relictual flora – scores 2 points for each layer); threatened communities (Tasveg with DPIPWE list and 50 m buffer – scores 4 points); and fauna key species habitat ranges (10 threatened species selected from those mapped by FPA and with records from NVA – score 1 point each).

[14] http://whc.unesco.org/en/criteria/

consecutive scores; while the highest category of all ('19 to 29') comprises all eleven of the scores in the top third of the overall score-range. This has prevented closer scrutiny of how these scores were distributed across this wide range. Nevertheless, it is apparent that nine-tenths of the entire HCVF area has scores below the top third of scores attained (i.e. 0-18), while two-thirds of the area has scores in the lower half (i.e. 0-13), and nearly half of the area has scores in the lowest third (0-10). The failure of the ENGOs to relinquish even the low-scoring areas as a result of this evaluation demonstrates a lack of objectivity in their approach.

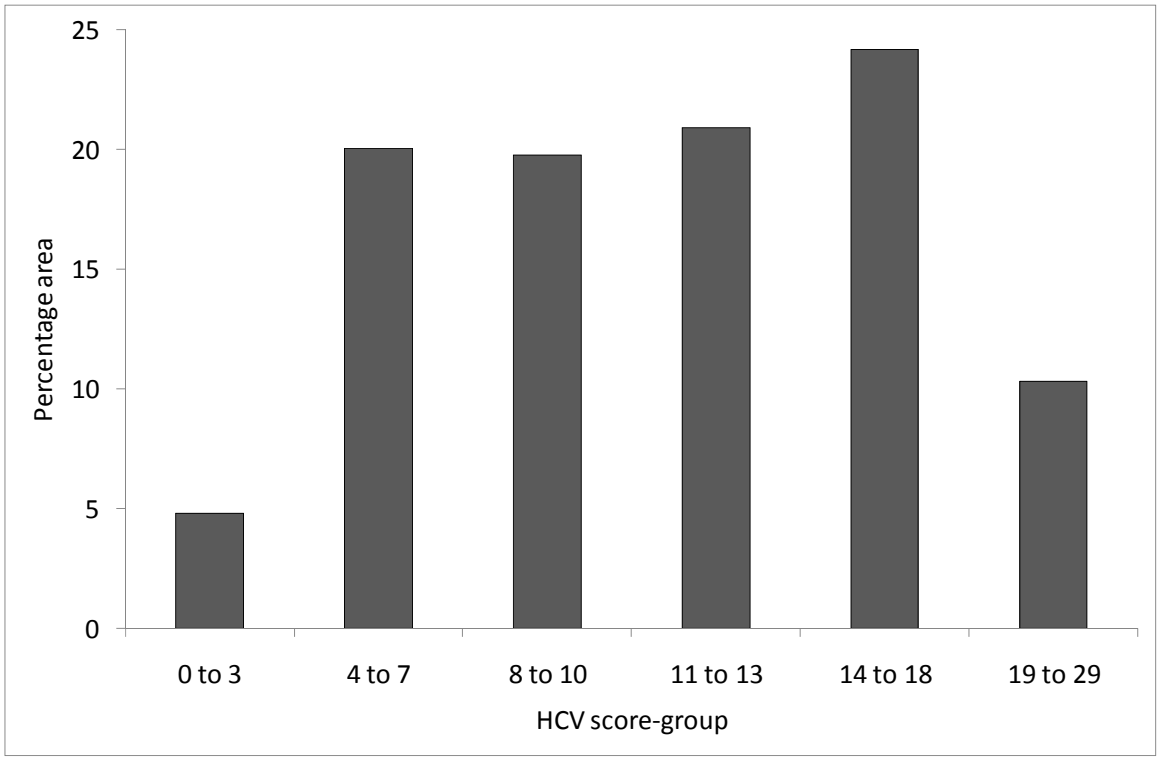

Figure 1. Percentage of HCVF area by HCV score-group. Data are derived or deduced from those presented in *Places for Protection*.

6. Failure to act on a comparison of the scoring performance of HCVF areas versus other unreserved areas of State forest

The evaluation process employed by the ENGOs resulted in no revision of the proposed HCVF areas to take account of the equally wide range of HCV scores (also apparently 0-29) that were also identified across the remaining unreserved area of State forest. This goes against conventional conservation science practice, which would have invoked a tenure-blind (or in this case reservation-status-blind) analysis of hotspots of high-scoring areas, followed by a gap analysis to identify which combination of biogeographic regions and ecosystem types are deficient in already-reserved hot-spots of high-scoring areas. Figure 2 enables the implications of this failure to be examined.

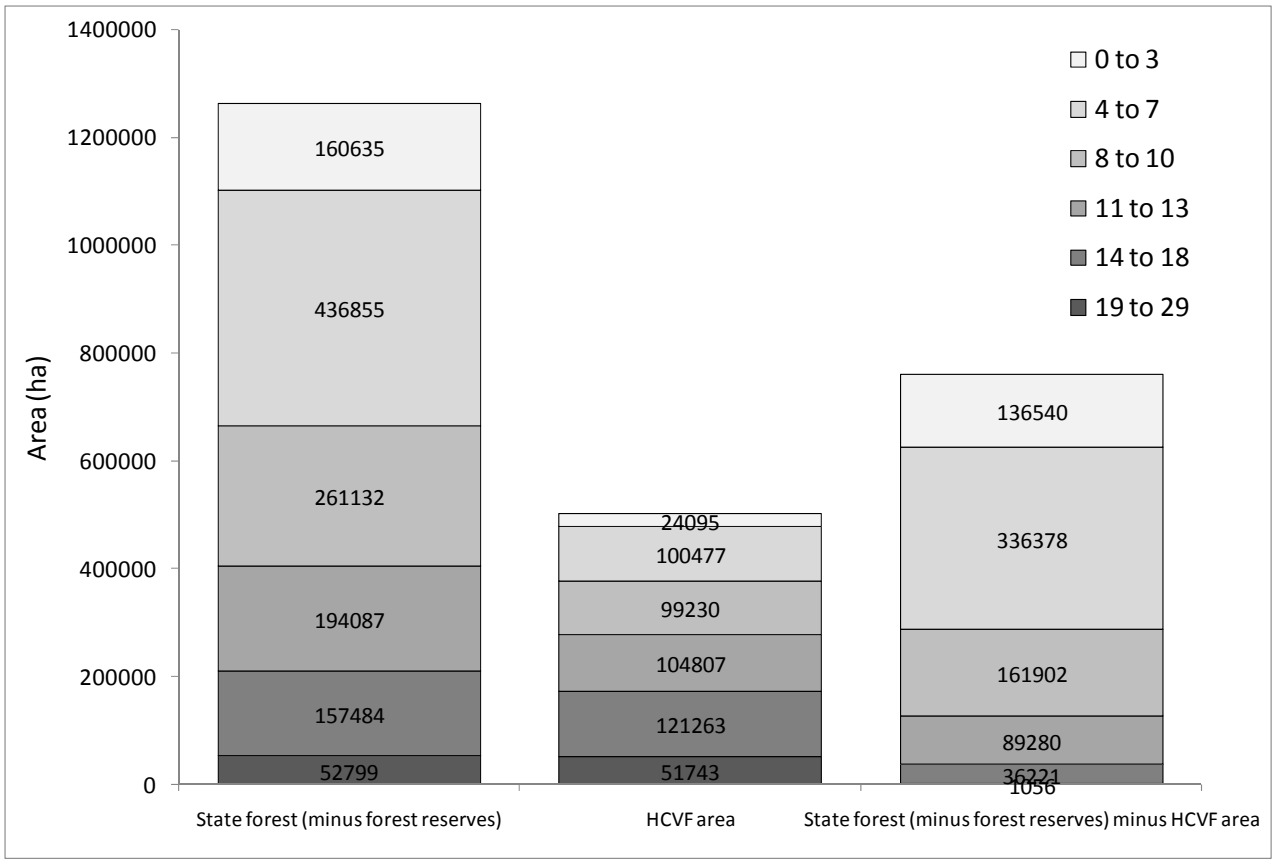

Figure 2. Percentage of HCVF area by HCV score-group, calculated for three different portions of State forest. Data are derived or deduced from those presented in *Places for Protection*.

The ENGOs' formal *post-hoc* evaluation process did indeed demonstrate that their subjective *a priori* selection had 'worked', to the extent that it captured nearly all the unreserved State forest with HCV scores in the top third of the range attained. However, the *a priori* selection also captured a much larger area of lower-scoring forest, right down to forest scoring in the '0 to 3' category (as discussed above). Capturing some lower-scoring forest would be inevitable when delineating the higher-scoring areas, and the ENGOs have argued that some low-scoring areas are considered important for rehabilitation of their former conservation values. However, the proportional representation of lower-scoring forest in the HCVF area is surely not merely a consequence of these two effects. In any case, the ENGOs' evaluation process failed to capture over half of the available State forest in the middle third of scores (11 to 18). Leaving aside the prospect of a future ENGO claim to capture this remaining area in a further round of reservation, this inconsistency further demonstrates the lack of objectivity in their approach. Either the relativity of these scores has some significance for the ENGOs in ascertaining reservation priority (in which case the current choice of HCVF areas is invalid) or they don't (in which case the ENGOs' entire process of evaluation is futile).

Table 1 summarises the distinctions between the ENGO approach and a conventional approach.

Table 1. Comparison of the ENGO approach to reserve selection with a conventional scientific approach.

Conventional scientific approach	**ENGO approach**
1. Choose selection criteria for conservation values of interest, and justify choice and individual weightings for each criterion on the basis of sound conservation biology principles 2. Subject entire land-surface (i.e. whole of Tasmania) to a spatial analysis of the resultant scores 3. Examine the range of scores present across the land-surface and choose an appropriate cut-off for high-scoring conservation areas 4. Identify high-scoring conservation areas that are not already reserved or otherwise low-risk 5. Identify which combination of biogeographic regions and ecosystem types are deficient in already-reserved high-scoring conservation areas 6. Select areas for reservation that contribute optimally to infilling these gaps, having regard for existing tenure and land-use boundaries	1. Compile an *a priori* list and map of HCVF based on a subjective analysis of values 2. Choose *post-hoc* selection criteria for reservation that give most weight to the values espoused by the environmentalist community 3. Restrict analysis to State forest that is not already reserved, and ignore all other tenures and land-uses 4. Present figures and maps summarising the range of scores (0-29) present across the *a priori* HCVF areas and elsewhere on non-reserved State forest 5. Reaffirm that all pre-selected HCVF areas still meet the criteria for reservation, regardless of their scores or positions in the landscape relative to other reserved areas

Summary of Section 1

The ENGO approach can tell us little about the conservation significance of the areas they have targeted for reservation. It cannot even be used to justify reservation of HCVF on the basis of the ENGOs' own criteria, without accepting that under the same logic, every bit of forest in the entire State should be reserved at the same time. The approach lacks any scientific credibility, and ought to be considered as no more than a salutory lesson in how not to do science. Public policy on forest conservation determined on the basis of the ENGO claim seems set to deliver perverse conservation outcomes that are almost the antithesis of the stated intent of that policy.

Section 2: ***The West Report*** **– the ENGOs' ambit reservation claim verified – or not?**

As manager of Forestry Tasmania's Sustainability Branch early in 2012, I helped prepare an internal report critiquing the (so-called) Independent Verification Group's set of reports[15], collectively known as the West Report. My area of responsibility was to critique the *Summary Report of Conservation Values*, prepared by Brendan Mackey, including critiquing most of the sub-reports that had been commissioned by Mackey and which were supposed to feed into his report. I was also asked to note the extent to which the findings in Mackey's report had been incorporated into the overall Capstone Report, prepared by IVG Chair Jonathan West, and to comment on the extent to which Mackey had followed his own *Forest Conservation Workplan*. Others in Forestry Tasmania were given responsibility for critiquing other sub-reports commissioned by Mackey. For instance, Report 8A on carbon values was critiqued by Martin Moroni. Yet others in FT were given responsibility for critiquing other reports that fed into the Capstone Report, i.e. those that related to socio-economic and social values.

In this submission the areas for which I had responsibility, and for which I felt there was a need for critical appraisal, are listed below in the order in which I comment on them:

- Capstone report
- Forest conservation work plan
- Summary report of conservation values
- Report 1A: Comprehensiveness
- Report 1B(i): Representativeness: vascular plant composition
- Report 1B(ii): Representativeness: habitat productivity
- Report 2A: Priority flora
- Report 2B: Priority fauna
- Report 3A: Locations of refugia for ancient and relictual invertebrate fauna
- Report 3B: Paleo-endemic plants
- Report 3C: Eucalypt diversity
- Report 3D: Fire refugia
- Report 5B: Giant eucalyptus forests
- Report 5C: Evolutionary significance
- Report 7A: Distribution of large marsupial carnivores

Some of the sub-reports are expertly written by truly independent experts, but most are not. In aggregate, these reports totally fail to validate the ENGOs' claims on HCVF – although many would not spot this from a cursory reading. This is because the author of the summary report has sunk to shameful depths in order to deceive the naïve reader that the ENGOs' claims have some scientific credibility and legitimacy. Fortunately I am not a naïve reader and have been able to use conservation science to expose the fraudulence.

[15] http://www.environment.gov.au/land/forests/independent-verification/report.html

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Report Title: *Forest conservation work plan*
Authors: Brendan Mackey
Report Number: Appendix 5 (part)
My subjective quality rating: E

Essential findings:

- The job of verification will be focused on the ENGOs' 572,000 ha, with very limited consideration of conservation values beyond their boundaries (supposedly because of constraints imposed by the TOR).
- Conservation values will (supposedly) be pulled together under the headings of comprehensiveness, adequacy and representativeness.
- The values of the ENGO areas will (supposedly) be considered in terms of their contribution to the National Reserve System and to meeting Australia's commitments under various domestic policies and international treaties.
- Verification will (supposedly) include examining '*whether the values found are best protected through reservation*'. The TOR imply that verification will extend to a consideration of which areas *within* the ENGO reserves warrant reservation, in the event that not all areas of all ENGO reserves are found to do so. However, this point gets almost no mention in the plan.
- Verification will (supposedly) consider whether there are '*alternative locations on public forest outside the ENGO 572,000 ha which have comparable values*'.

Key flaws and issues:
Mackey writes that the IVG is tasked with '*verifying whether areas within the ENGO-nominated 572,000 ha of native forest possess the conservation values claimed by ENGOs and whether those values would be best protected through formal reservation*'. A scientifically objective approach to working through this TOR would start with a state-wide, tenure-blind assessment of the distribution of conservation values across Tasmania, followed by one of two alternative steps. If one were trying to optimise the representation of high conservation values in reserves across Tasmania, then the next step would be a complementarity/gap analysis to identify which as-yet unreserved parts of the state would contribute most to building a more comprehensive, adequate and representative reserve network. If, on the other hand, one's task was politically constrained to considering the scientific validity of reserving particular pre-selected areas, as in the present case, then the next step would be an analysis of the extent to which those identified conservation values across Tasmania intersected with the ENGO areas, followed by an assessment of the extent to which the conservation values of the intersected areas were already reserved elsewhere. Only then could one pass judgement on (i.e. validate) the ENGOs' claims.

Mackey made his primary intellectual mistake in not following the above approach. He claims that it wasn't in his TOR to explore conservation values beyond the ENGO areas (but elsewhere says that his work is restricted to public forested land). If that is really what he believed, then he should have turned down the job because there is no way for

science to validate the ENGOs' claims without looking beyond the boundaries of their proposed reserves. My reading of the TOR, and of Mackey's own words, is that there was no such constraint, other than the time required to do a decent job. If time was considered insufficient to do a decent job (as I believe it would have been), then the honest response would be to turn the job down. Instead, Mackey ploughs on up a scientific blind alley that ought to raise serious questions about his credibility at ANU and across the scientific community. In effect, all he has promised to deliver is a slightly more scientific version of the ENGOs' own process of assigning conservation values to their chosen reserves *post hoc*.

It is worth noting, too, that the TOR imply that verification will extend to a consideration of which areas *within* the ENGO reserves warrant reservation, in the event that not all areas of all ENGO reserves are found to do so. Mackey makes next to nothing of this important point in the plan.

Much of the rest of this document is a review of principles of forest conservation biology, planning and policy. It comes across as a foundation of good, valid science tinged with an anti-forestry sentiment that presents as logical inconsistencies that would probably only be picked up by those of us who are attuned to spotting them.

A weakness of the plan is that it doesn't itemise the tasks or TOR for the various sub-projects that contribute to its implementation. This makes it difficult to assess the degree to which the various sub-projects have delivered what they were supposed to do. Reading these sub-reports, I am left with the suspicion that their authors were directed towards following certain approaches that suited Mackey's objectives more than they suited the scientific validation process.

Report Title: *Summary report of conservation values*
Authors: Brendan Mackey
Report Number: FC
My subjective quality rating: E

Essential findings:

- My personal summation of the findings of the various sub-reports is that, in their entirety, the ENGO reserves do indeed have conservation values – but then so does almost anywhere in Tasmania. They are biased towards productive wet forests and towards ecosystems that are already well-reserved. They do little (if any) better than any random unreserved area of Tasmania would in capturing important conservation values (other than the rather more subjective natural heritage-type values that are a feature of the reserves bordering the WHA and in the Tarkine). Where they do capture important values, these are mostly in small areas within larger reserves, often comprising vegetation-types, assemblages, communities or species that are at little threat from native forestry. Having said that, within the ENGO reserves' 572,000 ha there are very likely to be some areas

that really do merit reservation, but this report doesn't enable such areas to be readily identified because of the methodologies employed.

- Mackey's take on it is that '*the ENGOs' claims are largely substantiated*', effectively because the ENGO reserves, in aggregate, have been found to contain conservation values and would increase the representation of those conservation values in the National Reserve System, while helping Australia to deliver on various national policies and international agreements.

Key flaws and issues:
The really key flaw is in the way Mackey chooses to interpret the TOR. This constrains (misguides?) the authors of the sub-reports that feed into this one and enables him to present the ENGO claim as a scientifically 'validated' *fait accompli*. I see this as a gross perversion of the scientific process.

Mackey claims that his brief is to consider only public land (though I see no mention of this in the TOR); even then, for the most part he considers only the ENGO reserves, not the entire public forest estate (except when it suits him to denigrate native forest management). Mackey *appears* to have instructed some of the sub-report authors to present their findings in a standard way that doesn't question the size or configuration of any particular ENGO reserve, let alone its location. Many of the resultant maps and analyses can therefore do no more than demonstrate that within these reserves there are conservation values! Gee, really? **Any random patch of Tasmania has conservation values**. The report doesn't validate the ENGO reserves because it doesn't compare them with the rest of Tasmania (not even the rest of state forest), and it doesn't demonstrate that all (or indeed any) of the ENGO reserves are needed to maintain the identified conservation values Furthermore, this constraint means that they cannot say *where* in those reserves the identified conservation values lie – which is a major shortfall when one reserve polygon covers nearly all the ENGO-claimed areas in the southern forests, totalling over 60,000 ha, yet a particular conservation value that determines its colour on a map may occupy only a few square km (or a few square metres in the case of an orchid in the Upper Florentine ENGO reserve). Nor (for the most part) can these sub-reports report on whether areas outside those reserves might have *more* conservation values than the ENGO reserves, to put the ENGO claim in context (i.e. to **VALIDATE** the ENGO claim, which, surely, is meant to be the main point of the exercise).

To what extent Mackey's personal interests in a particular outcome are to account for the bias in the report, versus the admittedly ambiguous wording in the TOR, is a moot point. However, it is notable that some authors (including some of those producing sub-reports for Mackey) have interpreted their brief differently from Mackey and have come up with more informative reports accordingly.

Mackey doesn't fulfil the aspect of his TOR which stated that he should be looking to see which areas **WITHIN** the ENGO areas warranted reservation; he basically says the entire area has merit, while suggesting that the actual areas to be reserved will have to be decided later with the help of his databases. This is a cop-out and means that his report really takes us little further on than the ENGOs' own *Places for Protection* report.

Even more so than the work plan, this document comes across as having a paper-thin veneer of good science, while just below the surface the logical inconsistencies, deliberate omissions, cherry-picking and distortions are readily apparent to those of us who are familiar with the entire set of documents and with Mackey's apparent motivations. Unfortunately, these may not be apparent to the general reader.

Representation in Capstone Report: The summary is repeated in full, complete with all its logical inconsistencies, deliberate omissions, cherry-picking and distortions.

Report Title: *An assessment of the representation of vascular-plant compositional diversity in reserves within the TFIA*
Authors: Thomas Harwood, Karel Mokany, Simon Ferrier
Report Number: 1Bi
My subjective quality rating: A

Essential findings:

- If you reserve ENGO forest, then the National Reserve System captures a fuller extent of Tasmania's forest vascular plant flora.
- The wet-forest and rainforest flora would go from being well-reserved to being very well-reserved. The dry-forest flora would go from being not well-reserved to being quite well-reserved.
- The more isolated the ENGO reserve, the more likely it is to make a greater contribution of overall representativeness of the NRS.
- Vascular plant species inhabiting forest (dry, wet or rainforest) near the WHA are already particularly well-reserved. Species inhabiting forest in the NE and E (which is mostly dry forest) tend to be much less so except immediately adjacent to existing large reserves.

Key flaws and issues:
It looks as though the authors followed some instructions from Mackey on what could or could not be presented in this report. Accordingly, they confined their analyses to public land, and used the area of public land as the denominator when working out the degree of reservation. At least their maps then covered all public land and didn't follow the usual format of only presenting information for the ENGO reserves.

The report is purely concerned with how well vascular plant species and assemblages were captured by the National Reserve System. The authors treat all species equally, whether common or rare, widespread or local. They didn't discuss whether the species captured in the NRS were under any threat through not being captured. They didn't factor-in any reservation status other than those contributing to the NRS (so informal reserves fell in the 'unreserved' category). This probably has the effect of overestimating the relative contribution of the ENGO reserves to overall degree of reservation.

The analysis is predicated on the assumption (fallacy) that non-reserved forest has no capacity to maintain its quota of vascular plant species, while long-term survival is guaranteed in reserves. This is despite that fact that presumably a large proportion of the point-records on which the analysis is based come from non-reserved forest, where presumably many of the plants are currently doing just fine.

The logical scientific use for all this data would be an optimisation analysis that seeks to identify the gaps in the reserve network concerning vascular plants, and then suggests how best to fill the gaps. This is the polar opposite of the ENGO/Mackey approach.

Representation in Summary Report of Conservation Values: Mackey uses the report's findings to make a claim on the improvement of 'representativeness' that the ENGO reserves would bring to the NRS. However, all he is able to say is that '*the ENGO forest would potentially improve the representation within the NRS of vascular plant composition, depending on region and ecosystem type*'. Can't argue with that.

Report Title: *Assessing representativeness in Tasmanian forests and proposed additional reserves using indicators of biological productivity and effects of historical patterns of land-clearing.*
Authors: Rod Knight
Report Number: 1Bii
My subjective quality rating: B

Essential findings:

- State-wide, the ENGO reserves show a strong bias towards forest in land-components that have very low (<30%) clearing-bias, while doing next to nothing for forest in land-components with high (>70%) clearing-bias, and not very much for forests with intermediate levels of clearing-bias.
- The contribution of the ENGO reserves towards land-components with higher clearing-bias is substantially higher in the NE, where more native forest has been cleared.
- The ENGO reserves are strongly biased towards wet eucalypt forests, within which they are biased towards the otherwise relatively poorly reserved forest at the high end of the productivity spectrum (i.e. those with higher-than-average potential tree-height for their forest type). They don't have much of an impact on the overall reservation of high-productivity dry forest, which remains low.

Key flaws and issues:
Knight conducted some quite sophisticated and involved spatial analyses, but provided insufficient detail to enable his methodology to be fully understood. Likewise I don't understand his maps showing contribution of ENGO forest to representativeness of biological productivity. What I did understand about them was that they were 'coloured-up' to the level of individual reserves, meaning that most of the meaningful detail (that would have been apparent from the underlying pixel-by-pixel state-wide analysis) was lost.

It is at least encouraging that part of his focus is on the impacts of past land-clearing (and not on native forestry). It is also good to see the analyses of clearing bias being applied state-wide and across all tenures. This could have been taken further, so that the ENGO reserves could have been compared with other parts of the state.

I think that Knight overplayed the strength of the supposed relationship between productivity and biodiversity. The idea of some areas being sources and others sinks of biodiversity may have some validity at the extremes of productivity, but I doubt they apply to much of Tasmania's production-forest estate.

Representation in Summary Report of Conservation Values: Mackey uses the report's findings to make a claim on the improvement of 'representativeness' that the ENGO reserves would bring to the NRS. However, all he is able to say is that '*the ENGO forest would substantially (20%) improve the representation [within the NRS] of higher-productivity forest'*. I don't quite understand how the 20% figure was derived, nor do I understand its scientific worth.

Report Title: *Validation of the ENGO proposed reserves for the conservation of priority flora species on public forest.*
Authors: ?
Report Number: 2A
My subjective quality rating: D

Essential findings:

- A few ENGO reserves harbour lots of threatened flora species; most harbour none at all, or very few. Those that do are chiefly drier forests in the E (reserve 123 is a stand-out).
- Many of the threatened flora species in this study are non-forest dependent and/or require regular disturbance. Appendix 4 states that '*reservation is not an appropriate management strategy for all priority species, as some are positively associated with disturbance'* (e.g. *Odixia achlaena* in Wielangta). Some suitable disturbance regimes would be '*compromised by reservation*'.

Key flaws and issues:
The report is so poorly written in places that it's well-nigh impossible to follow the methodology and some of the findings.

The analyses are predicated on the assumption that reservation is 'good' for threatened flora, in that weightings were given to different species on the basis of their endemicity and threatened status, rather than on the basis of any risk posed by native forestry. This adds a serious bias that the author then goes to great lengths to work around in his caveats such as Appendix 4 on 'the limitations of reserves as a management strategy for priority flora'.

Though the analyses must have been conducted on state-wide data (or at least on data from all public forests, so far as I can ascertain), they were only presented in terms of what contribution the ENGO reserves could make to overall reservation levels for these species. As with other reports, whole reserves were treated as indivisible entities on maps and in tables, so that even if a species occurred in only a few square metres of a reserve (as is the case for *Thynninorchis nothofagicola* in the Upper Florentine) it 'coloured' the whole reserve. Crucially, '*the current reservation status of the species has not been considered directly in this analysis*'. In other words, this is no gap analysis or reserve optimisation process. It made no difference to the 'colouring' of individual reserves whether the species present in them were already well-reserved or not. Thus the ranking of reserves into 'benefit' categories from 'extremely high' to 'very low' must be treated with great caution.

Representation in Summary Report of Conservation Values: Mackey states that '*relatively substantial and significant gains were revealed regarding the contribution of the ENGO forest to protecting conservation values associated with…the habitat of many threatened listed and priority plant [and animal] species*'. I don't feel this is justified by the findings of this report. Mackey makes a point of how some ENGO reserves are rated as 'extremely' high' or 'very high' regarding their contribution to the reservation of priority flora, but doesn't mention the limitations of the ranking approach, nor the lack of a gap or complementarity analysis, nor the caveat that reservation isn't necessarily the best approach for some of the species concerned.

Report Title: *Validation of the ENGO proposed reserves for the conservation of priority fauna species on public forest.*
Authors: ?
Report Number: 2B
My subjective quality rating: E

Essential findings:

- If you read between the lines, you can deduce that the ENGO reserves do a very poor job of capturing localities for priority fauna, despite some dressing-up of the data. My guess is that they may even perform worse than some random unprotected areas of Tasmania of equivalent size – I would like to see this tested! For instance, the endangered forty-spotted pardalote only has the reserved part of its known range increased by 2%. The claim that 9% of the core range of the swift parrot is within ENGO reserves may not stand up to closer scrutiny.

Key flaws and issues:
The report is very poorly written in places, making it difficult to follow. The map legends are sometimes confusing, incorrect and incomplete.

The report reads as though written by someone who really didn't understand the subject or the species concerned. For instance, the report describes the scrub-tit as 'critically endangered', yet it is only the King Island race that is even on the threatened species list.

It is not clear if the analysis uses this supposed 'critically endangered' status to 'colour' ENGO reserves in western Tasmania accordingly, because the Appendix notes that there is no intersection between the ENGO reserves and scrub-tit (which is also false).

The methodology for selecting 'priority species' is not clear. The report claims that they are all forest-dependent threatened fauna, but the Appendix makes it clear that this is not the case, since it also includes cave, aquatic, riverine and grassland fauna for which forest reservation is at best a grossly inefficient approach to conservation management. Likewise, the analyses are predicated on the assumption that reservation is 'good' for priority fauna, in that weightings were given to different species on the basis of their threatened status, rather than on the basis of any risk posed by native forestry. While it is unclear from the wording of the report quite how these weightings were applied, they must add a serious and unresolved bias. The use of 'potential ranges' is also problematic. Supposedly they weren't used at all, yet they appear in the results.

The analysis used an old range-boundary for swift parrot, more favourable to the ENGO position. Coupled with the fact that whole reserves were treated as indivisible entities on maps and in tables, this led the analysis to perversely suggest that the 60,000 ha ENGO reserve in the southern forests was of 'high' value for improving the formal reservation of swift parrot (even though most of it is beyond the species' potential range, and nearly all is beyond its core range), while the corresponding values for ENGO reserves in Wielangta, on Tylers Hill and on South Bruny were 'low' (even though they're both entirely within the species' core range).

Though the analyses must have been conducted on state-wide data (or at least on data from all public forests, so far as I can ascertain), they were only presented in terms of what contribution the ENGO reserves could make to overall reservation levels for these species. As with other reports, whole reserves were treated as indivisible entities on maps and in tables. It is not clear whether this was the case when the 'percentage contribution' of reservation was calculated, or whether (more correctly) reserves were intersected with species' ranges and the area of intersection used instead. Either way, this is no gap analysis or reserve optimisation process. It made no difference to the 'colouring' of individual reserves whether the species present in them were already well-reserved or not.

The report comments on the contribution of particular reserves to mature-habitat reservation, but provides no data or map to support this. Presumably it is referring to another sub-report? Likewise, it comments on the carnivorous mammal guild – the subject of another sub-report. I fail to see how connectivity for these species could be instantly improved, as stated here, simply by putting land in reserves: this sounds like wishful thinking (as does the frequent use of the word 'protection' instead of 'reservation').

Overall, the analyses provide no substance for the claim in the summary that '*the ENGO forests make a significant contribution to the protection* [sic] *of the core, known and*

potential ranges of most major groups of priority fauna', nor that some reserves are '*very important*' in this regard.

Representation in Summary Report of Conservation Values: Mackey accepts the argument about the importance of the ENGO reserves for so-called critically endangered scrub-tit as well as the flawed logic for swift parrot. He basically pastes large chunks of text from this report into his own.

Report Title: *Assessment of location of refugia for ancient and relictual invertebrate fauna within the proposed ENGO forest conservation areas.*
Authors: Alastair Richardson
Report Number: 3A
My subjective quality rating: B

Essential findings:

- Tasmania is home to a rich fauna of ancient and relictual invertebrates, many characterised by having small ranges. There are more such species in the west and central south than in the east of the state.
- Previously identified 'faunal breaks' have some basis in the known distribution of some of these species.
- The ENGO reserves individually capture between 3 and 15 of the twenty ancient and relictual invertebrate taxa analysed. Some intersect with faunal breaks and with other areas of biogeographical interest for these taxa.

Key flaws and issues:
It looks as though Richardson followed some instructions from Mackey on what could or could not be presented in this report. Accordingly, the maps only show which reserves support how many ancient and relictual invertebrate species from the sub-set considered in this report, rather than presenting the distribution of these species across the state, despite these maps being the result of an analysis of state-wide distributional data. This makes it impossible to validate the significance of the ENGO reserves because there is no context. The approach of colouring entire ENGO reserves according to their conservation values (relative to those of other reserves) risks inflating the apparent importance of any large reserves if any part(s) of them happen to intersect with species-rich parts of the state. The 60,000 ha southern forests ENGO reserve is a particular case in point – I suspect that most of the species could be captured by a much smaller subsection(s) of this reserve, but this was not investigated and there is no way to do so on the basis of the data presented.

Richardson apparently didn't make use of some existing range-boundary GIS layers in defining the distribution of some of the threatened species amongst his taxa.

Richardson's 'as-is' reporting, and his lack of comment on the relevance of the ENGO reserves (or indeed on the need for further reservation for ancient and relictual

invertebrates), is in one sense the honest approach, but in another sense it leaves the report open to misuse.

Representation in Summary Report of Conservation Values: Mackey is able to report that '*also identified were a significant number of ancient or relictual faunal groups which are described as globally significant within the area proposed for formal World Heritage Assessment*'. I don't see the words 'globally significant' in Richardson's report. On the basis of what *is* in Richardson's report, Mackey cannot conclude that all (or any of) the reserves are in any way critical for conservation of these taxa.

Report Title: *Palaeo-endemic plants (primitive, relictual and ancient plant groups).*
Authors: Greg Jordan
Report Number: 3B
My subjective quality rating: A

Essential findings:

- Tasmania is a globally important area for palaeo-endemic plants.
- The analysis suggests that some species long considered to be palaeo-endemics scarcely warrant the designation (e.g. *Nothofagus*, *Phyllocladus*).
- Most hot-spots for palaeo-endemics are in the unburnt (fire-refugial), high-rainfall and often high-altitude parts of the S and W, corresponding to and providing some justification for three IBRA regions.
- Almost all palaeo-endemic species are '*very well reserved in existing reserves, especially the WHA*'. Few species occur in production forest.
- Where high values for palaeo-endemicity intersect ENGO reserves, they are mostly very small proportions of those reserves (often <1% by area, and often corresponding to the alpine or non-forested parts).

Key flaws and issues:
This is a model of good reporting – good science, clearly reported, and not beholden to any other agenda. In other words, it doesn't conform to the standard that I suspect Mackey tried to impose on authors of sub-reports.

It is commendable that Jordan conducted a state-wide, tenure-blind analysis and presented his maps and data on this basis. It's good that he didn't fall into the usual sub-reporting trap of producing a map of ENGO reserves showing their apparent conservation values without the context of the rest of the state. Indeed he went further in drawing attention to the fact that the ENGO reserves do little for reservation of palaeo-endemic plants, and quoted some statistics to make his point. Should people wish to test this, or to draw out the conservation values of particular reserves, they can wade through the very comprehensive appendices. These also draw on the fire-refugia work documented in another sub-report.

Representation in Summary Report of Conservation Values: The results don't suit the case for blanket acceptance of the ENGO reserves. Mackey chooses not to present

any of Jordan's maps. Nevertheless, he writes that '*a small number of the ENGO forest polygons in western Tasmania would make a significant contribution to protecting palaeo-endemic plants*'. Perhaps what he should have said was '*a **large number** of the ENGO forest polygons make an **insignificant contribution** to protecting palaeo-endemic plants*'. Later he states that 'Athrotaxis *is in a few of the proposed reserves*.' Perhaps what he should have added is that '*77% of all* Athrotaxis *records are already in reserves, and the ENGO reserves only capture an additional 3%*'.

Report Title: *Report for the IVG of the TFIA on Tasmania's eucalypt diversity.*
Authors: Brad Potts and Paul Tilyard
Report Number: FC 3C
My subjective quality rating: C

Essential findings:

- The ENGO reserves mostly favour *Eucalyptus johnstoni*, *E. regnans*, *E. sieberi*, *E. delegatensis*, *E. obliqua* and *E. nebulosa*.
- Eucalypt species richness tends to be higher in the E and SE than elsewhere.
- While ENGO reserves in the E capture more species than those elsewhere, reserves across Tasmania capture a range of species.

Key flaws and issues:
The report wasn't examined in detail. While it is pleasing to see that the entire state was covered in exploring eucalypt richness, it appears that the authors were constrained in their reporting by advice from Mackey, such that most of their maps and much of their data can only report at the reserve level, regardless of the degree to which particular parts of reserves and eucalypt species distributions intersect. This makes it impossible to identify which parts of which reserves are of especial significance, and affords unwarranted significance to the largest reserves.

Furthermore, the report is based on an implicit assumption that reservation is 'good' for eucalypts, i.e. that eucalypts are threatened by native forestry. This is seldom likely to be the case, since regeneration of the original complement of eucalypt species, using locally-collected seed, is the standard goal of native eucalypt silviculture.

Representation in Summary Report of Conservation Values: Not assessed.

Report Title: *Report for the IVG of the TFIA on forest fire refugia.*
Authors: ?
Report Number: FC 3D
My subjective quality rating: B

Essential findings:

- Most (70.2%) of Tasmania's substantial fire refugia are already within reserves, since most of them are in the WHA or adjacent national parks.

- Only about 27% of the ENGO reserves have 'high fire refugia' status. Nevertheless, they would contribute 'non-trivially' to the state total, by 'protecting' an additional 13.7% of such areas.

Key flaws and issues:
The report wasn't examined in detail, but it is pleasing to see the entire state modelled and the ENGO reserves reported on in this context.

While proximity to roads was considered a 'negative' in terms of likelihood of experiencing fire from an anthropogenic ignition source, there was no consideration of the 'positive' effect of roads in providing access for fire-fighting. Though I admit I am no expert in this area, I see this as a key deficiency and a potential source of negative bias.

Representation in Summary Report of Conservation Values: Not assessed.

Report Title: *Giant eucalypt forests – a globally unique fire-adapted rain forest.*
Authors: Y Tng, G Williamson, Greg Jordan and Dave Bowman
Report Number: FC 5B
My subjective quality rating: B

Essential findings:
- The authors argue that giant eucalypts should be regarded as long-lived rainforest pioneers, albeit with a dependence on fire for regeneration.
- The syndrome of fire-dependent forest about a fire-intolerant forest is unique to the Australian eucalypt-rainforest complex, and contributes to their high conservation value.

Key flaws and issues: The report wasn't examined in detail. It has the feel of a pre-publication manuscript for a scientific paper (indeed, that paper has since been published). Comments on high conservation value appear to have been added (to the summary only) as a bit of an after-thought.

Representation in Summary Report of Conservation Values: Not assessed.

Report Title: *The evolutionary significance of Tasmania's rainforests and associated vegetation types.*
Authors: Jann Williams
Report Number: FC 5D
My subjective quality rating: A

Essential findings:
- Both rainforest flora and eucalypts have Gondwanan origins (the earliest known eucalypt is from S. America!).
- Rainforests with an overstorey of giant eucalypts are globally unique.

- While mixed forests are not generally a stable vegetation-type, the co-existence of rainforest with eucalypts has persisted in SE Australia for some 27 million years (though eucalypts may only have been in Tasmania for 20 million years, and in the SW of Tasmania for only 1-3 million years).
- In percentage terms, wet *Eucalyptus obliqua* and *E. regnans* forests are not well represented in the formal reserve system (<6%). There is a scientific argument for maintaining intact landscapes that support the evolutionary processes underlying these ecosystems.

Key flaws and issues: I haven't examined this report in great detail, because I don't feel that its content warrants it.

Representation in Summary Report of Conservation Values: Not assessed.

Report Title: *Report for the IVG of the TFIA on the distribution of carnivore refugia within the proposed ENGO forest conservation areas: distribution of large marsupial carnivores – locations of core habitat and population strongholds for the Tasmanian devil, spotted-tailed quoll and eastern quoll in Tasmania.*

Authors: Chris Johnson, Menna Jones and Brooke Bateman
Report Number: FC 7A
My subjective quality rating: C

Essential findings:

- Tasmania's large marsupial carnivore guild is unique in its degree of intactness (despite lack of thylacine), enabling it to play an important ecological role that it can no longer do elsewhere in Australia.
- Being large carnivores, they have large ranges and can be described as landscape species for which connectivity of suitable habitat is likely to be particularly important.
- '*Expert knowledge and recent research on these species shows that while their occurrence is associated with forest, they are not strictly dependent on forest cover and frequently use fragmented and edge habitats, and they do not show strong preferences for particular forest types and vegetation cover*.'
- Various ENGO reserves would capture key parts of the range of the marsupial carnivore species other than for spotted-tailed quolls, for whom the main hot-spot is in the far NW.

Key flaws and issues:
While it is pleasing to see that the entire state was covered in exploring suitability for these marsupial carnivores, it appears that the authors were constrained in their reporting by advice from Mackey, such that the main series of maps presents information at the reserve level, regardless of the degree to which particular parts of reserves and carnivore ranges intersect. From other maps in the report it is still possible to identify which parts of which reserves are of especial significance (and which aren't, and which non-reserved

areas are), but this level of information is likely to be ignored by those whose agendas it doesn't suit. For instance, while the report mentions (in passing) that only about a third of the area of each of the ENGO reserves in the Derwent Valley was considered 'carnivore high priority', the entire reserve area (which seems to largely fall within the 60,000 ha Southern Forests reserve, whose eastern extension can be considered part of the 'Derwent Valley') is coloured as 'carnivore high priority' on the summary map.

The authors make unjustified assumptions about the 'benefits' of ENGO reservation, given their earlier-noted point that these species '*are not strictly dependent on forest cover and frequently use fragmented and edge habitats, and they do not show strong preferences for particular forest types and vegetation cover*'.

This report is the source of the logical fallacy, propagated further up the chain, that reservation automatically improves connectivity. Connectivity may be an important value for these landscape species, but is unaffected by a change to a forest's legal status.

Representation in Summary Report of Conservation Values: Mackey states that over half of the proposed reserves are ranked as high priority for improving the reservation status and connectivity for all species of large marsupial carnivores, and that '*a high level of certainty can be attached to the conclusions drawn about the contribution of the ENGO forests to the reservation of these species*'. About connectivity he states '*the ENGOs…had obviously given attention to connectivity in terms of improving the integrity of the existing reserve system*'.

Summary of Section 2

Brendan Mackey has a lot to answer for. Not only does it appear that he has instructed the authors of sub-reports to follow protocols that strongly bias analyses in favour of the ENGOs' claims on HCVF, but he has selectively quoted from these sub-reports in his summary report to further bolster the ENGOs' case. **This is a gross perversion of the scientific process.** In turn, Mackey's words are repeated, often verbatim, in West's Capstone Report – which is the only document that most people with a passing interest in the validation process will have read. This is all rather convenient for those who saw this sham 'validation' process as a means to pull the wool over the eyes of the Tasmanian public. Most readers of the Capstone Report would be oblivious to its frankly fraudulent underpinnings unless they (a) first read the Mackey report and all its sub-reports (as I did), and (b) had some understanding of conservation science (as I do). Let me repeat here my firm conclusion: that **the West Report does not validate the ENGOs' HCVF claims**.

I do not contest the valuable role that nature reserves play in wilderness and nature conservation. Rather, I would argue that the RFA already gave Tasmania a science-based process for establishing CAR reserves, notwithstanding the political horse-trading that irked many scientists and environmentalists at the time. Yet the existence of this CAR reserve network (and the science-based process of reserve selection underpinning it) is almost completely ignored by the ENGOs and by those corruptly 'validating' their HCVF claims.

Section 3: The TFA will bolster Australia's National Reserve Network – or will it?

The Bill refers to the contribution that the new reserves will make to Australia's National Reserve Network. This ties in with the wording in the 'Bill's *Schedule 1, Vision for Tasmania's Forests*. So it is worth considering the extent to which these new reserves would meet the Australian government's strict selection criteria under the National Reserve System (NRS), which are set at a bioregional level. As it turns out, Tasmanian bioregional levels of reservation under the NRS generally already meet – and often greatly exceed – the nationally and internationally agreed 17% target. The only bioregion where this is clearly not the case is the North Midlands[16], where none of the ENGOs' proposed reserves are to be found. This is no big surprise, because the NRS approach adopts the 'comprehensive, adequate and representative' reserve selection framework that was already implemented in full for State forest under the Regional Forests Agreement. While there is no upper limit on the incorporation of reserves into the NRS, it cannot be argued that any of the ENGOs' proposed reserves fill critical gaps in the network. Indeed, the ENGOS' warped selection criteria more or less guarantee that their proposed reserves will *not* fill critical gaps in the NRS network.

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[16] See the map of reserve representation across Australia's bioregions at http://www.environment.gov.au/parks/nrs/science/pubs/ibra_regions.pdf

Section 4: Alternative and more effective models for nature conservation in native forest landscapes

My submission so far has focused on the issue of the science of reserve selection, and has exposed why the ENGOs' HCVF reserves have so little scientific credibility. In this final section, I would like to briefly consider alternative models for nature conservation in native forest landscapes. In doing so, I emphasise that reserves are indeed a fundamental component of any effective conservation strategy – but they are not the sole component. Furthermore, once a given level of reservation has been achieved in a particular bioregion or landscape, the marginal value of additional reservation drops away. I believe that we are already at that level of reservation on public land in Tasmania. In terms of 'bang for buck', the greater conservation gains are then to be had through the sympathetic management of the non-reserved native forest 'matrix', most of which is dedicated for timber production. Conversely, the greater conservation *losses* are likely to arise if management of the non-reserved forest matrix becomes less sympathetic to conservation.

I suggest that the TFA will precipitate a change in culture among professional foresters, even those working in the State sector. Currently, there is broad acceptance within the profession of the need to 'go the extra mile' to ensure that conservation values are catered for during forestry planning and forest harvesting. I anticipate that, post-TFA, forestry professionals will increasingly view conservation as merely an impediment to efficient production, and will be inclined to pay no more than lip-service to it – and only when absolutely necessary in accordance with the law of the land. In other words, we risk seeing the increasing polarisation of forest lands into 'reserved for conservation' and 'managed intensively for non-conservation values'. On private land, I suggest that the conservation situation will deteriorate to a greater degree: the TFA will result in the conversion of more private native forest to plantation and/or agricultural land and/or subdivisions.

Australia's *Strategy for the National Reserves System 2009-2030*[17] emphasises the importance of landscape planning context, arguing that '*the ecologically sustainable management of ecosystems and their services [is required] to ensure complementary land uses on both public and private lands and linkages that strengthen ecological connectivity and resilience of ecological processes'*. This is an entirely worthy sentiment, but not one that looks set to be delivered through the TFA.

Largely because of ENGO agitation, most people are entirely unaware of the extent to which conservation principles are already incorporated into native production forestry. These principles are incorporated into forest policy, into sophisticated estate planning processes, into independently audited environmental management and certification systems, into forest practices planning and regulation, and into harvesting operations. As just one measure of how this translates into on-the-ground practices, on average, 20-30% of each 'coupe' (forest management unit on State forest) remains unharvested at the time

[17] http://www.environment.gov.au/parks/publications/nrs/pubs/nrsstrat.pdf

of harvest. These unharvested areas, along with informal reserves, comprise a fine-scale network of non-production forest that helps maintain the ecological integrity of the production-forest landscape.

But even this is not the full story. The ENGOs would have us believe that, once harvested, forest loses all its conservation values and never regains them. This is one of their biggest fallacies. Of course species respond to the disturbance that harvesting brings, but they do so in ways which are largely predictable based on the ecology of the forest and the species concerned. Harvesting normally equates to immediate losses of many species. But research demonstrates that the regrowing forest is colonised by a succession of species, much as it would after a natural wildfire. There are differences, of course; but broadly speaking, the pattern is comparable.

What does make more of a difference is the state of the landscape surrounding the harvested area. If it is largely composed of non-forest, plantation or recently harvested native forest, then some species of mature forest will struggle to recolonise, even when conditions become otherwise suitable. However, since the introduction of the Forest Practices Code in 1985, and since the establishment of the CAR reserve system under the Regional Forest Agreement in 1996, it appears that the conservation principles outlined above are doing a good job at retaining the ecological integrity of entire forest landscapes, meaning that most native species can move around the landscape to find the areas that suit them best, and can recolonise harvested areas as and when conditions become suitable. Though the concept of conservation through off-reserve management was a central tenet of the RFA, it is only very recently that it has been put to the test. I summarise the very positive findings of research designed to do so in Appendix 1. The research concludes that, for production-forestry to contribute effectively towards conservation requires that reserves and other unharvested areas be tightly integrated with the harvested areas at fine spatial scales, and that this arrangement be applied right across the production-forest landscape. Large, distant reserves count for very little in this context.

In summary, I suggest that the existing model of conservation and forestry isn't broken; so what is the TFA claiming to fix?

Conclusion

I hope that I have been able to demonstrate that the Tasmanian Forests Agreement Bill 2012 is fatally flawed. Science needn't have primacy in developing public policy, but when the proponents of this Bill place such weight on a reservation proposal that claimed to be based on science, then it should be judged on the basis of that science. What I hope to have demonstrated is that the reservation proposal at the heart of the TFA arose through the gross abuse of science: the ENGOs' concept of HCVF is devoid of any scientific credibility. Largely because of this fraudulence, the TFA is likely to deliver perverse outcomes that are the polar opposite of its stated intention (as articulated in the Bill's *Schedule 1, Vision for Tasmania's Forests*).

I therefore recommend that the Bill be rejected in its entirety: rewarding bad behaviour is simply not good public policy. In its place, Parliament should re-engage with the State's own conservation and forestry professionals in initiating transparent, honest, state-wide, tenure-blind and science-based processes for (a) identifying and fixing any genuine gaps in the existing reserve network, and (b) entrenching a model for native forestry that recognises the important contribution that it can make to a coherent and effective nature conservation (and carbon sequestration) strategy.

Appendices

Appendix 1: Summary of findings of a research project examining 'the persistence of mature-forest biodiversity elements in a production forest landscape managed under a Regional Forest Agreement'.

Note: this appendix is in two parts, each aimed at providing an accessible summary of a 2012 report[18] on a three-year research project conducted by researchers at Forestry Tasmania and the University of Tasmania and funded by Forest and Wood Products Australia (FWPA). The author of this submission was one of the project's key researchers and authors. Note that the underlying report has not yet resulted in peer-reviewed publications in scientific journals, and its findings should be treated in that light.

Part A is a DRAFT (as-yet unreleased) media statement from the FWPA, that was made available to the author of this submission early in December 2012.

Part B is a two-page summary, to which the author of this submission contributed. This summary is also intended for use by the FWPA.

To the best of my knowledge, the FWPA has yet to make these documents publicly available.

Part A: DRAFT media release:
'Study finds production-forest landscapes retain biodiversity'

A landmark study has found that appropriately managed production-forest landscapes have a similar biodiversity to that of largely undisturbed landscapes.

The research, commissioned by Forest and Wood Products Australia and carried out by Forestry Tasmania and the University of Tasmania, has shown that tall eucalypt forests do not necessarily need to be in large reserves to provide suitable habitat for their associated animals and plants.

Rather, it is possible to effectively integrate the conservation of these species with wood production.

Researcher Dr Tim Wardlaw said the study had provided the scientific evidence to show that timber harvesting is compatible with the maintenance of biodiversity values – particularly when it is integrated with, rather than separate from, areas containing mature forests.

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[18] *The full report runs to 120 pages and is available at* *http://www.fwpa.com.au/sites/default/files/Final_Report_PNC143-0809_0.pdf*

"There has been a shift of thinking in conservation science over the past decade. It's now considered best practice to mix harvesting and retention across wider areas rather than to concentrate retention in large reserves and focus harvesting in a smaller area outside those reserves. This can create a tension between harvesting and providing sufficient retention to conserve biodiversity outside the reserves".

"This study is one of the first to test this shift of thinking in conservation science. We found that disturbance-sensitive species persist in areas of retained mature forest and recolonise harvested areas in those parts of the landscape that are managed at intermediate levels of forestry modification, such as that provided through the Regional Forest Agreement and Forest Practices Code. The abundance and species-richness of these disturbance-sensitive species was comparable with levels found in largely natural landscapes reflective of large reserves."

"However, in parts of the landscape that were intensively disturbed by a history of more regular wildfires and harvesting that pre-dated the RFA and Forest Practices Code, these disturbance-sensitive species were less able to recolonise harvested areas and some also had difficulty in persisting in the retained mature forest."

"Importantly, the study provided strong scientific evidence of how much mature forest should be retained in the landscape, and where it should be located, to ensure the most disturbance-sensitive species can persist."

"We hope these findings may contribute to a more informed public conversation about the way forestry and biodiversity are managed in the landscape. We can now be confident that informal reserves and set-asides – as well as the large reserves - have an important role to play."

Dr Wardlaw said the study had been commissioned to evaluate the effectiveness of the Regional Forest Agreement in protecting the biodiversity of forest-dependent species. "The intent of the RFA was to ensure biodiversity values were maintained across the entire landscape – not just in the large reserves.

"Because the RFA reserves are not distributed evenly across the landscape, off-reserve management is also key to maintaining biodiversity. However, the adequacy of this management has been questioned in recent times."

"For example, the Wielangta Federal Court case brought against Forestry Tasmania by former Senator Bob Brown some years back highlighted the contentious nature of this issue."

Dr Wardlaw said the study sought to determine whether the smaller informal reserves, the set-asides required under the Forest Practices Code, and even production forests, made a contribution to maintaining biodiversity.

"We already knew that, under natural conditions, forests are a mosaic of older areas with younger areas created by wildfires. Forest-dependent species persist in the patches of unburnt older forest and provide a source to recolonise the burnt areas as they are regrowing after a wildfire."

"We wanted to know whether this process also takes place within production forest landscapes."

The study took place in the Southern Forests Experimental Forest Landscape (SFEFL), a 112,000-hectare research zone between the Huon Estuary and the World Heritage Area that was established by Forestry Tasmania in 2008. The SFEFL contains mainly tall wet eucalypt forest, but features a range of land management regimes ranging from agriculture, plantations and native forestry, through to relatively undisturbed forests.

"We set up research plots across this landscape – half in mature eucalypt forest and the other half in 30-50 year old forest regenerating after harvest – and surveyed them for birds, plants and beetles. The plots were carefully located to sample a gradient of disturbance intensity created by past wildfires and post-European land management."

Part B: DRAFT two-page summary of 120-page report on 'the persistence of mature-forest biodiversity elements in a production forest landscape managed under a Regional Forest Agreement'

Are large nature reserves the only means of conserving forest biodiversity, or do smaller reserves, set-asides and production forests also contribute – and if so, by how much? The Regional Forest Agreements negotiated between the Commonwealth and individual states are based on the premise that the combination of reservation and complimentary management outside of reserves will conserve biodiversity right across the landscape and not just in large reserves. A recently completed study, commissioned by Forest and Wood Products Australia and involving scientists from Forestry Tasmania and the University of Tasmania, tested this premise in a landscape dominated by tall, wet eucalypt production forest.

Under natural conditions, tall, wet eucalypt forest landscapes are a mosaic of older and younger forests arising through a long history of periodic and often intense wildfires. Those species that are sensitive to disturbance can persist in these landscapes because they are able to occupy patches of long-unburnt mature forest, and to spread out from these patches into other areas recovering after wildfire. The study tested whether the natural ability of disturbance-sensitive species to persist and recolonise also applied in a production-forest landscape where, instead of the forest mosaic being a product solely of past wildfires, it was also a product of varying levels of influence of forestry and other land-uses.

The study was carried out in the Southern Forests Experimental Forest Landscape (SFEFL) – a 112,000 ha landscape of predominantly tall, wet eucalypt forest between the

Huon Estuary and the Warra Long-term Ecological Research Site. The SFEFL provides a gradient in the intensity of disturbance in the surrounding landscape, shaped by past wildfires and by more than 150 years of European land-use. In the most disturbed parts of this landscape, 80% of the vegetation originated from forestry and agriculture. In the least disturbed parts of the landscape nearly 90% of the vegetation was natural.
Plots along this gradient were surveyed to record the occurrence and abundance of species in three groups - birds, plants and flighted beetles. Half the plots were in mature eucalypt forest and half in 30-50 year-old forest regenerating after harvest. The study sought to find out if the ability of species from these groups to persist in patches of mature forest – and to recolonise previously harvested forest – was the same regardless of whether those patches were in heavily modified landscapes or in largely natural landscapes.

The study found that birds, plants and most beetles were able to persist just as well in mature forest retained in heavily modified landscapes as in largely natural landscapes. Only a small subset of beetle species was less abundant and species-rich in patches of retained mature forest, and only in the most disturbed landscapes, where they appeared to be sensitive to the density of roads. This sensitivity appeared to be driven by a natural scarcity, in these same disturbed landscapes, of a key habitat – large logs on the forest floor. This scarcity probably reflects a history of more frequent wildfires, because these landscapes also happen to be the warmest and driest parts of the SFEFL nearest to the Huon Estuary.

While the ability of mature-forest species to persist in mature eucalypt forest was largely independent of the intensity of disturbance in the surrounding landscape, this was clearly not the case for the ability of species to recolonise 30-50 year-old forest regenerating after harvesting. The ability to recolonise was diminished in rainforest plants, dense-forest birds and a small subset of beetles determined as disturbance-sensitive. These species were better able to recolonise regenerating forest where the surrounding landscape was less disturbed. This effect could be explained by the amount of mature forest in the surrounding landscape and by how close that mature forest was to the regenerating forest: mature-forest species were more likely to have recolonised regenerating forest as the distance to the nearest patch of mature forest lessened and as the surrounding landscape contained more mature forest. These two properties of mature forest were closely related, and each could account for the effect of the other. Used together, these two measures can tell us how much mature forest needs to be retained in the landscape – and where – to ensure mature-forest species are able to recolonise forest regenerating after harvest.

The study has, for the first time, provided a scientific basis for integrating biodiversity conservation into the management of tall, wet eucalypt production-forest landscapes. It has shown that mature forest does not need to be in the form of large reserves for associated species to persist in them: mature forest contained in smaller reserves and in other areas set aside for long-term retention can provide comparable benefit. The study also showed that mature-forest species could recolonise forest regenerating after harvest

so long as there was sufficient mature forest retained in the surrounding landscape to act as a source of recolonisation.

The study allows some evaluation of the conservation benefits arising through recent forest policy and regulatory frameworks. In those parts of the SFEFL where forestry largely occurred after the introduction of the Forest Practices Code and the Regional Forest Agreement, mature-forest species were persisting well in retained patches of mature forest, and were clearly able to recolonise 30-50 year-old regenerating forest. But in those parts of the SFEFL exposed to uncontrolled wildfires and exploitative logging dating from the first half of the 20th Century, long before these frameworks were in place, the landscapes appeared less resilient, at least for a small subset of disturbance-sensitive beetle species that were not able to persist so readily in retained patches of mature forest, and for mature-forest birds, plants and beetles that were less able to recolonise 30-50 year-old regenerating forest. However, even in these parts of the SFEFL, the introduction of the Forest Practices Code and the Regional Forest Agreement has seen areas of younger eucalypt forest reserved or set aside for long-term retention. If these areas can be protected from wildfire then they may provide future mature forest at levels that are predicted to provide much better outcomes for the persistence and recolonisation of mature-forest species.

Appendix 2: Essay: The answer to Tasmania's wicked forestry problems isn't simple[19]

***Note**: I prepared this essay in 2011, as the ENGOs' current agenda was unfolding. While some of it is dated, I feel the essay as a whole is still highly pertinent to today's situation as it gets to the nub of many of the fallacy-based concerns that drive much of the ENGOs' agenda.*

The majestic Tasmanian blue gum, *Eucalyptus globulus*, is the island State's floral emblem, and – as a global staple of the plantation sector – its most successful export. Swift parrots migrate from the Australian mainland every summer specifically to feed on its profuse nectar, and Tasmanian foresters try hard to accommodate the management needs of the parrots, the blue gums and a host of other conservation issues as a complement to the already substantial reserve system. But the human inhabitants of Australia's most forested and most reserved state seem a little ambivalent about our contribution to the world's wood supplies and to nature conservation. It's enough to drive one to swearing. Put it this way, if Tasmania had official State f-and c- words they would have more than four letters: they'd be forestry and conservation.

But perhaps not for much longer. Tasmania is in the throes of a major restructuring of its forestry sector, ostensibly in the name of conservation. While the details of the actual agreement are still being brokered behind closed doors, we can expect the environmentalists and politicians to crow about how they've delivered peace in the forests and a win for the environment. If they do, their crowing may be premature. From where I stand, it looks as though we're headed for a poor conservation outcome, never mind whatever else the restructuring does or does not deliver. Is it really too much to ask that all the politicking deliver not just peace, but also a good conservation outcome?

Social scientists would deem the Tasmanian forestry issue a 'wicked problem'. In the words of University of British Columbia forest ecologist Professor Fred Bunnell, wicked problems comprise a '*class of social systems problems that are ill-formulated, where the information is confusing, where there are many clients and decision-makers with conflicting values, and where the ramifications in the whole system are thoroughly confusing*'. Sounds spot-on to me.

Solving wicked problems is wickedly hard. Forestry and conservation seem to fracture our society like no other contemporary issue. You only have to read the letters pages of our daily newspapers, or the on-line responses to articles such as this one, to get a sense of the range of views Tasmanians hold, and the solutions they proffer. The media like to characterise the issue as one of jobs versus trees, though it clearly runs much deeper than this.

It used to be like this in British Columbia, too, and in southeast Queensland. But over the past decade or two, in both regions, agreements have been forged among the warring

[19] *published 18 Mar 2011 at http://www.onlineopinion.com.au/view.asp?article=11763*

factions, tempers have cooled and the newspapers have had to find other topics to fill their pages. However, the conservation outcomes have been very different.

In British Columbia, conservation and forestry have both been big winners. Rather than a massive round of forest reservation, forestry reinvented itself. A new forestry paradigm, informed by conservation biology, has led to less clearfelling, more partial harvesting, and greater levels of retention of mature forest in the harvesting area. Critically, two-way engagement with community groups is a fundamental part of this new forestry – it gives the community the information it needs to make a more rational appraisal of forestry issues, and to 'own' solutions, and it gives the industry the social licence and certification seal it needs to continue. While wood production levels and employment have fallen, the industry remains viable and people can use wood knowing that it comes from well-managed local forests. In Tasmania on a study tour recently, Fred Bunnell described to forestry professionals how the transition hasn't been easy, and how the journey continues, but he was emphatic that it's been worth all the effort.

Contrast this with the 1999 Southeast Queensland Forests Agreement (SEQFA), in which a more simplistic solution was brokered. In many ways the current Tasmanian process takes its lead from the SEQFA and involves many of the same players. Thus it's worth recording here the findings of a 2007 study of its conservation effectiveness. Led by Dr Clive McAlpine, then at the Ecology Centre at the University of Queensland, the study was published in the internationally respected peer-reviewed journal *Biological Conservation*. It found that '*ecological science suffered in the collision with the socio-political decision-making process*'. In layman's terms, nature conservation lost out to politics. The public was duped.

Unlike in a formal Regional Forest Agreement (RFA), in the SEQFA no strategic, systematic conservation planning process was followed in selecting sites for reservation, and little allowance was made for the on-going conservation management of newly reserved areas. State production forest deemed by the environmental groups to be of special conservation importance – chiefly rainforest and wet eucalypt forest – was immediately reserved. Timber harvesting in dry eucalypt forests is being phased out over twenty-five years, with a view to eventual reservation. In the mean time, the SEQFA sanctioned an *increase* in the intensity of harvesting, over and above what foresters had previously accepted as ecologically sustainable, to help guarantee an interim log supply for industry. The authors of the study concluded that it may take these forests centuries to recover ecologically from this one policy decision. At the same time, private landowners have been at liberty to fill the timber supply gap, with little hoo-hah from the environmental groups despite the generally greater conservation significance of the private land-base. As to the hardwood plantation estate that was to eventually replace native forestry in the region, that has proven much harder to establish – for good, hard ecological reasons as well as social and economic ones – and may never reach its anticipated target level of productivity. Presumably the growing human populations of southeast Queensland will be sourcing more of their timber from somebody else's forests instead.

If all this sounds familiar to Tasmanians, it's because something rather similar may be in store for us. But there's a crucial difference. Tasmania already has the benefit of an RFA (in 1997) as a baseline for forest conservation – it selected close to 300,000 hectares of forest to supplement what had already been reserved in Tasmania, to form a 'comprehensive, adequate and representative' forest reserve system. Following environmentalist agitation, the RFA was then supplemented by the 2005 Tasmanian Community Forest Agreement (TCFA) – which added a further 150,000 hectares to the reserve system. Between these two agreements and previous conservation measures, some 45% of Tasmania's native forest is now reserved, including 80% of the state's old-growth forest and 97% of its high-quality wilderness. To me these statistics alone make it quite clear that the current restructuring has very little to do with nature conservation, and everything to do with the politics of environmentalism and forestry in Tasmania.

Even so, since it's *ostensibly* about conservation, surely we can expect it to deliver some great conservation outcomes? Well, let's take a look. While the details are uncertain, it looks as though we're going to get:

- A much-expanded system of native forest reserves, incorporating at least 500,000 additional hectares of so-called high-conservation value forest
- A phasing-out of native forestry, over two decades, on the remaining non-reserved state forests while existing log-supply contracts run their course
- A continuation of native forestry on private land, unfettered by the additional reservation imposed on state forests and perhaps reinvigorated by a developing wood-supply gap accordingly
- A sizeable short-rotation pulpwood plantation estate and associated infrastructure entrenched as a long-term feature of the Tasmanian rural landscape, along with increased settlement and economic activity in the vicinity of a new pulp-mill
- A drive to expand the longer-rotation sawlog plantation estate to eventually make up the shortfall in wood supply arising from increased reservation of native forest; this will occur in the same landscapes as, and hence will be in competition with, the short-rotation pulpwood plantation estate.

Now the interesting bit. What does all this mean for nature conservation? Well, it's far from black and white. Let's break it down into its constituent parts, ordered as in the above list:

- *Reservation **is** good for conservation – at least for the bits that get reserved*. Nature can usually do conservation better than humans, when given the space and time to get on with it. However, in the present situation the overall conservation gain through increased reservation may be slight. That's because there's a big overlap between the forest types deemed by environmentalists to be of high conservation value and those already 'comprehensively, adequately and representatively' reserved through the RFA and TCFA. Furthermore, many of the new reserves will not be in wilderness areas and will need continued management, for instance to control weeds, enhance stand structure and maintain suitable fire regimes. Otherwise, if surrounded by intensive land-uses, they will

become increasingly dysfunctional ecologically. Maintaining their conservation values will require money and manpower. Neither were adequately provisioned in the SEQFA.

- *Phasing out native forestry isn't good conservation practice for the areas subjected to the phasing-out*. Sustainable forest management is based on ensuring that the long-term condition of the forest is not compromised for short-term gain. This plays out as constraints on when, and how intensively, individual areas of forest are harvested. But where's the incentive for long-term sustainability if there's no perceived future in native forestry? The SEQFA provides a warning of what could eventuate in Tasmania. Will the implementation of ecologically and socially acceptable alternatives to clearfelling be put on hold in a bid to extract the maximum amount of timber from the diminished area of forest available for harvest? Will we see regrowth forests harvested in their ecological youth, simply because it is too costly to wait for them to mature now that the more-mature forest that was planned for harvest is all reserved? Will standards of regeneration slip because there's no expectation of revisiting the regenerated forest anyway? Ironically, the more forest you reserve, the worse the conservation outcomes are likely to be in the un-reserved forest. The corollary to this is that you can do good conservation over a wider land-base if you have a lesser level of reservation that allows forestry to continue at a lesser level of intensity – integration is better than separation.
- *Excluding private native forestry from the restructure is not good for conservation*. Continuing native forestry on private land could be seen as conservation-neutral, but for three issues that turn it negative. The first issue is that if the state forests aren't capable of supplying the markets at the same level as previously, then the private forests are likely to fill some of the gap – i.e., we may see an increase in harvesting, as happened in southeast Queensland. The second issue is that private forest landholdings tend to come in smaller parcels than state forest, and managing small, isolated fragments for good conservation outcomes is a lot harder than managing larger blocks of forest. And the third issue is that the 'comprehensive, adequate and representative' reserve system is still deficient in the forest types that can only be found on private land – the incentives for landowners to reserve their forest have not been enticing enough. Conservation is also not something that many landowners can afford to do without a hard financial return. The prospect of a ready market for timber is likely to steer landowners further away from opting in to the state's formal reserve system.
- *Expanding the short-rotation pulpwood plantation estate is probably not good for conservation*. In terms of their conservation values, short-rotation pulpwood plantations fall far short of even the most intensively managed native forestry regime. Rather few native species can get even a toehold in these plantations between successive harvesting cycles, though feral weeds can prosper if unchecked. If the plantation is established through conversion of native forest, it's a clear conservation loss. But it could be argued that this is not the case if the plantation is grown on former agricultural land (because it's replacing one intensive use with another). This is only true up to a point. If the plantation displaces relict patches of trees, scrub or grassland, then it *is* a conservation loss.

If it displaces agricultural production onto virgin land elsewhere (perhaps overseas), then it *is* a conservation loss. If it economically out-competes longer-rotation plantations, then it *is* a conservation loss, not only because of the intrinsic intensity of management but also because it then reduces our local capacity to make up the shortfall in sawlogs arising from reservation. On the other hand, it could be a conservation gain if the plantation helps reconnect relict patches of trees. Some species of forest birds would recolonise these fragments once they perceived the entire area as continuous forest.

- *Increased economic activity associated with a pulp-mill is probably not good for conservation*. Proponents of a pulp-mill tout an increase in economic activity as one of its advantages, but this could be where the conservation impact of a mill is highest, though it seldom gets a mention as it goes against the whole ethos of the 'growth is good' paradigm. As land prices rise, we are likely to see more land speculation, and more subdividing, clearance and occupation of rural and suburban blocks. In ecological terms, this means diffuse but pervasive disturbances to whatever ecosystem currently occupies that land. Often, in the Tasmanian setting, this will be forest. Lots of small clearances for dwellings on large blocks can quickly equate to massive fragmentation. If experience from elsewhere in Tasmania is anything to go by, fire regimes will change, weeds will proliferate, and dogs, cats and rabbits will increasingly prevail over devils, quolls and bandicoots. Of course these issues are not unique to a pulp-mill. But with a mill being hailed as the biggest infrastructure project Tasmania has experienced, it's bound to have a sizeable ecological footprint.
- *Expanding the longer-rotation sawlog plantation estate can be good for conservation, but it depends on how it's done.* Tasmanians can expect to see a renewed interest in the establishment of longer-rotation sawlog plantations on farmland, to make up for the shortfall in timber supply. Similar conservation arguments apply to these as to the short-rotation pulpwood plantations, except that the longer the rotation, the more opportunities a plantation offers for native species to colonise. Longer rotations also allow a little more wriggle-room for integrating conservation into overall management objectives, because the relative costs of doing so are smaller. For instance, patches of relict vegetation could be incorporated into the management area, and natural regeneration or revegetation encouraged in commercially unproductive areas. But these are by no means guaranteed outcomes. And not only is the feasibility of producing commercial sawlogs from hardwood plantations still questionable, but plantations aimed at sawlog production are likely to lose ground in the face of competition with short-rotation pulpwood plantations. These factors make it difficult to see how Tasmania alone could make up the shortfall in supply left by the increased reservation of its native forest, even over the two or three decades it would take to grow the trees.

So, overall, the local conservation gain from restructuring seems likely to be minor, with some conservation losses off-setting other gains. The gains will also be contingent on adequate provisions being made for on-going reserve management.

What about conservation impacts beyond our shores? To me, these demonstrate just how myopic we have become in our quest for peace in our forests. Every cubic metre of wood that we, or others, consume has to come from somebody's forest – ours or somebody else's. And every cubic metre that we decide *not* to produce from our state forests inevitably comes from somebody else's forest. It's quite right that we don't require our state forests to produce more cubic metres than they can sustainably supply. But to require them to produce *less* than they can sustainably supply assumes that we are comfortable with a trade-off that will require someone else's forest to produce *more* and fill the gap. The gap won't go away until it's filled – indeed, it's tending to get bigger as global demand increases. It's naïve to assume that the slack can instantly be taken up by sawlog plantations, because any such plantations that are ready for harvest are already serving other markets. Maybe some of that plantation wood will be diverted to serve our market instead, but ultimately the only sort of forest capable of taking up the slack is a 'green bank' – forest that is sitting there unharvested for lack of a sufficiently enticing market. If we've just created an enticing market, we should expect that sort of forest to be harvested. What sort of forest fits the bill? Native forest. And who has native forests in this condition? Locally, private landholders do. Otherwise, we're looking at our near neighbours in the south Pacific. Think tropical rainforests of Indonesia, Papua New Guinea and the Solomon Islands. Forestry practices there are poorly regulated and frequently corrupt, with often dire conservation outcomes. As a conservation biologist, I don't think this is a good trade-off at all.

So how could we do things better? For a start, recalling that both conservation and forestry can be viewed as applied forms of ecology, we could try and be a bit more holistic in our thinking. I think we would be better off *minimising* the need for plantation expansion while *maximising* the opportunities that our public native forests offer for sustainably supplying wood and fibre. Native forestry in Tasmania has a proud track record in innovation, in incorporating ecological principles and in adapting to new management paradigms, while all the time producing the steady stream of wood demanded of it. It's not the dinosaur industry that some would claim. Its major shortfall is not ecological acceptability (although there's always room for improvement), but social. Some people don't like it, and they're very vocal about it. They frame the debate. They make others uneasy. So a big part of the solution is to find ways to engage with people so that management goals can be discussed in an atmosphere of trust and understanding – and if necessary altered; while different ways of achieving those goals can be tested and refined.

I've had a think about what my own, personal set of 'forest principles' might look like, because I do believe that it is possible for us to think our way out of the present impasse in a way that actually gives us good conservation outcomes as well as reducing social division. Rather than the current partisan and non-inclusive approach to a resolution, I would suggest that we need to start again with an independent, science-based review, reporting publicly, and advising our elected governments on the following points (and then trusting them to make the right decisions for us accordingly):

- **Revisit some old Agreements**. Environmentalists have accepted as fact several conservation-relevant conjectures that are used to justify an anti-forestry stance, yet which others in the debate see as groundless. Let's get to the bottom of these once and for all. How well do they actually stack up? Did the Regional Forest Agreement actually deliver us a 'comprehensive, adequate and representative' reserve system on state and private land, according to nationally agreed criteria, or did it not? Were the original recommendations of the World Heritage Commission (WHC) fully adhered to in the designation of wilderness areas in Tasmania, or were they not? If implementation differed significantly from what was proposed, and if this had significant conservation impacts, then what steps would need to be taken to fix it up?
- **Consider the findings of any further credible conservation planning processes.** Conservation planning in Tasmania is of interest to many academics and professional planners, including those in the Tasmanian government. Recent planning exercises have considered the desirability of additional reservation of various vegetation communities in different parts of the state, for their representativeness, their connectivity value, their importance to threatened species or a combination of these reasons. In a cool-headed evaluation of conservation priorities, these exercises ought to carry much more weight than the ambit claims of environmentalists. What do these exercises have to say about the need for further forest reservation in Tasmania: how much, why and where?
- **Consider other institutional models**. Environmentalists also claim that the current institutional model for forestry (production and regulation) in Tasmania is dysfunctional, failing conservation and in need of an overhaul. Others claim that this same model represents world's best practice. So is there or isn't there any other model that we could adopt that would deliver better conservation outcomes but would still allow forestry to remain innovative and competitive in fulfilling its primary role? Let's consider the options.
- **A permanent forest estate**. Tasmania does not yet have a delineated permanent native forest estate, though it has a policy on maintaining one of a certain size and set of forest types, and of ensuring that no more conversion to other land-uses can occur if it threatens to eat into this estate. Conversion of native forest to plantation has almost ceased in Tasmania (it ceased on state forest several years ago), and it would be a conservation loss if it were to ramp up again as a result of forestry restructuring. Perhaps the time has come for the estate to be defined and delineated once and for all? What are the risks in delineation, and if the risks are manageable, how could delineation best be achieved?
- **Appropriate sustained-yield targets**. Harvesting levels on state forests have long been determined by the legal requirement to meet a target of sawlog supply set by the Tasmanian parliament, ostensibly based on the principles of sustained yield. The target does not segregate sources into native forest and plantation. Is this target structure appropriate for current conditions in which the balance of production from native forests and plantations is shifting? Or is it more in keeping with principles of sustainability to have separate long-term targets for native and plantation forests? What checks and balances are, or should be, in place to assure Tasmanians that the target levels are not set so high that they stifle

silvicultural innovation and reduce options for integrating conservation into production? Is parliament the appropriate judge of target levels, with foresters' wood-flow modelling restricted to figuring out a way to deliver the target? Or should there be a more explicit role for forest growth-and-yield modelling in determining the target?

- **Best-practice afforestation**. How can we ensure that plantation establishment and other forms of afforestation are conservation-positive rather than negative? Is the current Tasmanian Forest Practices system up to the task, or are there other regulatory changes that would help?
- **Help our neighbours**. How valid is the argument that importing more of our wood from overseas comes with big conservation losses that outweigh the supposed gains from increased local reservation of native forest? What more can Australia do to help our Pacific neighbours improve their standards of forest management and conservation so that their ecological footprint – and our own – is reduced?
- **Engage!** If there's one thing the current forestry situation demonstrates, it is a need to develop ways to enhance meaningful community engagement in forestry matters. It's not just about providing a soap-box for existing foes with firm views – the media do that well enough already. It's about recognising that actually there exist a range of perspectives, a range of fixedness of opinions, a range of levels of knowledge and understanding, a range of concerns. It's about keeping the channels of communication open. It's about trust and openness. It's about respect for others' values. It's about short-circuiting the social forces that currently lead to continued hardening and polarisation of opinions. What models exist that we can learn from? How and when can we make a start in applying them?

I'll finish by recalling here the concluding remarks from that study of the conservation effectiveness of the Southeast Queensland Forests Agreement. The authors' own words are that '*Regional biodiversity goals may be better achieved by implementing sustainable forest management practices across all ownerships and involving all stakeholders and the broader community*'. In other words, the authors conclude that you'll get better conservation outcomes if you avoid the simplistic thinking that implies that more reservation equals more conservation; and if you involve ecologists, foresters and the broader community in the decision-making process. I couldn't agree more. Perhaps it's time we looked to the forests of British Columbia, not Queensland, for a way forward in defusing forest conflict in Tasmania.

Appendix 3: Essay: The Forests Agreement to end all forestry disagreement?[20]

***Note**: I prepared this essay in 2010, as the ENGOs' current agenda was unfolding. While some of it is dated, I feel the essay as a whole is still highly pertinent to today's situation as it gets to the nub of many of the fallacy-based concerns that drive much of the ENGOs' agenda.*

An outbreak of peace is threatened in the forests of Tasmania. We have a Forests Agreement to end all forestry disagreement. A victory for conservation and for common sense, surely? – an end to native forest logging; a move to a plantations-based industry; compensation for retrenched loggers; increased reservation. It all sounds so thoroughly *rational*, surely the Principles should be rolled out nationally? Sorry to spoil the party, but we seem to have neglected to consider whether conservation is best-served by forsaking native forestry in favour of a swing to plantations and imports. The pursuit of peace sounds worthy, but if it merely replaces a polarised social landscape with a polarised ecological landscape, delivers perverse anti-conservation outcomes, and costs hundreds of millions of dollars of taxpayers' money in the process, I have to ask whether it's all worth it.

The root of the 'forestry problem', as I see it, is that we have been conditioned by years of exposure to the forestry vilification campaign to reject any notion that native forestry and conservation might be good bedfellows. This is despite plenty of evidence that this is indeed the case. But we live in an intellectually lazy and largely urban society in which our understanding of what makes the bush tick is rudimentary; and our hearts often rule over our minds. People are sick of the war on forestry and just want it to go away. These are the perfect conditions for environmental NGOs to become the *de facto* voice of authority on matters forestry, and the self-proclaimed arbiters of good taste in conservation. Professional foresters and conservation biologists have been largely disenfranchised. Why ask them for a lengthy explanation of why things are done the way they are, or how they could be done better, when you can make up your own answers and then go fishing for 'evidence' to support your case, and when so many in society appear prepared to believe you? Black-and-white is the new green. It reminds me of the old adage that the simple solution to any complex problem is usually the wrong solution. In the context of conservation, that's where we are right now with this forests agreement.

It's ironic that the phrase *inconvenient truth* was coined to support a pro-environment agenda (and with good reason), but in the war on forestry, it's the environmental camp that prefers to operate in a knowledge vacuum. But war doesn't decide who is right, merely who is left, and the environmental NGOs aren't thinking of disbanding themselves any time soon. In the battle for hearts and minds, sound-bites can bite. Spin-doctors and wordsmiths form part of the corporate structures of modern ENGOs. They have excelled at hijacking the language of forestry and conservation. Science, other than psychology perhaps, doesn't enter into it. Say something outrageous about forestry often enough and people start to assume it's true. There's always got to be a war on the

[20] *published 12 Dec 2010 at* http://www.onlineopinion.com.au/view.asp?article=11374

Western Front, and the foot-soldiers can learn all they need to know about it from the ENGOs themselves, aided by the complicity of the mainstream media who have normalised their greenspeak, column-inch by column-inch. High-conservation-value forests? Sure, we'll add that term into our lexicon, and we won't ask whether it has any scientific basis whatsoever as currently used (it doesn't).

I care deeply about conservation, but I can no longer call myself a conservationist because these days the word has connotations of radical environmentalism. If you think I'm over-reacting, ask yourself how rarely you hear the word 'forester' and how often you hear the word 'logger' instead; and note too how the entire industry is dismissed as the 'woodchipping industry', how regeneration burns are branded 'forestry burn-offs', harvesting and regeneration is called 'land-clearance', and all harvesting is 'clearfelling', despite most being by non-clearfell methods. And how, of course, the only certification show in town is the Forest Stewardship Council - the one scheme in Australia that allows ENGOs to effectively veto certification even if all the sustainability boxes have been ticked. In this warped view of reality, all native forests are high-carbon-density forests, and are likely to stay that way forever unless harvested (best not to mention the massive carbon releases from the Victorian bushfires; nor that wood use is a form of carbon capture and sequestration that can displace more carbon-intensive materials like concrete, aluminium and steel).

The profession of forestry is frequently vilified by ENGOs: after all, in their book, it seems, we're only in it for the money, or because we get some perverse satisfaction in killing trees and desecrating wild areas. But most foresters that I know 'do' forestry because they like trees, forests, nature, people and wood – and the knowledge that the forest resource is one of the few that we know how to use sustainably. In many other endeavours in society we are living on credit, using finite and non-renewable resources. We clearly can't go on doing so indefinitely, but we *can* go on doing native forestry indefinitely – that is sustainably – if we do it well enough. In this context the ENGOs have done well to turn so many Australians against native forestry, when harvesting eucalypts gives us so much useful stuff that we all use. At the end of the day, forestry is no more about mindlessly chopping down trees than conservation is about mindlessly declaring more and more reserves. It's also about nurturing forests and protecting these assets over decades and centuries, for future generations. The trouble is that if the media were to portray forestry accurately, it would be very boring for the rest of us. For every image of trees coming crashing down there would be 999 images of forests quietly growing, or foresters in office clothes sitting in front of monitors, coffee-mugs at hand.

It's odd that the ENGOs choose to come down on forestry so much more than, say, mining, farming or fishing, when forestry is in many ways a paragon of environmental virtue in comparison to other primary industries. I think it's because native forestry is an easy target: harvesting frontier forests is often very messy, and appears to involve an awful lot of wanton destruction. These aren't neat woodlots we're talking about (and from a conservation perspective, we're lucky that this is so). Foresters can only work with the land they've been entrusted with. They appreciate that the frontier won't go on forever, and that future forestry will be about revisiting old ground. The entire estate

planning system is modelled and managed with this long-term view in mind – but what the public notes is the initial, messy harvest, the fire and smoke that rightly follows harvest, and the log-trucks rumbling through town.

Conservation in eucalypt forests need not be all about lock-up. The balance of nature never was so abstract a concept as in a naturally fire-prone eucalypt forest. Yet society's disconnection from the bush make it difficult for many of us to appreciate the resilience of nature. Bushfires can sweep through tens of thousands of hectares almost overnight, but the forest starts growing back the very next day: it has been this way for as long as there have been eucalypts on the planet. Today's old-growth may not be tomorrow's old-growth, and vice versa. This realisation certainly puts forestry in its place. For a start, it means it's quite natural to use fire to help regenerate the forest after harvest. It also means that even disturbances as massive as clearfelling have their place, alongside less visually-confronting alternatives. The big-picture view is that conservation in these landscapes is about maintaining resilience and not exceeding tipping-points – keeping the landscape joined up, allowing ample forest to age naturally, and keeping enough ageing forest intermingled within a matrix that is managed to be productively young. Broadly speaking, that's what the various Regional Forest Agreements have delivered. Compare the ecological health of Tasmania's forest estate, and the level of reservation of native vegetation in that estate, with the equivalent statistics for the nation's rangelands and croplands and you'll see that we're in a league of our own.

So where does this more joined-up thinking take us? Well, any conservation gain from exiting native forestry would, in my view, be modest, because it would be in the context of the already-high level of forest reservation. And in reality, the forests would still require active management (at the taxpayers' expense), for example to keep weeds at bay and to manage fire risks. Gradually phasing out native forestry is not a smart proposition either. Experience elsewhere, from the forest concession systems of Indonesia to the South East Queensland Forests Agreement, suggests that if there's no incentive to manage for the long term, there will be a temptation towards asset-stripping – harvest what you can today because you won't be allowed to harvest anything tomorrow. The motivation for maintaining standards will be all stick and no carrot – a sort of straitjacketing which promises to sap foresters' professional innovation and their flexibility to deliver good conservation outcomes. In my more cynical moments I wonder whether, deep down, that's what the ENGOs want as it would help validate their anti-forestry stance – a self-fulfilling prophecy. But since the 1950's, forestry has moved on from its 'log-and-leave' days to embrace science and sustainability. It would be a big mistake to go back there again.

The extent of further non-conservation perversities from an exit from native forestry would depend on where we sourced the replacement wood. Can we rest easy knowing that we're going to import more wood from somebody else's back yard instead of our own? Perhaps so, if we discount the resultant carbon footprint and trade deficit and if we import from the well-managed plantations of New Zealand, South America or South Africa (though the blue cranes, blue swallows and other endangered birds whose African grassland habitat has been largely afforested may beg to differ). If the world's not so

lucky, our wood will come from the rainforests of New Guinea, the Solomon Islands or Indonesia, where ecological and social sustainability is still but a distant dream. In effect, the cost of exiting native forestry locally could be the export of deforestation and corruption to our near neighbours.

Or we could grow our trees in plantations here in Australia, which is what most people are assuming will happen. You'd be forgiven for thinking that the environmental movement likes this idea. But it's not very long ago that the plantation sector in Tasmania was being accused of poisoning the waters sustaining local residents and oysters alike, and of killing off rural communities faced with encirclement by tree-farms. I'm no great fan of the current plantation estate myself. In Tasmania, much of it is on land deliberately and only recently cleared of native forest – a perverse outcome of past agreements. For the future, we have to do better than this – but where? Unfortunately, plantations grow best where crops grow best. Do we want more food or more wood? Marginal agricultural land is often marginal plantation land too, and is often the only part of the agricultural landscape where native trees, shrubs and grasses still hang on. For plantations to thrive here requires intensive management, usually involving fertilisers, pesticides and herbicides, which have an environmental and carbon footprint of their own. Conservation gain? Unless it's very cleverly managed, I don't think so.

In essence, the war on forestry is a social construct that has become disconnected from a harder reality – the reality of what makes the forest tick (ecology) and the reality of how our management choices impinge on its ecology (conservation). The outcome of this war is a forests agreement that, in forsaking native forestry in favour of a swing to plantations and imports, is not sensible and does not comprise effective conservation policy. It discounts the future and it discounts the cost of conservation in other places. It represents a step away from sustainability, not towards it.

We face horrendous planetary-scale challenges in the spheres of conservation and climate change, and we need vigorous ENGOs to help us turn our social, cultural and economic systems around to meet those challenges. It's time they left domestic forestry to do its bit for our sustainable future, and moved on to dealing with these more pressing matters.

Appendix 4: A compendium of the author's Letters to the Editor of Tasmania's newspapers.

***Note**: The following is a compendium of letters that I have sent to The Mercury, The Examiner and The Advocate since 2010 (plus one from 2004). Most, but not all, have been published. The date given is sometimes the date on which the letter was sent; other times it is the date of publication.*

9th December 2012

Normally the Greens are the first to cry foul when the government spends taxpayers' money on full-page newspaper advertisements for party political purposes. Yet when the advertisements spruik the forests agreement, no Greens outrage. It doesn't take a bloodhound to pick up the stench of craven hypocrisy here, nor a sleuth to figure out whose anti-forestry, anti-science policy is being spruiked.

8th December 2012

If Miranda Gibson wants to attract the attention of the world's media to genuine, unfabricated Tasmanian conservation issues, she should climb down from the Observer-tree and erect her non-certified plywood platform elsewhere. How about on top of a Poa-grass tussock in one of the remnant native grassland fragments of the Midlands, or perhaps on a raft tethered over a bed of seagrass and kelp off the East coast? These and other non-forest areas have been identified by real conservation scientists as the real reservation gaps in Tasmania. Observer-tussock or Observer-kelp anyone? That many people would find this absurd says as much about the genuine blind spots in society's appreciation of nature in all its rich variety as it does about the all-pervasive anti-forestry publicity machine that has hoodwinked so many of us.

8th December 2012

As canny businessmen, ecotour operators Pennicott and Johnstone must be well aware that it is in their interests to take advantage of privileged access to the media and to agitate for a forests agreement. After all, it may matter little to their predominantly wealthy and interstate clientele if Tasmania loses perhaps a quarter of its wealth-generating potential. What concerns me is why we locals should be expected to suffer the economic consequences when the agreement is built on little more than a house of cards in terms of real nature conservation benefits.

22nd November 2012

Anyone who still thinks this forests deal is a good outcome for nature conservation - let alone for the economy, the taxpayer, primary production or greenhouse emissions abatement - has been sorely misled. In forsaking science and due process for political expediency, the only beneficiaries of this farcical and morally corrupt process are the wilfully ignorant ENGOs and - temporarily at least - the government.

15th November 2012

In the interests of injecting some science into the debate on native forestry, I draw readers' attention to a new report 'Contribution of CAR reserves to mature-forest biodiversity in production-forest landscapes', available as Report Number PNC 142-0809 on the website of Forest and Wood Products Australia. The study behind the report took place in Tasmania's Southern Forests and involved an enormous amount of hard thinking and hard labour by a large team of local researchers (myself included) with collective expertise in ornithology, botany, entomology, forestry and landscape ecology. It found that reserves don't have to be enormous to be effective at retaining their biodiversity, and that a network of reserves throughout the landscape allows resident species to recolonise nearby forest regenerating after harvest. The lesson I draw from this work is that well-regulated native forestry in Tasmania is about as green (with a small g) a primary production system as you can get – which makes those calling for its abolition or for massively unstrategic reservation look decidedly ungreen.

4th November 2012

Bruce Felmingham is right to call for government to make some tough decisions on forestry in the wake of the peace-talks meltdown. But proffering simple compromise as the solution implies that both factions have equally valid claims. As I have written many times, the ENGOs' reservation claims do not stack up: they are scientifically invalid, a sham, a beat-up, and perverse. Squeezing forestry operations into a much smaller estate risks delivering increasingly intensive, confronting, commodity-driven forestry: a recipe for continued forest wars. That this may be a politically unpalatable observation makes it no less in need of a sensible response. Perhaps a way forward would be for government to legislate for a reduced sawlog supply target (as has been on the table) and to 'park' the reservation issue pending independent and competent scientific advice. If that advice proposes a radically different configuration of additional reserves (as I believe it would), then government will also have delivered a native forestry industry that more of us can be proud of - one that focuses on quality more than quantity, and that demonstrably integrates conservation into production across the landscape. This future is within our grasp – given the right signals from government.

30th October 2012

Education minister Nick McKim and teacher /tree-sitter Miranda Gibson both recently demonstrated a worrying disregard for science literacy, given their chosen careers, when they described the ENGOs' self-designated high conservation-value forests as 'scientifically validated'. Nothing could be further from the truth. An independent scientific and political critique of the West Report exposing its sham validation process could easily clock up as many pages as the report itself (and would probably remain equally unread). In the meantime, the best that can be said is that West delivered a highly selective and poorly synthesised compendium of information that was entirely in keeping with the warped political agenda that it was intended to serve. A small proportion of its contents could one day find use in a proper scientific validation exercise that would examine the real conservation priorities across Tasmania's forest estate. Until that happens, environmentalists have nothing more than another mischievous catch-phrase and some very shaky foundations for further myth-making.

28th October 2012

If the ENGOs pause long enough to contemplate their failure in the forests peace talks, it might dawn on them that bullies tend to get their comeuppance in the end. Introspection might also allow them to admit that they made one massive tactical error in basing their reservation proposals on whim and prejudice rather than sound conservation science. This alienated professional foresters, conservation biologists and many others who hold science and due process in high regard. Alas I fear that, like latter-day gods of war, the ENGOs will instead resort to inflicting their wrath and retribution on anyone not sharing their blinkered, fundamentalist vision. Personally, I hope this leads to their self-destruction and allows some more credible, science-based brand of environmentalism to rise from the ashes. After all, there is no shortage of real environmental issues warranting our collective attention in the world today.

3rd October 2012

Media coverage of the Gunns collapse seems to be pandering to a politically expedient view of the whole forestry debacle. The anodyne euphemism of the 'market downturn' may suit the current government's agenda, but air-brushes key players from the history-books. Consider, for instance, Greg l'Estrange, who has hardly got a mention in the media recently despite heading up Gunns over its terminal years. Without wishing to let anti-forestry campaigners off the hook as the ultimate drivers of the sector's woes, in terms of proximal causes I think l'Estrange has a lot to answer for. It seems to me that he has:

- given unwarranted legitimacy to environmentalists' campaigns of economic sabotage;

- precipitated two years of political uncertainty through kick-starting (and then ducking out of) the secretive, undemocratic and unprincipled 'forestry peace talks';
- been complicit in framing public and political discourse around a false choice between native forestry ('unsustainable and old-fashioned') and plantation forestry ('sustainable and forward-looking'), regardless of the opposing science and of the consequences for other players in the sector;
- flooded the markets with discounted company product as part of its fire-sale of assets, undermining the viability of others in the marketplace;
- limited access to overseas markets via its export facilities, including selling off the Triabunna woodchip mill cheaply to a consortium of so-called environmentalists, despite much higher offers from industry players;
- precipitated a crisis for forest managers forced to reschedule harvesting and regeneration operations to minimise the production of waste- (formerly pulp-) wood (while still having to honour sawlog and veneer contracts); for harvesting contractors unable to service debts when the work dried up; and for sawmillers unable to cope with accumulating waste wood;
- left government to pick up the tab for the company's debt to Forestry Tasmania, and for the knock-on economic effects of the sector's troubles on the rest of society.

It seems to me that it's not just Gunns shareholders that should be feeling let down – it's anyone in this State with a sense of fair play.

4th September 2012

Condemning the Margiris on the basis of past overfishing disasters is disingenuous. Australian fisheries science has advanced enormously, environmental policies have improved, and regulation has tightened to the point where overharvesting seems highly improbable. Claiming that Tasmania is on a par with Mauritania insults the many dedicated professionals who have brought about these improvements. If we are such a push-over, why didn't the Margiris come here first? I see strong parallels with the anti-forestry arguments. These have relied on painting world-class Tasmanian forestry as antediluvian and of the dinosaur era, ignoring three decades of science, policy and regulatory achievements that gave us the Forest Practices Code, Regional Forests Agreement, CAR reserve system and permanent native forest estate policy, to name but a few. The world needs food and wood. All other things being equal, it makes sense to source these from jurisdictions best able to sustain both the resource-base and broader environmental values.

3rd September 2012

Taking an axe to Forestry Tasmania has long been a Green dream: characteristically simplistic and vindictive, and perversely likely to drive an intensification of native

forestry rather than promote good conservation outcomes and ecological sustainability – let alone improve economic efficiency. Isn't it just a little bit ironic that the axe-wielder is our minister for primary industries (and resources, and planning)? Perhaps it's nominative determinism showing through – the tendency for people to take on the traits of their surnames. Voters still have many months to wait to cast judgement on their government's performance. In the meantime, how much lower can we expect ministers to stoop, and how much further will they stray from their supposed core values, in the name of self-preservation?

21st August 2012

Have the ENGOs finally come to their senses and conceded that their mass reservation proposal is fundamentally flawed? It certainly seems that way if the signatories' words are to be trusted in their recently released 'Vision for Tasmania's forests'. Why? Because for the first time they openly accept that there's much more to conservation than reservation and that it plays out across entire landscapes. In particular, they signal that any new reserves should meet the Australian government's strict selection criteria under the National Reserve System (NRS). This is interesting, because Tasmanian levels of reservation under the NRS generally already meet – and often greatly exceed – the nationally and internationally agreed 17% target. The only bioregion where this is clearly not the case is the North Midlands, where none of the ENGOs' proposed reserves are to be found. This is no big surprise, because the NRS approach adopts the 'comprehensive, adequate and representative' reserve selection framework that was already implemented in full for State forest under the Regional Forests Agreement. So where does this leave the signatories? Perhaps calling for some minor re-jigging of reserve boundaries to nudge reservation levels over the bioregional targets in 'gappy' parts of the landscape? Or perhaps recommending that the native forestry sector be allowed to resume its business in peace, safe in the knowledge that its highly regulated activities are broadly compatible with conservation? It's about time we all found out.

8th August 2012

The forests IGA is like a house of cards, underpinned by sham science that defies logic and certainly would not withstand formal peer review. Its collapse would reveal a joker on the reverse of every single card in the pack, each a dead-ringer for one of our esteemed ENGO leaders, twisted smile mocking our gullibility and acquiescence.

6th August 2012

Aaron Lakin's thesis in the Sunday Examiner that there is little chance of the IGA producing peace in our forests rings true. However, his characterisation of the 'war' as an ideological one between 'those who place economic imperatives above ecological

ones and those who put the environment first' is a false dichotomy. Placing economic imperatives above ecological ones may be what some politicians and businessmen do, but not most professional foresters because you can't sustain forests (and the supply of harvestable products) while ignoring their ecology. In reality, the science of ecology demonstrates that extensive native forestry and conservation can be natural bedfellows rather than polar opposites. As to the anti-forestry agendas of environmentalists, these don't seem to be driven by ecology at all; rather, they are driven (I imagine) more by knee-jerk reactions to seeing trees cut down and then inferring the worst, in accordance with their own myths and beliefs. Society's failure to recognise the false dichotomy for what it is threatens to burden us all with policy failure: an IGA delivering ecologically unnecessary reservation and ecologically undesirable intensification of forestry on what's not reserved.

25th July 2012

To what lengths will the ENGO negotiators go to secure their Tasmanian forest reservation package? Having already brought the forestry sector to its knees through market attacks and two years of political uncertainty, it now seems that they are prepared to sanction an increase in the intensity of native forest harvesting on non-reserved land. This is not an olive-branch for forestry, it's a poison chalice. If they think that it would be a good conservation outcome, they're even more blinkered than I had realised. Why do people continue to refer to them as conservationists when they don't seem to know the meaning of the word? What happened to the concept of sustainability? It's not just a buzz-word, it's meant to be a guiding principle for how we manage our resources and our lives, but the ENGOs have squeezed it out of the debate. If we really want to see good conservation practices, we need a process with objective science at its heart – there are many competent conservation biologists in Tasmania, but they have been disenfranchised in favour of paying lip-service to science, as recent reviews of the ENGOs' and IGA reports have made clear. If this agreement goes ahead as currently envisaged, then society and the wider environment will be paying a huge price for the ENGO negotiators' arrogance, hypocrisy and wilful ignorance.

14th July 2012

Why are our democratic structures so vulnerable to policy-capture by extremists? Somewhere in their upbringing, the present leadership in the anti-forestry camp seems to have missed out on some of the fundamentals of social and cognitive development. They value myth-making over critical thinking; fear-mongering over rationalising; fiction over science; closed-mindedness over learning; self-righteousness over modesty; petulance over humility; argumentation over discussion; fanaticism over tolerance; social division over harmony; rights over responsibility; self-serving beliefs over a cold, hard look at the facts. They spread distrust yet are themselves demonstrably untrustworthy. Why, in the circumstances, are our politicians rewarding bad behaviour by engaging with them? It cannot lead to a sensible outcome. People with this sort of character-profile are like spoilt

children: they don't do negotiation, they expect capitulation. Let them spit the dummy instead – it will expose their moral immaturity, while giving some space for the grown-ups to begin developing science-based policies that really do try and do the right thing for society and the environment.

25th June 2012

With a possible resolution drawing near in the forests intergovernmental agreement, I hope that Tasmanians are not fooled into believing that this retrograde process has had a firm basis in conservation science – quite the opposite in fact, as anyone who has critically read the IGA reports should be aware. Because science has been so subverted, expect any real nature conservation benefits to be marginal, and offset by losses elsewhere. Meanwhile the process has already impacted hugely on the forestry sector, with more pain to follow. So if the agreement isn't driven by science, what is driving it? At one level, it's down to the perverse politics and misplaced priorities of what passes for environmentalism in Tasmania. At another, it's just one more case of politicians valuing self-preservation over the public good. Thus have these forces conspired to re-brand market sabotage and market lockout as the 'market downturn', from which forestry must be 'saved' by the IGA. This would all seem merely farcical were it not for its serious impact on employment and the economy. It seems all the more ironic given that native forestry must rank among the most ecologically sustainable of natural resource management activities around.

18th May 2012

Before Tasmanians join in the railings of a certain cabinet minister against his own government's budgetary support for Forestry Tasmania, let's not forget that the parlous financial condition of the formerly profitable government business enterprise is largely the doing of the anti-forestry fundamentalists and their wealthy benefactors who count themselves among the minister's chief support-base: *their* campaigns of misinformation, *their* smears, *their* market attacks and *their* economic sabotage. The direct imposts on the poor Tasmanian taxpayer are now self-evident. But where are the real conservation benefits that might conceivably justify this societal pain? Regrettably, I for one don't see any, but nor would I expect to given the flawed logic and decidedly un-green thinking that has underpinned the so-called environmental campaigns of recent years.

22nd April 2012

Ever since the eighties and Farmhouse Creek, Bob 'Lorax' Brown has doggedly preached that Tasmanian-style native forestry equates to total forest destruction, and a whole generation of impressionable environmentalists has taken him at his word. So I wasn't sure whether to laugh or cry when I read his comments describing his proposed 'wilderness walk' from Hobart to the Styx. According to Bob, the logged native forest en

route hasn't been trashed after all, and 'has great potential to recover quickly'. Perhaps he has finally learnt that the last tree isn't about to be cut down, and that our forests aren't stocked with truffula trees but with eucalypts and their congeners that regenerate as well after harvest as they do after wildfire. Bob wouldn't be the only environmentalist paying foresters a sideways compliment these days: the ENGOs backing the Tasmanian Forests Intergovernmental Agreement consider that the once-logged forests in the vicinity of Bob's old stomping-ground at Farmhouse Creek now have high conservation value too.

21st April 2012

As a newcomer to Tasmania, Ross Sala Tenna's reaction to the autumn regeneration burns (Saturday Mercury) is understandable – many long-term residents find them equally confronting. However, this is no reason to declare our forest practices either antiquated or third-world. Indeed his letter was so full of forestry and ecological fallacies that to respond to them all in writing would require far more space than the editor would allow me. Instead, I would recommend that he (and others in a similar position) have a one-to-one chat with a professional forester or forest ecologist, because of the wealth of knowledge and experience on which these professionals can draw. It's not that anyone's going to try to persuade people to love regeneration burns, it's more that it ought to be possible to dispel a whole swag of misconceptions that can end up clouding one's perspective on forestry and conservation. In my experience, those who have been prepared to engage with the forestry profession in this way, rather than learn their forestry from others with altogether different agendas, have been pleasantly surprised at what they have learnt.

3rd April 2012

We have all heard about the subversion of hard evolutionary science by creationism. But how many readers are aware that in Tasmania, the hard science of conservation biology is being subverted by what we may call environmental validationism? You start with a fixed position ('the ENGOs have told us where the forest reserves should be'), and then you write a report that cannot test the ENGOs' claims because it doesn't consider whether the reserves, either in their entirety or in part (a) are any better than a random slice of Tasmania and (b) fill critical gaps in the existing reserve network. This is the polar opposite of a sensible conservation planning exercise, and a perversion of the scientific process.

25th March 2012

Evidence-free anti-forestry letters provide the newspapers with glib, bite-sized offerings for their readers. In contrast, the task of explaining how things really are in forestry faces a major handicap: it takes many more words, because of its sheer complexity and because

of all the entrenched myths that must be countered along the way. Please bear with me – I just hope the editor will give me the space I need to elabor…

24th March 2012

Science has never been a strong point in the anti-forestry camp's arguments, but Bob Brown demonstrated an abysmal grasp of the scientific process in claiming that the West report offers scientific proof that the ENGO-nominated forests 'need to be protected'. It can do no such thing. The so-called 'validation' exercise failed to compare the nominated forests with forests elsewhere in Tasmania irrespective of tenure and protection status. Accordingly, in my opinion, about all it can do is to 'prove' that if you reserve a forest, then its conservation values, whether assessed as trivial or profound, will henceforth be reserved. *Q.E.D.* Wow, what a momentous revelation, well worth the months of uncertainty and anticipation! On this logic, the ENGOs could now nominate a further half-million hectares of 'HCV' forest reserves and have that claim 'scientifically validated' too. Before this report is given any more credence, it should be peer-reviewed by competent, independent and ideologically unbiased conservation scientists. Otherwise, to the many perverse non-conservation outcomes likely to arise through this process, we can add the gross perversion of science.

15th March 2012

No surprise that many people feel uneasy about Tasmanian forestry, given daily media coverage of anti-forestry diehards' messages of deforestation and destruction, greed and corruption. Career fundamentalists have created their very own forestry ogre – a public target for endless tirades of vilification and outrage. My hope is that freethinkers can distinguish this 'straw-man' version of forestry from the real thing. Real forestry is not about sustaining social polarisation, it's about sustaining forests – a complex balancing-act, grounded in long-term and big-picture thinking, empiricism, ecology, stewardship and adaptive management. Forestry is not always pretty, but foresters appreciate that looks aren't everything and that social attitudes are impermanent, sometimes changing faster than the trees can regrow after harvest. They recognise that, for markets to have faith in wood's credentials of environmental superiority, wood-supplies must be certified as sustainable, and must also be sustained. Many fear that bowing to today's anti-sustainability brand of faux environmentalism will deliver perverse policy outcomes that undermine best-practice forestry and conservation. They are wary of pressure for another spree of poorly-targeted forest reservation, especially if this doomed attempt at appeasement is accompanied by deregulation or intensification of forestry locally plus further unsustainable forest exploitation overseas.

8th March 2012

We would like to put some facts on the table regarding the informal forest reserve system on state forest. The area of informal reserve already exceeds 300,000 hectares, a figure which is still growing and which currently represents a fifth of the entire area of state forest. Informal reserves comprise a network of unharvested forest dispersed through the production-forest landscape. They encompass a diversity of forest types and capture a range of conservation values, including priority forest types, significant geological features and habitat for threatened species. While some informal reserves are as small as 1 hectare, there are hundreds more which are each over 100 hectares - larger than many of Tasmania's formal conservation areas. In providing wildlife corridors, riparian buffers, refugia and structural complexity, these reserves contribute important ecological functions that are well understood by professional conservation biologists, even if not by some prominent environmentalists.

19th February 2012

To the extent that a McKim-led mission to East Asia would risk exposing "the truth" about forestry in Tasmania, I see little reason for either the government or the forestry sector to oppose it. To keep to his threat, McKim will presumably need to prepare some sort of evidence-based dossier on forestry and conservation, based on actual facts and sound scientific principles rather than innuendo and supposition. Almost by definition this will require him to look beyond his usual set of faith-based advisors and wilfully ignorant anti-forestry support-base. I am pleasantly surprised that he appears to be prepared to set such a sensible precedent for his party, and can only hope that sooner or later he will adopt the same tactics domestically. Who knows, an outbreak of honesty might one day lead to a wholesale overhaul of his party's anti-sustainability, un-green forestry policies and spare Tasmania further perverse, non-conservation political outcomes. Then again…

17th December 2011

I wonder if the Tyenna tree-sitters and their political masters would see it as hypocritical or merely ironic that they chose to construct their platform from wood? On the one hand, they are demonstrating against the concept of production forestry in Australia's native forests, as though it were illegal and a crime against the environment. On the other hand, they are demonstrating the utility of wood. Where do they think the wood for their 'observer' platform comes from? They might observe that, being plywood, it probably doesn't originate from well-managed and highly regulated Australian native forestry – so they can breathe a small sigh of relief on that count. Just possibly it came from certified Australian radiata or hoop-pine plantations – but if so, the certification scheme is not the one the environmentalists approve of. Far more likely is that the plywood is imported, uncertified and a product of unsustainably – perhaps illegally – logged tropical rainforest. Perhaps we should ask the beleaguered orang utans of Sumatra and Borneo for their observations on the environmentalists' priorities.

26th September 2011

Newspapers love a good controversy, whether it be about foxes, climate change or forestry. It's fashionable for reporters to refer to the 'antis' in these stories as sceptics. But let's not confuse scepticism with denialism. Scepticism is a healthy questioning of one's beliefs, coupled with a willingness to change those in the light of new evidence. It is a product of critical thinking and is something we should all aspire to. Denialism, on the other hand, is a stubborn refusal to alter one's viewpoint despite the evidence. It can become obsessively delusional, leading to conspiracy theories worthy of Iranian president Ahmadinejad. The sad part is that so many other people can get hoodwinked into sharing the delusion, whether it be fox denial, refuting the scientific consensus on climate change, or falling for the simplistic and unscientific arguments of the anti-forestry environmentalists. It's particularly scary that we're apt to vote in governments that are prepared to act on those delusions.

1st September 2011

With the economic viability of native forestry so diminished by the campaigns of environmental fundamentalists, many landholders will be tempted to cut their losses and turn their forested land over to agriculture. But Tasmania has a permanent forest estate policy. Under this policy, there's not much scope for further clearance because so much native forest has already been converted to plantation over the past few years. Any erosion of the policy in order to sanction a renewed spree of clearance would be a particularly perverse non-conservation outcome of the current political process. The deafening silence of the anti-forestry camp on this important issue is telling.

30th August 2011

Leo Schofield wonders why today's forestry workers can't take a leaf out of the old linotype operators' book from his days as a cadet journalist and 'accept radical change'. But he's asking the wrong question. Linotype machinery was clearly about to be superseded by technological advances in the print-room, but what advance is sweeping today's forestry jobs away? What forestry workers have trouble accepting is the *need* for radical change, when the justification for this is so flimsy and has more to do with the politics of environmentalism than it does with either economics or social and ecological sustainability.

30th August 2011

Why would a Government promoting a development plan that 'builds on Tasmania's natural advantages' opt to wind back native forestry? And why would a Government that warns the Upper House over 'playing politics' with this issue sign an agreement with the Feds that ties the promise of regional development dollars with this wind-back? In terms of climate, ecology, conservation, regulatory framework, existing forest cover, land tenure and low population, Tasmania is one of the best places in the world to do native forestry – natural advantages don't come much bigger than this. Pretending otherwise is playing politics.

7th August 2011

There's some real science that's gone into the environmental fundamentalists' stance on native forestry. It's the political science that says that if you keep loudly repeating your fallacies with enough conviction, then eventually the number of influential people who believe you will reach a critical threshold and you'll get your way, despite the perverse outcomes. We would have had a very different, and fundamentally more principled, set of forestry principles for our elected governments to agree to if natural science had held sway instead. In fact we might have elected different governments in the first place.

24th July 2011

Congratulations, so-called forest environmentalists.

You have turned your back on science and critical thinking.
You have chosen to ignore inconvenient truths.
You have been taken in by your own empty rhetoric, and duped many others in the process.
You have engendered an atmosphere of distrust that has poisoned social discourse.
You have demonised those who could contribute most to building a sustainable future for Tasmania.
You have concocted falsehoods to fuel your outrage.
You have conflated environmentalism with ecology.
You have confused forest reservation with conservation.
You have confounded carbon storage with carbon sequestration.
You have assumed that forests never change except at the hands of humans.
You have initiated a transition away from sustainability, not towards it.
You have entrenched short-rotation, chemically-intensive plantation forestry.
You have handed unscrupulous overseas loggers a licence to send their wood our way.
You have all-but destroyed Tasmania's capacity to profit from long-rotation, carbon-sequestering, conservation-compatible, organic native forestry.
You have become blind to the real environmental issues of the day.

And through all of this you have assumed the moral high ground.

Tell me where 'green' comes into all this.

16th June 2011

The antics of Tasmania's so-called forest environmentalists appear especially ludicrous from afar. I have recently visited Canada and Europe. Without fail, the ecologists that I have met have been at a loss to comprehend why environmentalism in Tasmania is so out of step with the rest of the developed world. Elsewhere, people are demanding greater use of sustainably produced wood in place of imports and greenhouse-intensive alternatives. In Sweden, forest companies are required by the Forest Stewardship Council to conduct regeneration burns because of its ecological benefits. In the UK, the public is rallying in support of the (publicly funded) Forestry Commission, which the cash-strapped conservative government is threatening to downsize or sell off. In Canada, foresters look with envy at the production potential of Tasmania's forests (which grow ten times faster than theirs), while Canadian conservationists look with equal envy at Tasmania's forest practices system, our Regional Forestry Agreement, and our levels of forest reservation.

Waging a war on sustainable native forest management makes no sense in a world in which we all use wood and in which both substitution and the alternative forms of production come with a hefty environmental price-tag. I hope that by now the wider public in Tasmania can see through the rhetoric and recognise the current 'peace' process for what it is: self-interest and opportunism on the part of narrow interest groups, with no real basis in the science of conservation or forest management. It seems grossly unfair – not to mention undemocratic – that the whole of society should be burdened with the ensuing economic, social and environmental costs.

9th March 2011

As long as the discourse on forestry continues to be framed in terms of a polemic on conservation *versus* production (or jobs, or dollars), our society will remain divided. Those that peddle fear, hatred and ignorance will continue to prosper, and we'll witness more confronting forest practices, either in our own back yard or in somebody else's. A mature and rational society would refuse to swallow the rhetoric, and would recognise that you get the best forestry and conservation outcomes – and reap the social and economic rewards – through integration, not separation.

My vision for the future – sadly not currently on the political agenda – is one in which the relentless drive for more intensive plantation forestry is turned around, through a renewed focus on extensive management of our native forest landscapes coupled with new plantings to rehabilitate degraded agricultural land. That way, we can grow wood and food where each grows best, and still leave room for nature. Either that, or we should all stop consuming wood, while spurning alternative products with a bigger environmental footprint…

7th January 2011

I wouldn't find Leo Schofield's writings so irritating and patronising if he stuck to what he knows about. In his latest ill-informed piece, he takes yet another swipe at Tasmanian forestry, calling it 'outmoded', as if doing forestry were all about some trite fashion statement designed for his instant gratification. It isn't. It's about supplying the forest products and services that the populace continues to demand, and doing it sustainably over the long term. Fashions change annually but trees take decades or centuries to mature; this calls for continuity of management. Sure, we need to keep incrementally improving forest practices, especially over that short period in the long life of a forest when it is harvested – but on the basis of changes in our scientific understanding and in community expectations, and not, as Schofield would regularly appear to have it, on the basis of fashion or his own whims and fancies. Given continued local and global demand for forest products, I anticipate that rumours of Tasmanian forestry's death, peddled by Schofield and others, have been greatly exaggerated.

3rd January 2011

I am surprised that after so many years of reporting on Tasmanian forestry matters, Sue Neales still turns out articles that fail to do justice to the complex world in which forestry and foresters operate. Last Saturday's 'talking point' article is no exception. While the 'benevolent and driven' individuals she praises are undoubtedly influential, some critical thinking regarding their contributions towards charting a way forward for forestry and conservation wouldn't go amiss before we canonise them.

Let's start with Greg L'Estrange, whom Neales credits with being a 'positive agent for change' and inducing a 'long-overdue overhaul' of the forestry sector. In steering Gunns away from native forestry (in Tasmania at least, if not elsewhere), some would say his self-interest coincides with Tasmania's, but there are at least as many conservation cons as there are pros - more in my view - in phasing out native forestry on state forests and substituting their production potential with intensive plantations and imports of often-dubious origin. And let's not forget that his commitment is said to be conditional on a seven-figure government bail-out.

Then there's Bothwell farmer Peter Downie. Good on him for achieving FSC accreditation, but to then so disparagingly contrast this achievement with Forestry Tasmania's lack of FSC accreditation for its statewide operations overlooks the small matter of scale and the fact that under FSC local guidelines, environmental NGOs effectively have the power of veto over accreditation, even when all the ecological sustainability boxes are ticked. Neales fails to mention, too, that the Downies were able to pick and choose which parts of their estate they put forward for FSC certification, and which parts they preferred to manage to other standards. Imagine the cries of greenwashing if FT attempted this! Neales also uses the term 'clearfelling' pejoratively,

as though it's some evil sort of native forestry practised only by those who don't have FSC certification, while forsaken by those who do. The truth is that, silviculturally, clearfelling suits some forest types very well, but it doesn't suit those on the Downies' property any more than it suits a high proportion of state forest where FT also practices partial harvesting.

And then there's Jan Cameron. Again, good on her for buying up all those forest assets that Gunns was liquidating. But were they all under threat of 'immediate clearfelling' if she hadn't bought them, as Neales claims? No - some had already been harvested but still evidently had high conservation values; others would have been destined for partial harvesting, or would never have been harvested at all. And while it's fantastic that Cameron chose to add these purchases to the Tasmanian Land Conservancy's portfolio, let's not forget that her generosity has limits, in that this very worthy recipient now has to raise the money to pay her back. And let's remember, too, that TLC's conservation holdings are still an order of magnitude smaller than the area of formal and informal reserves on state forest managed - gratis - by FT.

As one of my forestry professors once said, 'forestry's not rocket science - it's much more complex than that'; to which I could substitute the word 'conservation' for 'forestry' to the same effect. As the quality of public debate in Tasmania amply demonstrates, he certainly had a point.

2nd December 2010

Paul Lennon is right to call for more certainty for the forestry sector, but I don't believe he's right to characterise the issue as one of 'economy versus environment'. In fact, if the environment really were considered holistically then I doubt we'd be hearing such vociferous calls for an end to native forest logging. To me, the whole premise is a furphy, because we're just deflecting production elsewhere, at higher environmental cost and quite probably higher economic cost too. Acting locally for the environment has to be done in the context of thinking globally. Expanding plantation forestry, whether in Tasmania's agricultural landscapes or overseas, is not an environmental panacea. You can't boost its credentials just by sticking the word 'sustainable' in front of it, as is the fashion among those promoting the supposed benefits of the Forests Principles. If we were to be a bit less myopic, we might detect growing awareness that peak oil, peak phosphorus and carbon concerns will all converge to change the social and economic landscape dramatically in the next few years. Local, native forestry may even emerge as an environmental obligation rather than something to shun. The question is, as that time approaches, will we still have the capacity to manage these forests sustainably if the sector has been decimated in the mean time?

26th November 2010

The anti-forestry camp of environmentalists seems to have got itself stuck in an infinite logic loop. It goes something like this: 'we've been shouting about how bad native forestry is for so long that native forestry must be *really* bad or we wouldn't have been shouting about it for so long, and if native forestry's really that bad, then we'd better keep shouting about it all the louder…' The outrage itself seems to have become the motivation for further outrage, detached from the big-picture reality of what well-managed native forestry is *really* like. How ironic, then, that this camp seems set to have so much sway over Tasmania's future direction. The rest of us may have to live with a forests agreement that will see the phasing out of an industry that has more potential for environmental sustainability than perhaps any other. There's a measure of hypocrisy in this vociferous minority now bending the government's ear over this issue, since it's not long ago that they were so loudly indignant over the unseemly influence of pulp-mill protagonists on government policy.

18th November 2010

How characteristically hypocritical of those crying foul over the pro-native-forestry petition launched by the People of Forestry Tasmania. The forests agreement process has so far denied hundreds of hard-working professional foresters any substantive say in their own destiny or that of the forestry sector at large, despite the wealth of relevant expertise represented among them. It is now crystal-clear to many that the premises on which the agreement is built owe more to anti-forestry prejudice than to any well-grounded concern for good conservation outcomes or for global sustainability; this latest outcry appears to be further evidence of this.

21st October 2010

Should the current Forest Agreement process come up with a package that can be sold to us all as the Agreement to end all Disagreements, then it may duly win the support of the public and government. But in ecological terms, if the current set of Forest Principles were implemented in full, Tasmania would be the unwitting victim of an unprincipled victory of prejudice, dogmatism, opportunism and naivety over science. If our governments deflect upwards of a billion dollars of our taxes towards trying to make it work (inasmuch as it ever can), I'll want to know what's not being funded as a consequence. If they've really got this sort of money to pass our way, how about spending it on some real Tasmanian environmental and conservation issues? To name a few on my personal wish-list: a comprehensive network of no-take marine conservation areas; a conservation management scheme for private native woodlands and grasslands of high conservation-value (defined on scientific criteria, not as used in this Agreement); development of an environmental code of practice for farmers (like forestry has had for twenty-five years); incentives to encourage farmers to go organic (like most of our much-maligned native forestry); a scheme for rehabilitating wetlands; and an expanded program of active nature-reserve management - including ecological burns, eradication of weeds, control of root-rot fungus and control of feral animals.

12th October 2010

So the environmental knights of the forestry round table want to see Tasmania's native forestry phased out over thirty years, in their quest for the Holy Grail of peace in our forests. This supposedly virtuous act is ecologically naïve, and threatens to have perverse environmental consequences. As a conservation biologist, I can't support it. I'm all for peace, but at what price?

For those interested in what the future may entail, consider some of the non-conservation outcomes of the 1999 South East Queensland Forests Agreement, with its 25-year phase-out of native forestry on state land – you can read all about it in a 1997 article by Dr Clive McAlpine from The University of Queensland's Ecology Centre, in the journal *Biological Conservation* vol 134. That Agreement (brokered by many of the same environmental players now involved in the Tasmanian talks) certainly diffused tensions and reduced social polarisation. But science was sidelined, and the region is paying the price in an increasingly polarised ecological landscape instead. The Agreement incorrectly assumes that conservation equals reservation, yet it mainly increased reservation for the least-threatened forest types (wet eucalypt forests and rainforests), while doing nothing for more pressing conservation needs, most of which lie on private land or need to be dealt with at larger spatial scales. In the interim, it has allowed once-only logging of non-reserved state forest, including an *increased* intensity of logging in dry forests, leading to severe long-term ecological degradation with little prospect of public funding for restoration. The Agreement has also put increased pressure on those ecologically more valuable private forests to fill the timber supply gap. But hey, South East Queensland will eventually get more conservation reserves, and will be out of native forestry on state land - so it must be a 'good thing', mustn't it?

Now consider the concession systems of countries such as Indonesia, where the allocated concessions are typically shorter than the length of time it takes for the native forest to fully regenerate after harvest – equivalent to what's eventuated in South East Queensland and what's proposed for Tasmania. In such a situation, promoting sustainable forest management is an uphill struggle – I should know: I worked there in the 1990's. The concessionaire has little incentive to invest beyond the current harvest, and only does so under duress. At best, it's all stick (if the government has the capacity to wield one) and no carrot. Economists dub the usual outcome rent-seeking; I call it asset-stripping. It's the antithesis of sustainability – discounting the future for the sake of the present.

We have to do better than this in Tasmania, but I am not optimistic given the current process. What reasons will the next generation of environmentalists have to thank the present one, when 'the iniquity of the fathers stands to be visited upon their sons'? Will time merely reaffirm the prejudices of the present generation, that conservation and native forestry are at opposite ends of a spectrum of virtue – a self-fulfilling prophecy? Or will the forestry industry and profession somehow muddle through, biding time until native forestry is seen as part of the solution, not the problem?

30th September 2010

As the forestry peace talks near some sort of conclusion, we all hope soon to be able to breathe a collective sigh of relief that the 'war' is over. But I ask that the general public be mindful of the underlying, simplistic assumption of 'native forestry bad, plantation forestry good'. It is not one shared by those in the forestry profession who are aware of the breadth, depth and integrity of the science and management systems underpinning both forestry and conservation in this State. It is also worth noting that plantation forestry is often vilified (including by local conservationists and politicians) because of its use of pesticides, herbicides and agricultural land. What I am suggesting is that the debate on (or war against?) forestry won't go away when these talks are over, even if the goalposts shift. This is something we could usefully bear in mind when considering whether these talks deliver a sensible outcome for our industry, environment and sense of social cohesion.

8th September 2010

There are many legitimate reasons to value the western rainforests and tall wet eucalypt forests, but maybe somebody needs to tell the devils that from now on they also comprise prime habitat for this threatened species, despite scientific evidence to the contrary. While devils can occupy most terrestrial habitats beyond the urban fringe, they prefer more open and productive country (including, in my experience, game-rich forestry coupes). It's telling that those making such pronouncements are not respected ecologists but people with – excuse the pun – an anti-forestry axe to grind.

7th September 2010

When it comes to our native forest assets, we really are the Lucky State in the Lucky Country. Not only do we have enough of the stuff to lock-in a world-class conservation reserve system, there's ample public forest left over to be managed sustainably to help meet society's demands for wood products. There are many ironies in the current debate over the fate of these forests. One is that, unless the demands for wood products magically melt away, the pressure to intensify production will rise as the area available for production shrinks, requiring the application of more confronting forestry practices and leaving less wiggle-room for integrating conservation. Paradoxically, it seems inevitable that this will deliver us an increasingly polarised landscape that is the very antithesis of good conservation practice. Is this really what we want from our public forests?

28th August 2010

If you think it makes sense for Australia to supply its own wood needs rather than increasing imports from our tropical neighbours; if you think it makes sense to recognise that native forest harvesting and regeneration is not the same as forest destruction; if you think it makes sense for forestry to be increasingly in tune with nature and to minimise the use of pesticides, herbicides and fertilisers; if you think it makes sense for local forestry to be subject to one of the strictest and most comprehensive codes of practice in the world; if you think it makes sense to prioritise reservation of rare forest types in Tasmania over reserving more and more of the same common ones; if you think it makes sense to give more credence to science and facts over innuendo and raw, negative emotion; if you think…then it makes sense to embrace the concept of native forestry in our state forests and to reject its vilification.

12th August 2010

Like many of my colleagues at Forestry Tasmania, and as a conservation biologist, I am deeply concerned about climate change. But I won't be participating in the forthcoming Walk against Warming. My reasons? One of the rallying cries for the Walk is 'cut emissions, not forests'. This may make for a nice feel-good slogan, but it's a false dichotomy, and smacks of deep hypocrisy. Native forestry is far from being the pariah industry that so-called environmentalists have enjoyed portraying it as. For a start, it's about nurturing and sustaining forests over the long term as much as it is about cutting them down. Given a fair go (which it's not getting at the moment), native forestry could be part of the solution to global warming, rather than the problem it's perceived to be. And it's one that can come at a much lower cost to the planet than the energy-intensive alternatives of more plantation forestry, more imports from afar, and greater use of non-renewable alternatives to wood products.

14th July 2010

All credit to the Downies for their adoption of such an enlightened approach to forestry and conservation on a designated part of their 6500-hectare Central Highlands property. They have achieved accolades from the normally sceptical media, acceptance from normally hostile environmental groups and accreditation under an internationally respected certification scheme. Now why can't Forestry Tasmania manage the entire 1.5 million-hectare State Forest estate this way? For instance, why can't harvesting of our dry forests be by selective logging - like the Downies propose? Why can't half of the estate - including most of the old-growth - be excluded from production, like on the designated part of the Downie property? Why can't they have in place publicly available forest management plans that demonstrate a long-term commitment to sustainable forestry - like the Downies have? And in recognition of this commitment, why don't they have accreditation under an internationally respected certification scheme - like the Downies have? Perhaps surprisingly for many readers, the answer to each of these questions is that they do, and have done so for years. While my portrayal outlined in this comparison is clearly simplistic, it nevertheless suggests to me that it's time for the media

to apply the same perception filter in their relationship with FT's activities as they have done with the Downies.

17th June 2010

I long for the day when there's an Australian political party – the 'Sensible Greens' party, perhaps? – that develops all its policies consistent with a philosophy that recognises that all nations share responsibility for sustaining the planet's natural resources and life-support systems. Come such a day, native forestry in Australia would be seen by this party as part of the solution – albeit one in need of an appropriate policy framework – and not as a problem to be simply wished away overseas.

5th June 2010

I find the current focus of the forestry debate on high-conservation-value forests ecologically unhelpful, albeit politically expedient for some. Does it imply that all other native forests are of low conservation-value and can be managed accordingly? If the agenda really is about nature conservation, then this seems like dangerous thinking that may deliver perverse outcomes. Nature doesn't polarise like this. From my perspective as a conservation biologist, the conservation values of our native forests extend throughout, changing over space and time in response to natural processes such as fire and regeneration. Reservation, while important, seldom ensures preservation, and is but one element of an effective conservation strategy. And given the extent of the existing reserve network in Tasmania, simply allocating more forest to reserves may deliver increasingly marginal conservation benefits. No, managing conservation values calls for a more sophisticated approach. It requires ensuring that the landscape as a whole remains ecologically resilient in the face of our management activities. Production forestry is but one land-use that can sit comfortably within this framework - if we do it well enough. Recognising this would allow an ecologically more meaningful debate centred on determining what types and levels of forestry activity are compatible with maintaining conservation values across our native forest estate.

13th May 2010

When it comes to dodgy firewood dealers, it's not only consumers that may be ripped off (The Mercury, 13 May) - nature often is too, though this isn't factored into the price paid. In many countries land is dedicated specifically to grow firewood, but here it is generally derived from native bush or paddock trees, or salvaged from forestry operations. Collection regulations exist and are followed by reputable dealers; even so, much wood-hooking in native bush involves felling dead trees or sawing up fallen logs, on the assumption that these will otherwise go to 'waste'. Yet research and experience worldwide demonstrate that old trees and logs are teeming with wildlife, much of which cannot live elsewhere; its progressive depletion from Tasmania's bush seriously

jeopardises a wide range of species, from stag-beetles to quolls. The time has come for consumers concerned about the impact of their use of firewood to request evidence of its origin, and to refuse it if it appears to come from an unscrupulous or ecologically unsound source.

20th April 2010

Fires destroy - and can pollute our air - but they also renew. Natural eucalypt forests depend on bushfires for their regeneration. No bushfires - no regeneration of eucalypt forest. Management of native eucalypt forest, whether for wildlife conservation or timber or both, likewise depends on fire. No ecological or regeneration burns - no regeneration of eucalypt forest. In wet eucalypt country, the differences between bushfires and regeneration burns matter much less to most species living there than whether or not the forest burns.

9th February 2004

So we now have 'noble pioneers' who respected and looked after our forests before the rapacious timber industry monopolised the resource (Neil Cremasco, Letters, Feb 9th). Would those be the same pioneers whose contemporaries, the noble mariners, were respecting the whales, fur seals and oyster beds? Sounds like a myth to me. Down the ages and across societies, people have tended to exploit natural resources to the limits of their technology if – like our forest pioneers - they had few other immediate survival options. Today we have vastly more sophisticated technology than our forebears that would allow us to ruthlessly exploit what's left of those resources. But unlike previous generations, there is a growing concern for 'sustainability': our relative affluence allows us to think of future supplies, future generations, and indeed other life-forms sharing the planet beyond present-day human needs or desires. Whether we approve of current forestry practices or not, they are streets ahead of our predecessors in the sustainability stakes. It's just that they're now on a scale that makes them so much more visible in the landscape by those whose main connection with forestry is as detached consumer of forest products rather than as supplier of labour.

There is however one big caveat, which makes me think that maybe it's time for conservationists to focus more on the demand side of the sustainability argument ('reduce, reuse, recycle') rather than the supply side. Today's sustainable forest management depends more on fossil fuels than ever before. Those pioneers used their own muscle-power where now we use machines. We know our use of fossil fuels is unsustainable. If the Commonwealth is prepared to contemplate offering greenhouse abatement dollars in support of using native forest harvesting residue to generate 'green' electricity, the forestry industry should also be gearing up to one day having to pay the Commonwealth greenhouse taxes for its heavy reliance on fossil fuels (as should the rest of us). Imagine how different the economics of Tasmanian forestry would be if fossil fuel prices were to double or treble. Would it still be economically viable to export bulky unprocessed forest

products half way round the world? Would it still make economic sense to bulldoze new forestry roads into currently unroaded areas? Would interstate or international tourists still be able to afford to travel to marvel at Tasmania's old-growth forests? And could any of us still afford to consume forest products in such vast quantities as though there were no tomorrow?
