



Submission to FSC on Sustainable Yield in Native Forests



South East Forest Rescue 2010



'Sustainable' Yield

'The rate of logging of forest products (trees) shall not exceed levels which can be permanently sustained'

Despite much scientific knowledge about the value of healthy forests as habitat conservation and carbon sinks, native forests in New South Wales can be logged with approval in varying ways depending on land tenure.¹ Conservationists have for some time lobbied strongly for conservation of both public and private lands, effective regulation and regulatory response to native vegetation degradation and land clearing, and advocated for stronger legislation governing native forest management.²

Over-logging of public forests has seen private forests, once envisioned as reservoirs of conservation, targeted, particularly in Northern regions, to supplement government wood supply agreements.

Fortunately traditional distinction of conservation on land tenures within the wider community is changing. Due to increasing public knowledge on climate change it is understood there needs to be considerably more conservation, both on public and private land.³

Both State and Commonwealth legislative instruments regulating conservation have thus far proved inadequate to meet international and scientific benchmarks of nature conservation. The statutes and delegated legislation are inadequate and lack of compliance and enforcement has ensured many species have become endangered.

The proposed assumption that the rate of logging shall not exceed levels which can be permanently sustained is currently non-applicable to logging in native forests carried out by Forests NSW. The assumption that current commercial rotation lengths will meet the requirements of 5.6. is also erroneous when applied to logging of native forests of NSW. Further all these forests contribute to the maintenance of ecosystem functions, notably as water supply catchments.

The authors contend that there should be no exceptions to logging HCVs. In fact all native forests of the south east have high conservation value, as habitat, water catchment and carbon sinks.

Firstly it is necessary to provide a brief overview of both private and public native forest logging in NSW.

Native Forestry on Private Land - Improving and Maintaining?

Under the *Private Native Forestry Code of Practice* ("PNF Code") broadscale clearing for purposes of private native forestry 'improves and/or maintains environmental outcomes' if it complies with requirements of the Code.⁴ The PNF Code provides that any area cleared must be allowed to regenerate and not subsequently cleared 'except where otherwise permitted'.⁵ A landowner can also seek development consent to undertake private native forestry outside provisions of the Code under the *Native Vegetation Act 2003* (NSW) ("NV Act").⁶ Landowners must prepare a Property Vegetation Plan ("PVP"),

¹ Steffen W, Burbridge AA, Hughes L, Kitching R, Lindenmeyer D, Musgrave W, Stafford Smith M and Werner PA, *Australia's Biodiversity and Climate Change: a Strategic Assessment of the Vulnerability of Australia's Biodiversity to Climate Change*, A Report to the Natural Resource Management Ministerial Council commissioned by the Australian Government, CSIRO Publishing, (2009); see Park H, *Biodiversity: Regulatory Frameworks Briefing Paper 3/2010*, New South Wales Parliamentary Library Research Service (2010).

² For one example of lobbying of government to enact regulations on private land see National Park Association, <<http://www.npansw.org.au/web/journal/200604/logging.htm>> viewed 23 July 2010.

³ Galaxy Poll, Galaxy Research- 28/30 May 2010, Job:100502A, three in four (77%) Australians want the government to stop the logging of native forests, almost three in four (72%) Australians favour the Federal Government assisting logging contractors to take redundancies, retrain or move permanently to a plantation based industry.

⁴ For a comprehensive background and critique see Prest J, 'The Forgotten Forests: the Environmental Regulation of Forestry on Private Land in New South Wales between 1997 and 2002' Phd Thesis, Centre for Natural Resources Law and Policy, university of Wollongong, (2003), available at <<http://ro.uow.edu.au/theses/413>>; under the *Native Vegetation Conservation Act 1997* (NSW) regional committees were formed, to produce regional vegetation management plans allegedly to designate areas of high conservation value; the *Native Vegetation Act 2003* (NSW) did not come into effect until 2005.

⁵ *Private Native Forestry Code of Practice for Southern NSW 2008* Introduction p1.

⁶ *Private Native Forestry Code of Practice for Southern NSW 2008*; the Sivicultural Guidelines state it is 'heavily based' on Florence RG, *Ecology and Silviculture of Eucalypt Forests*, CSIRO Publishing, Melbourne, 2004, which was prepared for use with the *Native Vegetation*

then a Forest Operation Plan ("FOP") which must contain recorded locations of any listed populations or endangered ecological communities.⁷ Logging can occur in endangered ecological communities as part of an approved 'Ecological Harvesting Plan' if approved by DECCW.⁸

While the FOP must contain details of flora and fauna management actions, it is not required to mention impacts logging will have on those species. Further, if there are records of species in adjoining areas of public land, species can be ignored for FOP preparation if it can be demonstrated that species have been protected and conditions of the relevant Threatened Species Licences ("TSLs") or Integrated Forestry Operation Approvals ("IFOAs") have been met'.⁹

The PNF Code provides that if there are not enough hollow bearing trees, that extra recruitment trees from the 'next cohort' must be retained, so total numbers of hollow bearing and recruitment trees retained in each 2ha area is 20.

Loss of hollow bearing trees has been listed as a Key Threatening Process since 2007.¹⁰ A discussion of conservation measures in place to maintain these hollow bearing trees in 1999 highlighted the following points:

Tree mortality is high; the ratio of one recruit tree to one hollow bearing tree is unlikely to maintain the targeted number of hollow bearing trees in Net Harvest Areas in the mid to long term.¹¹

There is a threat abatement plan for this Key Threatening Process yet habitat to recruitment tree ratio in the PNF Code is still one to one.¹² This is despite the Expert Panel stressing that persistence and perpetuation of hollow bearing trees is imperative for survival of forest fauna.¹³

Rotation time definitions in the Code are parlous and seem dependent on a basal area count to assess the stocking rate of the stand.¹⁴ Of note is the inclusion of the outdated native forest logging industry catchphrase 'promote regeneration through disturbance'.¹⁵ This terminology is in conflict with much scientific knowledge. Many scientists doubt the success of what is called 'natural seeding' after logging for eucalypt species.¹⁶ If this argument held true there would be no burgeoning issue of lack of supply.¹⁷

Conservation Act 1997, yet there is no mention of climate change or its effects in this work; Florence stated in his 1984 thesis "When an mature, mixed eucalypt-rainforest community is felled and the debris burned, massive Acacia regrowth may develop very rapidly from soil-stored seed" in Florence R G, and Marsh J P, 'Soil Factors Limiting the Establishment and Vigour of Spotted Gum Regrowth' (1984) Department of Forestry, ANU Research Project.

⁷ Listed under schedules of the *Threatened Species Conservation Act 1995* (NSW) and in the Listed Species Ecological Prescriptions for Southern NSW Forests.

⁸ *Private Native Forestry Code of Practice for Southern NSW 2008* cl 4 Table C.

⁹ *Private Native Forestry Code of Practice for Southern NSW 2008* cl 2.1; the PNF Code also contains provisions for Australian Group Selection ("AGS") despite the finding that this patch clear felling has significant impact on species and their habitat.

¹⁰ *Threatened Species Conservation Act 1995* (NSW) Sch 3 s8;

< <http://www.environment.nsw.gov.au/determinations/LossOfHollowTreesKtp.htm> >.

¹¹ See 'Review of Protective Measures and Protective Measures and Forest Practices - Biodiversity Workshop Southern Region' Ecologically Sustainable Forest Management Group, July 1999, Project No. NA45/ESFM p176-177.

¹² *Threatened Species and Conservation Act 1995* (NSW) s74 and s90A; A threat abatement plan sets out recovery and threat abatement strategies that must be adopted for promoting the recovery of each threatened species, population and ecological community to a position of viability in nature and for managing each key threatening process.

¹³ Review of Protective Measures, above n11; see also Goldingay R, 'Characteristics of Tree Hollows used by Australian Birds and Bats' (2009) 36 *Wildlife Research* 394; see also Gibbons P, Lindenmayer D B, 'Issues Associated with the Retention of Hollow-Bearing Trees Within Eucalypt Forests Managed for Wood Production' (1996) 83 *Forest Ecology and Management* 245.

¹⁴ Lindenmayer D B, Franklin J F, Fischer J, 'General Management Principles and a Checklist of Strategies to Guide Forest Biodiversity Conservation' (2006) 131 *Biological Conservation* 433.

¹⁵ Bizarrely the PNF Code provides at cl 3.3: The minimum stand stocking...must be achieved within 24 months of a regeneration event; and at (2) In this clause, **regeneration event** is a harvesting or thinning operation.

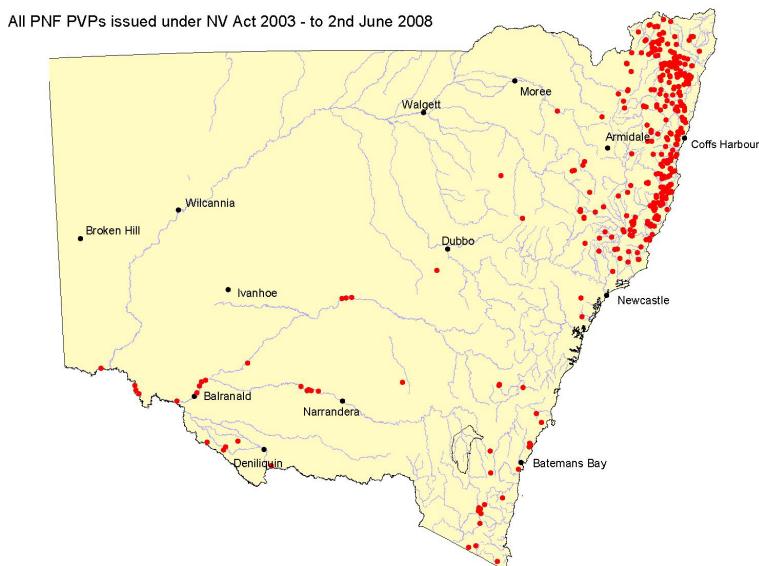
¹⁶ See Fischer J, Lindenmayer D B, 'The Conservation Value of Paddock Trees for Birds in a Variegated Landscape in Southern New South Wales: Species Composition and Site Occupancy Patterns' (2002) 5 *Biodiversity and Conservation* 807.

¹⁷ Bauhus J, McElhinny C, and Alcorn P, 'Stand Structure and Tree Growth in Uneven-Aged Spotted Gum (*Corymbia maculata*) Forests: Some Implications for Management' (2002) 75 *Forestry* 451, 'only a small proportion of trees are growing at an acceptable rate'; the forests in the Southern region have been targeted for woodchip production as there is a predominance of Spotted gum, Stringybark, Silvertop Ash and Brown Barrel forests. This is because they are blonde wood. Spotted gum is particularly targeted as it is a softwood. 10-15 years after heavy logging a quarter of a compartment will have no Spotted Gum regrowth at all, and in the remaining area any Spotted Gum will be relatively weak and usually dominated by more vigorous Acacias. Where Spotted Gum seedlings become established, they lack the early vigour of Acacia and other shrub species. The more vigorous Acacia regrowth often overwhelms eucalypt seedlings, because unlike the

It seems on analysis that prescriptions for habitat protection and conservation contained in the PNF Code are inadequate. Due to lack of available data it is difficult to know whether prescriptions are being met on private land.¹⁸ Given that requirements for species 'protection' under the TSLs or IFOAs are not being met on public land, due to non-compliance of legislation and delegated legislation, if logging has occurred on adjoining State forest land it would be difficult to argue that species have been protected.¹⁹

A comparison of public and private forestry codes shows the PNF Code is modelled on the IFOAs that allegedly apply to public State forests which fall under Regional Forest Agreement areas. Under IFOAs many severe breaches are being classed as 'technical' by the regulator. This is often without the regulator viewing the breach. While the regulator has instigated proceedings on land clearing enacted without approval there seems to be some reticence to enforce compliance of the PVPs.²⁰

Issues for auditors hinge on access. Gaining access to audit public State forest can be difficult for non-government auditors. Gaining access to audit private forest logging operations is nearly impossible. A breach with proof of actual harm is not leading to civil penalty or injunction, what chance a breach without proof. While some law is better than none, if law is inadequate and not backed up with appropriate regulatory response it is dormant law.²¹



hard-coated Acacia seed, eucalypt seed will only remain viable for a short time in the soil, probably no more than 6-12 months.

¹⁸ The *Annual Report on Native Vegetation 2008* provides that in New South Wales in 2008, 2060ha of land was legally cleared under approved private Harvesting Plans, while overall there was a total reduction of over 48 193ha of 'native woody vegetation'; *NSW Annual Report on Native Vegetation 2008*, Department of Environment Climate Change and Water, p2; a condition of the *Native Vegetation Regulations* at s12: The Minister is to make publicly available on the Internet: (a) the Global Positioning System ("GPS") coordinates of the location of land that is the subject of a development consent or PVP that provides for broadscale clearing of native vegetation on the land; Of note is that the reporting of private native forestry on the regulators website is grossly inadequate, the map coordinates for PVPs are erroneous and there are no figures for actual logging events or areas logged; if calculated on the PVP register for Southern 1097ha were logged in 2010, however without data, analysis is impossible, this is indicative of the secrecy that surrounds PNF.

¹⁹ Of interest the 'business as usual' approach by State forestry is causing some concern among landowners post logging. The main concerns seem to be badly eroded snig tracks and the amount of debris left behind; for a Queensland example see Ryan S, Taylor D, 'A Methodology for Private Native Forest Extension in South East Queensland' (2001) The Regional Institute,

<<http://www.regional.org.au/au/iufro/2001/ryan.htm>>.

²⁰ See *Director-General of the DECC v John Rae* [2009] NSWLEC 137; *Director-General, Dept of Environment and Climate Change v Calman Australia Pty Ltd; Iroch Pty Ltd; GD & JA Williams Pty Ltd t-as Jerilderie Earthmoving* [2009] NSWLEC 182; *Director-General of the Department of Environment and Climate Change v Hudson* [2009] NSWLEC 4; *Department of Environment and Climate Change v Olmwood Pty Limited* [2010] NSWLEC 15.

²¹ Gunningham N, 'Environmental Auditing: Who Audit's the Auditors?' (1993) August *Environmental and Planning Law Journal* 229 "If the audit is conducted, particularly internally, by the firm's own employees, then the internal auditors may come to share the same corporate goals"; for definition of 'Fox in the Hen House' see Titelman G, *Random House Dictionary of Popular Proverbs and Sayings*, Random House, New York, (1996), the proverb has been traced back to 'Contre-League' (1589); the similar phrase in Latin *ovem lupo commitere* is 'to set a wolf to guard sheep'.

Native Forestry on Public Land - Maintaining and Enhancing?

Questions posed by commentators and critics when legislative instruments were enacted from 1998 have been answered. Regional Forest Agreements ("RFAs") have not fulfilled their purpose, the *Forestry and National Park Estate Act 1998* (NSW) ("FNPE Act") and delegated legislation has not been adhered to and vast tracts of land have been clear-felled, patch clear-felled and burned.²² Over the last ten years unlawful logging of rainforest and old-growth, of threatened and endangered species habitat, of endangered ecological communities, of gazetted Aboriginal Place, of National Park, of FMZs, of Special Protection Zones has occurred in direct breach with legislative instruments.²³ There is systemic non-compliance by the whole native forest logging industry.²⁴

Prosecutions have been far and few between for illegal clearing on private land, however they have been non-existent on public land.²⁵ While provisions in codes and legislative instruments are inadequate *prima facie* there is requirement to comply with them.

Illegal activities and practices in the native forest logging industry have been defined for some time.²⁶ There are a number of underlying causes identified as contributing to occurrences of illegal forestry practices.²⁷ Flawed policy and legal framework, corruption both in the public and private sector, insufficient information about forest resources operations, high demand for cheap timber and minimal law enforcement are some examples.²⁸

The *Southern Region Forest Agreement 2002* states the overriding intention of forest management across all tenures is to 'maintain and enhance all forest values in the environmental, social and economic interests of the State'.²⁹

If the overriding intention of agreements and legislation is to 'enhance forest values' it would be hard to argue compliance, given the evidence of clear-felling, patch clear-felling, burning, and lack of regeneration of native forests, therefore native forest management has failed to achieve this objective. Certainly lack of regeneration has brought into question sustainability of future timber supply.

Perhaps this is because principles of Ecologically Sustainable Forest Management ("ESFM") are not only unachievable based on current logging practices, but like most legislated requirements for State forests, regardless of it being included in regulations, it has not been implemented.

²² For an historic legal overview of the RFAs see McDonald J, 'Regional Forest (DIS) Agreements: The RFA Process and Sustainable Forest Management,' (1999) *Bond Law Review* 295; while much in the article is correct the CAR was neither comprehensive nor scientifically rigorous; see also Tribe J, 'The Law of the Jungles: Regional Forest Agreements' (1998) 15 *Environment and Planning Law Journal* 2; see Park H, 'Fragments of Forest Management, a Private Practice: an Assessment of the Implementation of the Regional Forest Agreements on Private Land in the Southern and Eden Regions of NSW' (2006) 10 *Australasian Journal of Natural Resources Law and Policy* 2, p183.

²³ For review of the RFAs 'progress' see Daines S, Mackenzie S, Stone L, Whan T, 'Public Comment Submission on the Draft Report on Progress with Implementation of NSW Regional Forest Agreement(s)' (2009) South East Forest Rescue ("SEFR") submission on the Draft Implementation Report RFA review 2009, available at <<http://www.lisaandtony.com.au/submissions.htm>>.

²⁴ An example of this is the TSL Non-compliance Register for the Southern region is non-complying, in that it is not current and only available up until 2007; the Southern region EPL Non-compliance Register is unavailable; breaches are recorded as 30 verbal warnings, 20 written warnings, 1 PIN, 25 'other' in 2002 - 2007; the EPL and TSL non-compliance register for Eden is 'not available'.

²⁵ To date on the south coast Forests NSW has received two fines and 41 warning letters, this is despite the illegal clearing of 100ha of Kosciusko National Park and the gazetted Aboriginal Place on Mumbulla Mountain; there has been one prosecution on the north coast by the EPA and recently a fine for logging an EEC; information provided by DECCW EPR Forestry Unit and NEFA.

²⁶ *Best Practices for Improving Law Compliance in the Forestry Sector*, FAO Forestry Paper 145, Food and Agriculture Organisation of the United Nations International Tropical Timber Organisation Rome, 2005; logging species protected by national law, logging outside concession boundaries, logging in protected areas, logging in prohibited areas such as steep slopes, river banks and catchment areas, removing under/over-sized trees, extracting more timber than authorised, logging when in breach of contractual obligations, restricting information about procurement contracts, tailoring contract specifications to fit a specific supplier, failing to meet licence provisions including pollution control standards.

²⁷ For a revealing example into farmer (and logger) mindset see *R v Boyle*, Channel 7 News aired on 8 December 2004, <<http://www.envlaw.com.au/boyle.html>>; on an optimistic note DECCW have initiated four proceedings in the LEC for clearing native veg this year.

²⁸ *Best Practices for Improving Law Compliance*, above n26.

²⁹ *Southern Region Forest Agreement 2002* cl 1.4(d).

Loose Lipservice Sinks Species - HMAS Sustainable?

In 1998 FRAMES data was run using all land tenure, that is, land that would be included in the future reserve system. The effect of this was to overestimate sustainable yields. This means Forests NSW overestimated the amount of trees they could log and still be sustainable. Forests NSW then hid real data by amalgamating plantation and native forest volume figures.³⁰ Further the native forest logging industry has increasingly been overcutting to meet wood supply agreements and has not undertaken legislated reviews of sustainable yield.

The term ESFM was used in drafting of forestry law and delegated legislation. State and Federal Governments confirmed their commitment to the *National Forest Policy Statement* by agreeing to develop and implement Ecologically Sustainable Forest Management.³¹

As a requirement of ESFM NSW agreed to undertake a review of Sustainable Yield every five years using Forest Resource and Management Evaluation Systems ("FRAMES") and information bases. Results of which would inform the annual volume which could be logged from the Southern region 'being mindful of achieving long-term Sustainable Yield and optimising sustainable use objectives consistent with this Agreement'.³²

However the five year late review report on RFA 'progress' stated:

It is somewhat concerning that...the requirement (i.e. it is not optional) to produce annual reports of progress on meeting regional ESFM targets in ESFM Plans has not been delivered. This is surely central to accountability under the RFAs.³³

Statutes provide guidance as to their intent at the beginning, usually in an 'objects clause'. Courts prefer interpretation of statutes that promote objects of legislation. There is clear direction as to interpretation of supply commitments contained in RFAs. It is provided that Regional ESFM Plans, *Forest Agreements*, and IFOAs:

will collectively specify the wood supply commitments and their relationship to Sustainable Yield.³⁴

Further it was stated when the Southern IFOA was in process of enactment:

The IFOA also contains maximum timber volumes allowed to be harvested annually.³⁵

Allowable volume of trees logged is legislated to be based on 'sustainable yield' and FRAMES. The volume of pulp removed in the Southern region for the period 2002 to 2007 is equal to twelve percent above the legislated allowable cut.³⁶ This is above the five percent allowed in IFOA clause 5(a) where it provides, in essence, that FNSW must stay within the five percent range.³⁷

It is alleged that allowable volume figures in legislation can be overridden by contractual commitments.³⁸

³⁰ Auditor-Generals Report to Parliament, vol 1, 2009, at

<http://www.audit.nsw.gov.au/publications/reports/financial/2009/vol1/pdfs/31_0173_forestry_commission_of_new_south_wales.pdf>.

³¹ *Regional Forest Agreement for the Southern Region of NSW 2001* s7(a); *Forestry and National Park Estate Act 1998 Integrated Forestry Operations Approval for the Southern Region* cl 7(1); the PNF Code carefully avoids the word sustainable but provides: 'supply of timber products from privately owned forests at a regular rate that can be maintained indefinitely for present and future generations'.

³² *Regional Forest Agreement for the Southern Region of NSW 2001* cl 8; like all reviews legislated for forestry operations either undertaken four or five years late or not undertaken at all, this review has not been undertaken.

³³ *Final Report on Progress with Implementation of NSW Regional Forest Agreements: Report of Independent Assessor*, November 2009 <http://www.daffa.gov.au/_data/assets/pdf_file/0007/1546711/assessors-report.pdf>, viewed 24 July 2010.

³⁴ *Southern Region Forest Agreement 2002* 8(2)(a); the Southern, Eden and Northern ESFM plans are due to expire this year.

³⁵ Recommendation letter to enact IFOA, Letter (HOF2042) from David Nicholson NSW EPA to DPI, 18 April, 2002, signed by Director Waters and Catchments Policy (signed 18/4/02), Acting Assistant Director General (Water & Air), Director General (signed Lisa Corbyn 19/4/02).

³⁶ 'A Draft Report on Progress with Implementation of the New South Wales Regional Forest Agreements (2009)', Resource and Conservation Unit, NSW Department of Environment and Climate Change NSW, Appendix 4, p227.

³⁷ *Forestry and National Park Estate Act 1998 Integrated Forestry Operations Approval for the Southern Region* cl 5(a); *Forestry and National Park Estate Act 1998 Integrated Forestry Operations Approval for the Eden Region* cl 5(a).

³⁸ *Forestry and National Park Estate Act 1998 Integrated Forestry Operations Approval for the Southern Region* cl 5(3)To avoid doubt, the quantities of timber products specified in paragraphs (a) and (b) of subclause (2) do not impose any limitation on the quantities of those products that may be harvested under this approval. The quantities referred to simply reflect contractual commitments existing at the date of

This seemingly defeats the purpose of sustainable yield and indeed legislation. On this assumption terms such as 'no more than' and 'up to' therefore are taken to mean minimum volumes. If we were to take this erroneous assumption further it would mean the legislation and delegated legislation serves no purpose.

The focus on the one term 'reflects contractual commitments' at the expense of remaining legislation is in itself indicium. There are many other clauses in various pieces of legislation, intended to work in conjunction with each other. Assumptions that there is no maximum volume required therefore seems in tension with the objects of legislative instruments.

Overcutting

Dominating much desktop and industry documents is claims that strict public forestry regulation and 'locking up' of areas has caused the need for increased native forest logging.³⁹ However, long before RFAs were enacted, questions of whether the native forest logging industry was sustainable were being asked.⁴⁰ It seems real causes of lack of wood supply are overcutting and erroneous figures of sustainable yield. This has resulted in shortened rotation times.⁴¹

The NSW Scientific Committee suggests a safe rotation period for species conservation is 150-220 years.⁴² Analysis using this rotation period over a fifteen year timeframe in the Southern region would suggest 50-90 compartments should have been logged, yet more than six times that, a total of 355 compartments, have been clear felled or patch clear felled.⁴³

In a letter dated 29 October 1998 from Ross Sigley, Forests NSW sales manager, Northern Rivers region it states:

It has taken us just 2 years to completely exhaust the quota volume in Casino, Urbenville, and Murwillumbah MA's and Tenterfield is all but finished.

It must dawn on our top resources people eventually that stands carrying a level of volume which is only a fraction of their capacity are already seriously in trouble. The only way to realise any of the volume that is there...would be to have an unlimited pulp market and clear fall the forest...

I suspect they ["the greens"] do know that we are playing the game of Brer rabbit. I hope a re-run of the frames data without using the plots that end up in the reserve system will give a more realistic picture [of the] state of the forests...I wait with hope that the Frames data can deliver some figures, which support what we know to be the case on the ground. We have just one last chance to come clean and be honest about the way things are before this UNE RFA is signed. State Forests will be held accountable for whatever happens as a result of the RFA decision and if the industry has been led to believe that the volume is there in this part of the State then we should be held responsible...⁴⁴

A memo from Ron Wilson, FNSW marketing manager to Bob Smith CEO FNSW on a meeting with Davis and Herbert in 2001 is revealing.⁴⁵ Davis and Herbert (now Boral) expressed dissatisfaction with Forests NSW supply of logs. The companies allocation was 8000 cubic metres. Forests NSW stated 'the company is currently undercutting its allocation of high quality large sawlogs'. The company claimed the

this approval.

³⁹ This erroneousness is perpetuated within the IFOAs themselves see *Forestry and National Park Estate Act 1998 Integrated Forestry Operations Approval for the Southern Region* Note for cl 5(b).

⁴⁰ See *South East Forests Conservation Council Inc v Director-General National Parks and Wildlife and State Forests of NSW* [1993] NSWLEC 194, Deputy Director (Policy and Wildlife); four years after the enactment of the FNPE Act in the Explanatory Memorandum to the Regional Forest Agreement Bill 2002 drafted by Ian McDonald it stated at (1) 'The Problem' that "Conflict over the use of native forests had established a climate of uncertainty for investors and contributed to community uncertainty that environmental values were being adequately protected. These conflicts stemmed mainly from the perception by some that harvest rates were unsustainable."

⁴¹ The current rotation times are between 5-15 years; for example compartment 62 of South Brooman State Forest has had 'Timber Stand Improvement' twice and been logged nine times since 1954, which is virtually every six years; see Southern Region – Compartment 62, South Brooman State Forest, Bateman's Bay Management Area, Harvest Plan approved 8/5/09.

⁴² *Loss of Hollow Bearing Trees Key Threatening Process*, Department of Environment Climate and Water, NSW Threatened Species Website, <http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/threat_profile.aspx?id=20079> viewed 25 July 2010.

⁴³ FNSW Compartment Map and Annual Logging Records for period 1995 to 2010, this shows 680 total number of compartments.

⁴⁴ New South Wales, *Legislative Assembly*, Forestry and National Park Estate Bill, 17 November, 1998, (Fraser), p10052.

⁴⁵ Forests NSW internal memo Ron Wilson to Bob Smith and Gary Keating, 9 October 2001, H.O. 61342; the 'Use or Lose' 20 yr wood supply agreement provides for 'increased volumes of HQL and small sawlogs at one half of the company's intake' as of 2001.

reason they were undercutting was that FNSW had not provided sufficient areas to produce sawlogs. Forests NSW denied there were any problems of supply but offered to extend the allocation period and 'let the company cut the 8000cu over two years'. Forests NSW also stated Davis and Herbert were at fault because they weren't 'value adding'. The company stated they were unhappy about 'log merchandising' and that timber was being sent 'elsewhere' which could be used by the company. Forests NSW told the company that 'without a residue market on the south coast the cost of producing sawlogs will be significantly higher'.⁴⁶

Ten years later the situation has not improved. Ian Barnes, FNSW regional manager stated:
the remaining multi-age forests resource is coming to an end in the next two to three years.

Unfortunately in the Southern and Eden regions there is an unlimited pulp market. A rerun of FRAMES was due in 2006 as part of ESFM requirements. No rerun of FRAMES has yet been undertaken.

Review or no review, logging more intensively will effect remaining stand condition and ultimately sustainable yield. Given overcutting whether public and private native forestry can ever achieve the ideal of ESFM is doubtful.⁴⁷

Further there is no genuine attempt to implement and enforce the ESFM principles in any diligent manner. The five principles of ESFM are:

1. Maintain or increase the full suite of forest values for present and future generations across the NSW native forest estate;

Clear felling, under whatever guise put forward by Forests NSW spin doctors, the demise of species and the water shortages are all a breach of the principles of intergenerational equity. Australia has an obligation under international law to ensure that human rights are protected.⁴⁸ These obligations arise through Australia's ratification of various international human rights instruments like the *International Covenant on Civil and Political Rights* and the *International Covenant on Economic, Social and Cultural Rights*. Australia has agreed to 'respect, protect and fulfil' these rights.⁴⁹ Principle human rights which are subject to degradation as a result of climate change are the right to life, the highest standard of physical and mental health and the right to water.⁵⁰

The Australian Human Rights commission in its submission to the *Environment Protection and Biodiversity Conservation Act* review stated that the Act:

requires formal and direct linkages to the *Water Act 2007* as a matter of urgency.⁵¹

Deforestation and degradation is one of the biggest causes of climate change.⁵² Water quality and availability has been dramatically reduced by logging of most catchment areas.⁵³

⁴⁶ The Eden Magnet, Thursday, March 11, 2010.

⁴⁷ Lunney D, Matthews A, Eby P, and Penn AM, 'The Long-Term Effects of Logging for Woodchips on Small Mammal Populations' (2009) 36 *Wildlife Research* 691; see Gibbons P, Lindenmayer D B, Barry S C, Tanton M T, 'The Effects of Slash Burning on the Mortality and Collapse of Trees Retained on Logged Sites in South-Eastern Australia' (2000) 139 *Forest Ecology and Management* 51.

⁴⁸ 'What are Human Rights?' UN Office of the High Commissioner for Human Rights, (2008).

⁴⁹ UN Committee on Economic, Social and Cultural Rights, *General Comment No 9 – the Domestic Application of the Covenant* (1998) UN Doc E/C.12/1998/24, UN Human Rights Committee, *General Comment No 31 – Nature of the General Legal Obligation imposed on State Parties to the Covenant* (2004) UN Doc CCPR/C/21/Rev.1/Add.13, UN Committee on Economic, Social and Cultural Rights, *General Comment No. 3 - On the Nature of State Parties' Obligations* (1990) UN Doc, E/1991/23, annex III.

⁵⁰ The right to life is contained in Article 6 *International Covenant on Civil and Political Rights*, opened for signature 16 December 1966, 999 UNTS 171 (entered into force 23 March 1976); Australia ratified the ICCPR on 13 August 1980 and the CRC on 17 December 1990; Article 3 of the *Universal Declaration of Human Rights*, GA Resolution 217A(III), UN Doc A/810 at 71 (1948); see Articles 11 and 12 ICESCR, Article 14, paragraph 2(h) CEDAW, Article 28, paragraph 2(a) CRPD and Article 24, paragraph 2(c) CRC.

⁵¹ See the Australian Human Rights Commission "Independent Review of the EPBC Act," 30 January 2009.

⁵² Garnaut R, *Garnaut Climate Change Review*, 2008.

⁵³ Mackey B, Keith H, Lindenmayer D, and Berry S, 'Green Carbon: The Role of Natural Forests in Carbon Storage, Part 1, A green Carbon Account of Australia's South-Eastern Eucalypt Forest, and Policy Implications' ANU E Press, [2008] available at <http://epress.anu.edu.au/green_carbon_citation.html>.

Article 2 of the *International Covenant on Civil and Political Rights* (1976) states at (3):

Each State Party to the present Covenant undertakes:

1. To ensure that any person whose rights or freedoms as herein recognized are violated shall have an effective remedy, notwithstanding that the violation has been committed by persons acting in an official capacity; to ensure that any person claiming such a remedy shall have his rights thereto determined by competent judicial, administrative or legislative authorities, or by any other competent authority provided for by the legal system of the State, and to develop the possibilities of judicial remedy;
2. To ensure that the competent authorities shall enforce such remedies when granted.

And at (5):

1. Nothing in the present Covenant may be interpreted as implying for any State, group or person any right to engage in any activity or perform any act aimed at the destruction of any of the rights and freedoms recognized herein or at their limitation to a greater extent than is provided for in the present Covenant.

Forests NSW are breaching these treaties by fact of section 40 of the FNPE Act and by industrial logging practices.

Australia has obligations for forestry operations under international environment law. Section 1.4 (c) of the *Southern Region Forest Agreement 2002* states:

Note the obligations on the Commonwealth of Australia arising from the *Intergovernmental Working Group in Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests (Montreal Process)*, the *Convention on Biological Diversity*, *Agenda 21* and the *Kyoto Protocol on Climate Change*.

Conversely *Agenda 21* states:

- 11.1. There are major weaknesses in the policies, methods and mechanisms adopted to support and develop the multiple ecological, economic, social and cultural roles of trees, forests and forest lands...More effective measures and approaches are often required at the national level to improve and harmonize ..legislative measures and instruments...participation of the general public, especially women and indigenous people.

There is no participation of the public in any decision making processes.

In the *Vienna Convention on the Law of Treaties 1969* Article 18 states:

A State is obliged to refrain from acts which would defeat the object and purpose of a treaty when:

- (a) it has signed the treaty or has exchanged instruments constituting the treaty subject to ratification, acceptance or approval, until it shall have made its intention clear not to become a party to the treaty.

A material breach of a treaty is:

- (a) a repudiation of the treaty not sanctioned by the present Convention; or
- (b) the violation of a provision essential to the accomplishment of the object or purpose of the treaty.

Therefore by exempting civil litigation from preventing the destruction of NSW state forests, for not enforcing the legislative requirements for compliance, for wilfully contributing to climate change and for the destruction of forests Australia is not only in breach of its domestic obligations, its in breach of its international obligations.

2. Ensure public participation, access to information, accountability and transparency in the delivery of ESFM;

There is no environmental democracy and no consultation in areas covered by the RFAs. Individuals or communities call a meeting, the community objects, Forests NSW log regardless.⁵⁴ The rights of public participation is limited to making submissions to the state and federal governments if the various pieces of legislation come up for review.

⁵⁴ For Forests NSW record of adhering to this principle see *Watt v Forestry Commission* [2007] NSWADT 197; *Digwood v Forestry Commission* [2009] NSWADT 107.

Agenda 21 states:

23.2. One of the fundamental prerequisites for the achievement of sustainable development is broad public participation in decision-making... This includes the need of individuals, groups and organizations to participate in environmental impact assessment procedures and to know about and participate in decisions, particularly those which potentially affect the communities in which they live and work.⁵⁵

Forests NSW are exempt from preparing EIS in RFA areas and there is no assessment of the impacts of logging on native forest ecosystems.

Forests NSW do not consult indigenous communities. Traditional owners are of the view that cultural heritage is broader than sacred sites assessments and include environmental considerations. But questions about the impact of the logging on species, the intensity of the logging, and the proportion of the logging which is destined to become woodchips are rejected by Forests NSW as not being part of what they consider to be cultural heritage.

Rather than discuss the issues Forests NSW allege that any information, beyond sacred site issues required by traditional owners, about FNSW logging operations be addressed to them in writing and they will then consider how they choose to respond. Forests NSW state they do not consider it appropriate that traditional owners and other Aboriginal people be given copies of draft harvesting plans until plans of logging operations have been finalised at which time the Board, like the public, would have access to the final authorised harvesting plan.

FNSW in the Southern and Eden regions now write their own s90 Consent to Destroy Permits for Aboriginal sites:

It has been agreed that any Cultural Sites discovered during road construction and harvesting will be reported to the Supervising Forester who may then consult with relevant external representatives.

Vehicles may continue to use roads unless otherwise advised. Where practically possible, burning of scattered artefacts should be avoided.⁵⁶

This is in conflict with s86 of the *National Parks and Wildlife Act 1974* (NSW). Any act of knowingly impacting Aboriginal objects (as defined in the Act) would be in breach without an s90 Permit.⁵⁷ This is a clear indictment of the entire Forests NSW process with regard to the protection of Aboriginal heritage within our region's State forests.

An archaeological survey of proposed logging compartments, in accordance with Cultural Heritage Guidelines Appendix of IFOA and NPWS Standards and Guidelines Kit 1995, should be undertaken. This should be in consultation with the appropriate Local Aboriginal Land Councils and the Aboriginal community at large, which should be consulted where there are such important issues to be discussed where the destruction of that community's cultural heritage is imminent.

They dont do archealogical surveys - why? Because if you look you will find something. They tell people where they can look and then call that 'consultation'.

FNSW do not allow the 'survey team' to survey undisturbed ground within the compartment, only along the existing disturbed roads around the compartment. Poor surface visibility can seriously impeded the

⁵⁵ *Agenda 21* also states at 23.2: Individuals, groups and organizations should have access to information relevant to environment and development held by national authorities, including information on products and activities that have or are likely to have a significant impact on the environment, and information on environmental protection measures, <http://www.un.org/esa/dsd/agenda21/index.shtml>; for an example of Forests NSW unwillingness to inform the public see *Watt v Forests NSW* [2007] NSWADT 197; the royalty rate is \$6.90/tonne for pulp logs from the Sthn Region & \$13/tonne for Eden.

⁵⁶ FNSW Compartment 114 Harvest Plan, Goldspink, (2010) p12.

⁵⁷ *National Parks and Wildlife Act 1974* (NSW) s84 and s90.

surface detection of Aboriginal Objects, at landform units considered to be archaeologically sensitive. As evidenced FNSW is now dictating the terms of any Aboriginal archaeological / cultural assessment at its logging compartments, therefore destruction of Aboriginal heritage in State Forests proceeds at the hands of the NSW State Government and its uncommercially driven arm, Forests NSW.

3. Ensure legislation, policies, institutional framework, codes, standards and practices related to forest management require and provide incentives for ecologically sustainable management of the native forest estate;

In contrast the FNPE Act and subordinate legislation provide incentives for unlawfulness without fear of capture. When penalties are low, and the possibilities of being found out are light, people take risks.⁵⁸ Regulatory systems rely upon the enforcement of statutory requirements.

When there is no enforcement contraventions go unpunished and the incentive for compliance is nil.⁵⁹

‘Sustainable use’ means the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.⁶⁰ Despite the rhetoric on ‘sustainable forestry’ there is not one legislative instrument that has been effective in protecting forest species and habitats. Forests NSW do not comply with the principles of ecologically sustainable development and the conservation of biodiversity.⁶¹

4. Apply precautionary principles for prevention of environmental degradation;

The Precautionary Principle is based on German and Swedish environmental laws and policies. The relationship between economic development and environmental degradation was first placed on the international agenda in 1972, at the UN Conference on the Human Environment, held in Stockholm. After the Conference, Governments set up the United Nations Environment Programme (UNEP), which today continues to act as a global catalyst for action to protect the environment.

By 1983, when the UN set up the World Commission on Environment and Development, environmental degradation, which had been seen as a side effect of industrial wealth with only limited impact, was understood to be a matter of survival for developing nations. Led by Gro Harlem Brundtland of Norway, the Commission put forward the concept of sustainable development as an alternative approach to one simply based on economic growth. This gave rise to the *Ministerial Declaration of the Second International Conference on the Protection of the North Sea 1987*.

After considering the 1987 Brundtland report, the UN General Assembly called for the UN Conference on Environment and Development (UNCED). The primary goals of the Summit were to come to an understanding that would prevent the continued deterioration of the environment, and to lay a foundation for a global partnership between the developing and the more industrialized countries, based on mutual needs and common interests, that would ensure a healthy future for the planet.

The Precautionary Principle is Principle 15;

Where there are threats of serious or irreversible environmental damage full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment.

As McClellan CJ stated:

Thus, the inherent uncertainty or bias in the scientific method combined with (generally speaking) a perennial lack of resources and a consequential lack of data to assist scientists, leads inevitably to the conclusion that there is likely to be an incomplete understanding of the full extent of the environmental impacts of any particular act or activity proposed. That prospect, supported by empirical observations gathered world-wide, led

⁵⁸ Dr Gerry Bates, Lecture on Fundamentals of Environmental Law, ANU, 16 July, 2009.

⁵⁹ Andrew Macintosh, 'Why the Environment Protection and Biodiversity Conservation Act's Referral, Assessment and Approval Process is Failing to Achieve its Environmental Objectives' 21 EPLJ [2004] 288, p302.

⁶⁰ Convention on Biological Diversity (Rio de Janeiro, 5 June 1992), Entry into Force Generally and for Australia: 29 December 1993 Australian Treaty Series 1993 No. 32

⁶¹ Convention on Biological Diversity, above n86.

to the development of the precautionary principle as a commonsense approach to avoid or minimise serious or irreversible harm to the Environment.⁶²

The precautionary principle should have been triggered prior to the RFA process beginning in 1998.

5. Apply best available knowledge and adaptive management processes;

It is absurd to allege that these principles are at the helm of native forest management, given what is observed of day-to-day forestry operations. One of the biggest myths is that Forests NSW replant after logging native forests. This is very far from the truth. Once logged and burned the forests may take decades to regenerate or they might not regrow at all, and at any rate replanting is not sufficient to offset the biodiversity losses created by clearing because of lags in species becoming established and differences in species composition.⁶³ Forests are altered inexorably. The public are subsidising the logging of native forests, which hold and remove vast amounts of carbon, so they can be woodchipped and sent to Japan. This is certainly not sustainable.⁶⁴

The government has not ensured the adoption of Ecologically Sustainable Forest Management practices, environmental safeguards have not improved and DECCW has not ensured the maintenance of existing regulatory controls.⁶⁵

Sustainable at All?

The ‘FRAMES’ industry modelling system used to derive volumes substantially over-estimated available timber volumes. To achieve the unsustainable volumes sought for the first twenty years, the system has had to dramatically over-cut for twenty years and thus result in much decreased volumes available thereafter. This is clearly reflected in the industry modelling, which shows a volume reduction of almost fifty percent after 2008. For example, in the southern NSW Eden Region, in 2008, Forests NSW was over quota and have been over quota for each of the previous nine years.

Notably, in 2003 the NSW Government re-issued timber supply contracts, without conducting the promised timber review, for a further twenty years (thus extending the contracts out to 2023). Therefore, timber supplies have been committed outside the twenty year timeframe of the RFAs, without a wood supply review or any required RFA review. These contracts have been extended well past the point at which timber supplies will fall in 2018.

The erroneous audacity of the claim that the review of the FRAMES systems and processes ‘also meets legislated requirements as it applies to the Southern region’ is obvious. One aspect is applicable:

The robustness of wood supply estimates...are commonly evaluated by conducting large numbers of scenario analyses rather than by consideration of statistical measures. This is especially important when the option of an early heavy cut is preferred to an even flow scenario, since a characteristic of wood supply modelling is the increase in the immediate short-term availability of timber due to an expectation of future growth. This is known as the allowable cut effect. In essence, the additional future volume as a direct result of growth allows for a higher level of cut in the short-term. If the level of cut is set at a high level...in the short-term and growth is less than expected, then over-cutting will occur and the predicted long-term cut will not be sustainable.⁶⁶

It was made known by the NSW Auditor-General that:

⁶² In *BGP Properties Pty Limited v Lake Macquarie City Council* [2004] NSWLEC 399 citing Trenorden J et al in *Conservation Council of South Australia v Development Assessment Committee and Tuna Boat Owners Association* (No 2) [1999] SAERDC 86.

⁶³ FNSW proposed to burn 23,263 hectares just in the Southern sub-region, Forests NSW Southern Region Burning Proposals 2007.

⁶⁴ See SEFR submission above n23.

⁶⁵ The *Southern Region Forest Agreement 2002*, Environmental Management Systems 2.1, “The EMS shall be the mechanism by which Forests NSW will implement commitments and obligations under the NSW *forest agreements* and RFAs and effectively contribute to Australia’s international obligations under the Montreal process” ESFM ‘initiatives’ are in s2.11.

⁶⁶ Forests NSW, ‘A Review of Wood Resources on the North Coast of New South Wales’ September (2004) p12.

Forests NSW does not routinely compare harvesting results to its yield estimates.... However the authors consider these reviews necessary to test the validity of Forests NSW estimates.⁶⁷ No tangible efforts have been made to ensure sustainability or to produce any reporting showing that efforts are being made. Forests NSW are operating in the gloom of uncertainty. For the Upper and Lower North East region the Auditor-General stated:

To meet wood supply commitments, the native forest managed by Forests NSW on the north coast is being cut faster than it is growing back.⁶⁸

The authors believe this to be true for the Southern region, if ever real data becomes available.

The report mentioned for Southern was not completed by June 2009. 'It may not be ready until mid 2010' and 'the report will be ready by June 2010'. The report is still not available as of July 2010.

It is my understanding that the review of the sustainable yield for the Southern Region was expected to be completed by June 2009 but is still being done. Forests have indicated it will take time to check the review and are unlikely to publish the results and methods of calculating the sustainable yield (covered by Milestone 54 in the RFA review report) before mid-2010.⁶⁹

The new wood supply agreements have no review clause and the authors note the lack of information on what public consultation went into making this decision. Full documentation regarding the 2005 wood supply agreements changes to volumes and commitment period should be made publicly available.

In reply to the DECCW letter of 7 May 2010 we would again assert that Forests NSW are in breach of consistent overcut of committed yields.

We determine that the information provided does not describe accurately the relationship to forest cut versus sustainable volume, due to the lack of independent sustainable yield review data. Merely reporting on what extent wood supply commitment volumes are being met by providing excerpts of Forest Agreements, Regional Forest Agreements and the Integrated Forestry Operations Approvals does not address questions of logging over quota.

If this information is the best on offer after ten years then we must assume that our assertions are correct. Relying on what is 'generally referred to' and one or two clauses without detailed analysis of the whole of legislation approach nor any real evidence of volume figures is piecemeal at best and completely incompetent at worst.

In Depth Analysis of ESFM and Over-logging in the Southern Region

Volumes are tied to the High Quality Log volumes, yet it is reported in Appendix 4 of the *Draft Interim Report* that in the Southern region the ratio started at 100:101 in 2002 and jumped to 100:240 in 2006. Below are data sets on volume logged by Forests NSW from various sources.

HQL to Pulp Ratio for the Southern and Eden Regions⁷⁰

Southern			Eden		
Year	HQL	PULP	% >	HQL	PULP
2002/03	62 329	65 484			
2003/04	70 021	78 291	12	26 131	309 088
2004/05	53 369	64 049	20	22 434	277 952
2005/06	60 673	109 447	80	23 936	294 519
2006/07	62 272	150 700	140	19 417	314 400
2007/08	70 124	135 231	93	24 871	315 839
2008/09	62 276	113 404			

⁶⁷ Performance Audit In Brief, NSW Auditor-General's Report to Parliament, April 2009 p2.

⁶⁸ Performance Audit 'Sustaining Native Forest Operations,' Auditor-General's Report, 2009; it was also stated "reviews of yield estimates for the southern region, due in 2004 for Eden and 2006 for Tumut and the south coast, have not been completed."

⁶⁹ Michael Davies, Department of Environment and Climate Change, Environment Protection and Regulation Group, Crown Forestry Policy and Regulation Section (ex-Resource and Conservation Unit) 14/7/09.

⁷⁰ NB: 2008 and 2009 figures are different from the 'Report to conform to IFOA Condition 31 Annual Report on Logging Operations by financial Year 2007-08'; we have used the IFOA Condition 31 report for 2008-09 figures.

These are the figures Forests NSW provided to the Auditor General:

Volume Harvested Auditor-Generals Report 2009 Appendix 1					
	03/04	04/05	05/06	06/07	07/08
South Coast					
HQ L	43,571	34,927	42,699	43,314	46,563
Pulp	59,055	45,894	91,583	124,992	105,172
Tumut					
HQ L	26,450	18,442	17,974	18,958	23,561
Pulp	19,236	18,155	17,864	25,708	30,059
Eden					
HQ Large	26,131	22,434	23,936	19,417	24,871
Pulp/chip	309,088	277,952	294,519	314,400	315,839

This is based on data provided by FNSW who have proved to be erroneous in the past. From our data we know these figures to be much higher. Also note that South Coast and Tumut are now the one area called Southern.

These are the figures provided by FNSW to Terrence Digwood (FOI Request):

Eden			Southern		
	HQL	PULP		HQL	PULP
98/99	36,237	317,508	3,238	43,253	59,303
99/00	27,770	352,282	3,170	39,165	51,356
00/01	31,656	337,434	4,254	34,618	69,030
01/02	26,846	278,379	3,339	34,056	42,735
02/03	25,558	313,896	3,546	54,581	55,224
03/04	29,726	320,581	4,160	52,094	60,210
04/05	28,286	297,080	3,580	43,568	64,050
05/06	27,922	307,669	4,786	51,416	91,854
06/07	22,839	342,914	5,043	49,995	107,367
					7,618

These are the Volume figures in the Southern and Eden Region according to the Draft RFA Implementation Report.⁷¹

Eden		Southern	
Year	HQL	PULP	HQL
1999	23 735	352 282	
2000	27 056	337 434	
2001	25 329	279 854	
2002	21 901	313 870	62 329
2003	26 131	309 088	70 021
2004	22 434	277 952	53 128
2005	23 936	294 119	60 673
06/07	19 417	314 400	62 272
			150 700

The IFOA Implementation Reports figures are:⁷²

Eden		Southern	
	HQL	PULP	HQL
01/02	25 329	279 854	
02/03	24 068 or 29 091	313 870	62 329
03/04	26 131	309 088	70 021
04/05	22 434	277 952	53 414
05/06	23 936	294 119	60 673
06/07	20 408	324 960	57 982
			115 808

⁷¹ 'A Draft Report on Progress with Implementation of the New South Wales Regional Forest Agreements (2009)', pp 121 and 122; the Pulp figures for Southern are at Appendix 4, p227.

⁷² 2006 IFOA Implementation Report for 2001/02; 2007 IFOA IR for 2002/03; 2008 IFOA IR for 2003/04 etc.

Pulp is defined as being subservient to logging of High Quality Logs. This is the intent of RFA clause 83 as the volumes referred in RFA cls 80, 81 and 82 are to be as a by-product of harvesting for the volumes specified in RFA cl 76. These volumes also include the volumes obtained from thinnings and timber products, which are related to the committed volumes and also to sustainable yield. As we can see by all the figures and amounts shown, pulp can in no way be interpreted to be subservient in either region.

It seems the actual volume of pulp removed in the Southern region for the period 2002 to 2007 is equal to twelve percent above the allowable cut.⁷³ This is above the five percent allowed in IFOA clause 5(a). In essence FNSW must stay within the five percent range.

There is some concern with the differing volumes between the reports and the Digwood FOI figures. The difference is too great to be attributed to the averaging of the years. We would suggest that differing reporting methods and figures are provided to obscure actual volume figures of RFA regions.

Incorrect figures aside, it can also be seen that in all the years the volume of pulp is inconsistent with the volume for HQL.

The Integrated Forestry Operations Approvals state that sole purpose pulp operations are disallowed however Forests NSW have a myriad of ways around this. The main one is to call the operations 'thinning operations' or 'Australian Group Selection' or 'Modified Shelter Wood'. As most logging now is done by mechanical harvesters this renders most logs unfit for being a sawlog and creates pulp.⁷⁴ We would have to strongly disagree that compartments in the southern and Eden regions are chosen 'for the volume of high quality sawlogs they can deliver'. On ground evidence suggests compartments are logged to meet the wood supply agreements for pulp with South East Fibre Exports.

Consistency

Volumes of HQL over the past five years from South Coast sub region have been lower than the committed volume of 48 500m³, ranging from 2 000m³ to 11 000m³ under. In 2006-07 HQLs volumes were 43 314m³. Pulp volumes should also have stayed relatively constant or been 'consistent' at around the 2002/03 and 2003/04 volumes of approximately, yet the figure was 150 700t.

Continuing supply of *high quality small (HQS) logs* and provision of *residue timber* for charcoal and **pulpwood consistent** with the *HQL log* volumes in the Region will also occur.⁷⁵

And:

The harvest intensity will be determined by the 48 500 m3 *HQL* commitment and not commitments for *residue timber*.⁷⁶

Forests NSW and DECCW state pulp is subservient to HQL yet, as we can see by the figures, Forests NSW have departed from the legislation, evidenced by the dramatic increase in pulp volume logged. Therefore pulp figures are definitely not consistent with the HQL figures.

Maximum allowed

The Southern Regional ESFM plan discusses FRAMES and the average sustainable annual volume of 42 070m³.

The average annual supply for high quality logs is **reduced** to 42 070 cubic metres to ensure ecological sustainability of harvesting operations.⁷⁷

Yet the committed volume is 48 500m³:

The *Regional Forest Agreement for Southern NSW* provides for term and wood supply agreement commitments

⁷³ 'A Draft Report on Progress with Implementation of the New South Wales Regional Forest Agreements (2009)', Resource and Conservation Unit, NSW Department of Environment and Climate Change NSW, Appendix 4, p227.

⁷⁴ Connell M.J., 'Log Presentation: Log Damage Arising From Mechanical Harvesting or Processing', Prepared for the Forest & Wood Products Research and Development Corporation, Project no: PN02.1309, CSIRO Forestry, 2003.

⁷⁵ The *Southern Region Forest Agreement 2002 (NSW)*, p25.

⁷⁶ The *Southern Region Forest Agreement 2002 (NSW)*, p27.

⁷⁷ ESFM Southern Region (2005) p36.

of high quality large logs to industry on an annual basis **totalling 48 500 cubic metres** in South Coast Sub-region.⁷⁸

At cl 5(2)(a)(iv) it states:

(iv) no more than 921,500m³ (that is, 48,500m³ x 19) over the duration of this approval;

In other words the volume of HQL is a maximum *committed* volume of 48 500m³ per year but the maximum sustainable volume is 42 070m³ per year.

For pulp the volume specified in RFA clause 80 is the maximum volume allowed.

The Parties note that for the South Coast Sub Region, arrangements for pulp grade timber/pulpwood include an amount of 97 000 tonnes per annum, being a quantity which reflects **the maximum supply** levels contracted at the date of this Agreement.

If there is no maximum figure markets can keep demanding more ad-infinitum, this is impossible when constrained by sustainable yield. The only way volumes can be increased is by logging more area, or by logging more intensively. Both of these outcomes will have an effect on sustainable yield.

Committed volume

Sustainable volume of various timber products that can be logged in one year is a complex matter. In solving this reference must be made to RFA clause 2, which defines sustainable yield as:

the long term estimated wood yield from forests that can be maintained from a given region in perpetuity under a given management strategy and suite of sustainable use objectives.⁷⁹

It is this term that is common to the documents and the intent which they were written, for not only Southern but all regions. It is the basis for the volumes specified in RFA clause 76, 80 and the *Forest Agreement* (FA) 3.1. Another term that is important is 'committed volume'.

The *Forest Agreement* states at 3.1:

A sustainable timber supply arrangement is to be implemented for native forests where the annual committed high quality large (HQL) log volumes are a minimum of 48 500 m³.⁸⁰

In both the FA and IFOA reports the definition is:

Committed volume – the volume of timber that may be harvested under the terms of the Forest Agreements and IFOA's.

Timber volumes provided for in RFA clause 76, according to RFA clause 85 is:

to be on a non-declining even-flow Sustainable Yield basis for the period modelled by FRAMES (being 180 years).

The intent of committed volumes is reinforced by RFA clause 75 which states the committed volumes are for:

the quantities of timber, Woodchips or Unprocessed Wood products sourced from the Southern region in accordance with this Agreement.

If the FRAMES sustainable volume of HQL is 42 070m³ per year then over the 180 years the total amount is 7 572 600m³. If the committed volume is 48 500m³ per year then the total amount would be 8 730 000m³. This shows that Forests NSW have over committed on sustainable yield by 1 157 400m³.

If the maximum volume for pulp is 97 000t per year and Forests NSW have logged 102 372t on average for the past seven years then we can see that Forests NSW are logging over quota.

While RFA clause 82 states that supply of other forest products will be 'in accordance with current and

⁷⁸ ESFM Southern Region (2005).

⁷⁹ The *Regional Forest Agreement for Southern New South Wales Between The Commonwealth of Australia and the State of New South Wales, April 2001*.

⁸⁰ The *Southern Region Forest Agreement 2002*.

future market demands', this must be taken in context with sustainable yield. As we can see committed volume is already above sustainable yield thus there can be no increased volumes on the basis of market demand without throwing sustainable yield out the window.

The pulp volume in RFA clause 80 is a maximum volume until there has been a recalculation of sustainable yield showing that this can be increased. The volumes for the various timber products in the RFA and FA are the only volumes allowed unless the agreements are amended. There has been no recalculation of sustainable yield nor have the agreements been amended. As these have not occurred there must therefore be a breach of the RFA and FA by Forests NSW.

In Depth Analysis of ESFM and Over-logging in the Eden Region

The annual yields of timber currently supplied from the Eden region are not sustainable because:

- 1) The use of clear-fell logging which converts multi-aged forests into regrowth precludes the maintenance of forest values in perpetuity and breaches criteria for ecological sustainability.
- 2) The 'sustained yield' volumes included in the Integrated Forestry Operations Approval were not based on a legitimate run from the FRAMES software, but were merely derived by applying an inflated mean volume per hectare figure.
- 3) Data shows that the estimation process that FRAMES was based on – predicting alternate coupe volumes from logged coupes – is unreliable, but estimates have not been updated to account for this fact.
- 4) The committed annual yield volumes have been consistently overcut by Forests NSW in breach of the FA and RFA.

The timber volume of 23,000m³ that is common to all Eden agreements is not a minimum volume but a maximum volume. This volume can only be increased by a recalculation of sustainable yield using enhanced FRAMES.

The timber volume allocated in the NSW FA/RFA for the Eden region is not derived from a legitimate FRAMES run and is not a sustainable yield volume. The allocated volume is approximately 2,350m³ above sustainable yield which over the past ten years has seen more than one years worth of future timber volume already harvested. When combined with the actual over cutting of timber volume above that allocated, the future timber supply has been severely compromised.

This situation should have been rectified years ago when the review of sustainable yield was due to be conducted and if DECCW enforced compliance with the allocated timber volumes being harvested by Forests NSW. It is indicative of the failure of the NSW FA and RFA process and outcomes to deliver truly sustainable forest management.

Forests NSW is claiming that timber supply is tight and that they have long term timber contracts to fulfil as to the reasons why they have to log the Koala habitat of Mumbulla State Forest. The real reasons are that the long term contracts are based on unsustainable yields and that Forests NSW have mismanaged the forest by over cutting.

Even if Forests NSW log the contentious areas it will not solve the long term problems that have already been caused. Therefore the NSW Government needs to cease all operations in the Eden region due to the unsustainability of these forestry operations. Industry buyouts and a move to the plantation estate are required immediately to protect the remaining multi-aged forests.

The concept and principles of Ecologically Sustainable Forest Management (ESFM) have been adopted by the Commonwealth and State Governments as an essential element of forest policy in Australia. These concepts and principles have been developed and refined over time as new information has been obtained and international treaties or protocols adopted.

The New South Wales Forest Agreement for the Eden Region 1999, (NSW FA), has the following definition for ESFM.

“ecologically sustainable forest management (ESFM) is managing forests so that they are sustained in perpetuity for the benefit of society by ensuring that the values of forests are not lost or degraded for current and future generations. ESFM applies to all forest tenures.”

The Regional Forest Agreement for the Eden Region 1999, (RFA), has a definition for sustainable yield which ties in with the definition of ESFM.

“Sustainable Yield means the long term estimated wood yield from forests that can be maintained from a given region in perpetuity under a given management strategy and suite of sustainable use objectives;”

Sustainable yield plays a major role in the credibility and integrity of ESFM and without this core component any claims that forestry operations are in accordance with ESFM are false and misleading.

This report will show that the concept of ESFM and especially sustainable yield have been abused during the Comprehensive Regional Assessment (CRA) process by the granting of unsustainable timber volumes and the subsequent over cutting for many years above these timber volumes by Forests NSW.

It is for this reason that Forests NSW are claiming that timber supply is tight and that they only have “2 to 3 years timber supply from the multi-aged forests” (Mr Ian Barnes, Regional Manager pers. com.). This situation is of Forests NSW own making with DECCW and the government sharing culpability for failing to monitor the sustainability of timber volumes.

Legislation and Agreements in Relation to ESFM

National Forest Policy Statement 1992 (NFPS)

The NFPS outlined objectives and policies for the future of Australia’s forests. ESFM has been incorporated in this statement in the vision, national goal and specific objectives and policies chapters.

The vision statement starts with “*The Governments share a vision of ecologically sustainable management of Australia’s forests. This vision has a number of important characteristics... Forests and their resources are used in an efficient, environmentally sensitive and sustainable manner.*”, NFPS p3.

In the National Goals chapter it says “*The goal is for Australia to develop internationally competitive and ecologically sustainable wood production and wood products industries.*”, NFPS p5.

The Objectives and Policies chapter, section 4.1 Conservation-ESFM and codes of practice says “*ESFM will be given effect through the continued development of integrated planning processes, through the codes of practice and environmental prescriptions and through management plans that, among other things, incorporate sustainable yield harvesting practices.*”, NFPS p12.

Section 4.3 Intergovernmental arrangements- Comprehensive regional assessments also states “*...In this respect, the guidelines will cover, for example, management for sustainable yield...*”, NFPS p25.

Forestry and National Parks Estate Act 1998

The FNPE Act enables the making of NSW FA’s. Clause 15 requires a regional forest assessment to be carried out prior to making a FA, and part of the assessment is to include ESFM. Clause 16(2) states that a “*forest agreement must contain;*

- a provisions that promote ESFM*
- b provisions with respect to sustainable wood supply from forestry operations covered by the agreement.”*

The inclusion of ESFM principles and especially sustainable timber supply in the FNPE Act is important as this act forms the legislative basis for the NSW FA’s and Integrated Forestry Operations Approvals

(IFOA) to be made and these in turn enable RFA's to be made, all of which have driven forest management for the last 10 years. It should also be noted that this act takes away the rights of 3rd parties to take legal action against Forests NSW for breaches of this act, NSW FAs, RFAs and IFOAs.

NSW Forest Agreement for the Eden Region 1999

Following on from the CRA for the Eden region a NSW Forest Agreement ("FA") came into effect in March 1999. The agreement sets out the principles and strategic framework for the cooperative management of all forests by the government and its agencies.

Section 2 is titled Promoting ESFM in the Eden region. Section 2.2.1 requires the preparation of regional ESFM Plans, and that these plans must have the status of management plans under the Forestry Act 1916.

Section 2.10.1 acknowledges that "*ESFM is the guiding philosophy for forest management*". Criteria and indicators for ESFM have been developed to evaluate and review the sustainability of forest management practices. Section 2.10.2 lists the ESFM indicators adopted for the Eden region. Under the criteria *The Productive Capacity and Sustainability of Forest Ecosystems*, indicator 2.1b requires reporting on the "*annual removal of timber and non-timber products from forest ecosystems compared with those estimated to be ecologically sustainable by tenure*"

Section 3 sets the framework for sustainable timber supply for the region. Section 3.1, *Sustainability strategy for timber supplies*, sets the High Quality Large Sawlog (HQL) timber volume at 23,000m³ from the Eden region, 1,000m³ from Ingebirah and 1,000m³ for the first 5 years from the South Coast region. "*Any increases to these volumes must be sustainable and consistent with modeling using the Forest Resource And Management Evaluation System (FRAMES).*"

Section 3.5 *Timber Resource Assessment* requires the refinement of resource availability. This is to be achieved through improvements to FRAMES and resource inventory measurement. Comparison of actual volumes to predicted volumes are to be made. These results must then be used to "*review the performance in achieving the implementation of sustainable yield of timber products.*"

The NSW FA's require annual reports on the progress of ESFM in the region and 5 year reviews are to be undertaken. The annual reports are only available to 06-07 with most of these reports only produced in the last 6 months and the 5 year review has only just started when the second 5 year review is due.

Regional Forest Agreement for the Eden Region 1999

The RFA is an agreement between the State and Commonwealth Governments to facilitate forestry operations. In the agreement the Commonwealth acknowledges that the State Government has undertaken a Comprehensive Regional Assessment and created a Comprehensive Adequate and Representative reserve system. In return the Commonwealth exempts RFA regions from the EPBC Act and export control regulations.

Developing and implementing ESFM in the Eden region is a fundamental aspect to the RFA and many clauses deal with this issue.

Clause 46(c) requires NSW to publish a Regional ESFM Plan under the Forestry Act 1916 and 46(f) requires a review of sustainable yield consistent with attachment 11 of the RFA and FRAMES.

While clause 72 notes the NSW FA for Eden "*establishes the sustainability strategy for timber supplies*", clause 73 confirms the timber volumes contained in the NSW FA. Clause 76 requires NSW to review timber volumes using processes described in clause 46(f), and only additional sustainable timber volumes are to be made available.

Clause 95.6 requires NSW in accordance with clause 46(f) to review sustainable yield consistent with attachment 11 and FRAMES in time for the first 5 year review. It should be noted that a failure to comply

with clause 46(f) and review sustainable yield by the first 5 year review is a trigger for termination of the RFA (cl 99(iv)).

Attachment 11 *Sustainable yield systems and processes* sets out the requirements for reviewing sustainable yield calculations. Point 4 requires any changes to the volumes in clause 73 to be based on sustainable yield and consistent with FRAMES.

Integrated Forestry Operations Approvals

The IFOA brings all the environmental assessment, planning, and regulatory regimes that apply to forestry operations together into one document. There is a general requirements section, called the non-licence conditions, an Environmental Protection Licence (EPL), Threatened Species Licence (TSL) and a Fisheries Licence (FL).

It is Cl 5(2)a and Cl 5(3) of the non-licence conditions that define the volume of HQL that can be harvested each year.

5. Description of forestry operations to which this approval applies

(2) This approval applies to logging operations, being the cutting and removal of timber for the purposes of producing any of the following:

(a) High Quality Logs (including an amount of up to 23,000m³ per year, being a quantity which reflects contractual commitments existing at the date of this approval);

5(3) To avoid doubt, the quantities of timber products specified in paragraphs (a) and (b) of subclause (2) do not impose any limitation on the quantities of those products that may be harvested under this approval. The quantities referred to simply reflect contractual commitments existing at the date of this approval.

It is clearly impossible to have a sustainable yield that is based on contractual commitments alone.

ESFM plan for Eden region

Part 7 of the ESFM plan pertains to sustainable timber supply. The following is the policy statement for this part;

“Forests NSW will optimize the supply of timber products within ecological constraints and within a long term framework as specified in the Regional Forest Agreement for Eden NSW.”

The background section starts with *“The NFPS identifies ecologically sustainable wood production..... as one of the broad national goals for native forests.”* It then goes into a description of FRAMES. This is trying to infer that the figures used in the plan have some validity as sustainable yield from FRAMES. It will be shown later that the timber yield in the ESFM plan is not a FRAMES volume.

In the section *Ecological sustainability of wood supply* it says *“Ecological sustainability is assured by incorporating an ecological framework in the modeling process and applying the Integrated Forestry Operations Approval for Eden Region (IFOA) and license conditions during operations.*

The ecological framework is comprised of...

1 Periodic review of wood availability and supply commitments based on monitoring of areas and volumes harvested and improvement of the FRAMES models”

Page 4 of the ESFM plan is a table titled *Developing Ecological Sustainability in Wood Supply in Eden Region*. This has the gross area of native forest at 156,963ha, a net area of 137,510ha and a Net Harvest Area (NHA) of 124,071ha for an annual volume of 23,000m³. The net area excludes Forest Management Zones (FMZ) 1, 2 and 3a. The NHA excludes FMZ's and all other mappable features.

Analysis of Sustainability of Eden Timber Yields

FRAMES was designed during the CRA process as a tool to determine the ecologically sustainable timber

yield for forest regions under various management systems and NHA's. The Eden FRAMES Report 12/5/98 formed the basis for the timber volumes adopted in the NSW FA and RFA for Eden.

Whilst there are many concerns with aspects of FRAMES methodologies, assumptions and error limitations, the estimates produced by FRAMES are all there is to calculate sustainable yield and FRAMES should be regularly reviewed, updated and adhered to. Any changes in sustainable yield need to be validated by FRAMES as required by the NSW FA and RFA.

However, the yields of timber currently supplied from the Eden region are not sustainable because:

- 1) The use of clear-fell logging which converts multi-aged forests into regrowth precludes the maintenance of forest values in perpetuity and breaches criteria for ecological sustainability.
- 2) The 'sustained yield' volumes included in the IFOA were not based on a legitimate run from the FRAMES software, but were merely derived by applying an inflated mean volume per hectare figure.
- 3) Data shows that the estimation process that FRAMES was based on – predicting alternate coupe volumes from logged coupes – has become increasingly unreliable, but it has not been updated to account for this fact.
- 4) The specified annual 'sustained yield' volumes have been consistently overcut by Forests NSW in breach of the FA and RFA.

Each of these four factors is addressed in detail below.

Conversion of multi-aged forests to regrowth

In the period 1997-2019 the majority of the timber volumes will come from the multi-aged forests of the region with the transition from 2016 onwards to full regrowth. Multi-aged forests are clear-felled in the Eden region in 10-100 hectare coupes, in a practice which Forests NSW refers to as 'Modified shelterwood harvest system'. The Resource Assessment Commission in 1992 stated that even though some silviculture systems (including Modified shelterwood harvesting system) retain habitat and seed trees these systems are still classified as clear-fell logging. This conversion of multi-aged forests into regrowth forests is against the principles of ESFM and sustainable yield. The Eden region is the only region in NSW that the multi-aged forest is to be converted to a regrowth forest. It is questionable how this management strategy is to maintain all forest values in perpetuity.

One very important forest value is the ability of the forest to sustain biodiversity. The loss of hollow bearing trees has been listed as a Key Threatening Process (KTP) in New South Wales. The conversion of multi-aged forests into regrowth results in a massive reduction of hollow bearing trees from approximately 13+ per hectare to 2-6 per hectare. This will have a severe impact on hollow dependant fauna into the future.

Sustained yield volumes not based on legitimate FRAMES run

The analysis conducted below shows that the timber volumes in the NSW FA/RFA are not based on a legitimate FRAMES run and are higher than the sustainable yield. This analysis has at its base a comparison of the differing areas and timber volumes that have been used for different yield estimates.

A detailed analysis of the reported areas and timber yields for different tenure scenarios is provided in Appendix 1. The figures from this analysis are reviewed below and conclusions drawn about the sustainability of operations.

This analysis compares the estimates of sustained yield from three different reserve scenarios that were considered during the development of the forest agreement.

The three scenarios are:

- 1) The base case – sustained yield over the full area of State Forest without any new reserves

- 2) The NSW department position – sustained yield available if recommended reserves are created
- 3) The actual reserve outcome – sustained yield available given the final reserve outcome and off-reserve constraints that were implemented.

Table 1: Scenario area and sustainable yield

Scenario	Net area (ha) *	Sustained Yield (m ³)	Source of yield estimate	Notes
Base Case	175,401	28,300	FRAMES run	Reference Point 1 Information from Towards an Eden RFA 1998
Departmental Position	149,813	22,500	FRAMES run	Scenario B Information from Towards an Eden RFA 1998
Actual Reserve Outcome	137,510	23,000	Unknown	Regional Forest Agreement outcome Information from the ESFM Plan for the Eden region

*The net area only excludes FMZ areas and is not the NHA which further excludes other mappable features.

This comparison shows that even though the Actual Reserve Outcome resulted in 12,303 ha less available for logging than that recommended by the Government departments, the estimated timber yield was 500m³ more. This timber yield is the volume that has been committed for supply through the Forest Agreements and other regulatory instruments.

The Actual Reserve Outcome estimate appears to be based on application of the average volume per hectare from the Base Case, and not from a legitimate FRAMES run. The NHA for the base Case and RFA were used to calculate the yield. This can be seen in the table below:

Table 2: Volume per hectare comparison

	Volume per hectare (m ³ /ha)
Base Case	0.18539
Reserve Outcome	0.18537

Table 3: From FRAMES report, base case – RFA relationship

	Gross	Net	Volume	Yield
FRA	198,315	152,651	28,300	.18539
RFA	156,963	124,071	23,000	.18537
		81.27%	81.27%	

* These figures are the NHA. FMZ and all mappable exclusions have been accounted for.

It is too coincidental for the volumes per hectare to match exactly in this manner. This leads to the conclusion that the current yields were derived by applying the base case volumes per hectare to the area available after the reserves were implemented.

However, this is likely to lead to a major overestimate of sustained yield, because large areas of high yielding forest were reserved which means that the average yield per hectare can be expected to decline substantially.

Compounding the difference between the RFA and scenario B net areas is the large amount of area allocated to FMZ 3b special prescription zones in the RFA outcome. These areas generally modify the logging practices to 50% canopy reduction instead of the usual 70-90%. The effect of this volume reduction has not been estimated in this analysis.

A more accurate sustainable yield figure for the reserve outcome could be obtained from using the volumes per hectare from the Departmental Position scenario. This holds because the Departmental Position and the Actual Reserve Outcome were much closer in configuration and area than the base case was to either.

The volume per hectare for the Department Position is $0.15018\text{m}^3/\text{ha}$. Applying this to the Actual Reserve Outcome position of 137,510ha results in an estimate sustained yield of $20,651\text{m}^3$.

This shows that the RFA timber allocation of $23,000\text{m}^3$ is completely unsustainable by approximately $2,350\text{m}^3$ per annum. As this situation has been in effect for 10 years approximately $23,500\text{m}^3$ has been extracted from the region which is more than 1 year of supply at the sustainable yield of $20,650\text{m}^3$. These figures are extremely conservative as they do not take into account the volume reduction from increased FMZ 3b areas.

Unreliable FRAMES estimation without proper review

FRAMES timber volumes have reported confidence limits of $\pm 30\%$. However, there is evidence to suggest that the differences between estimated yields and actual yields are in fact far greater than this.

FRAMES relies on actual timber volumes logged in cut coups to estimate likely timber yields in uncut coups. However, the Eden FRAMES report 1998 noted that post 1994 the yield relationship between cut and uncut coups starts to break down with a subsequent decline in actual volume/ha compared to the estimated volume. The FRAMES report recommended investigation into the declining yields since 1994 as this could have important ramifications to sustainable yield calculations. However, there has been no investigation nor any change in sustained yield estimations in response to this information.

Possible causes for the decline in yield could be increased tree mortality due to Drought Associated Dieback (DAD), climate change or Bell Minor Associated Dieback (BMAD). Even if BMAD or DAD are not the reason for the past decline they will become a concern for future timber volumes as the area of forest affected is increasing. The impact of climate change on future timber yields was not accounted for in the CRA process.

The NSW FA and the RFA require sustainable yield to be reviewed by the first five year review and for an independent review by the second five year review. It has been ten years since the signing of these agreements and there has still been no review of the sustained yield estimates from FRAMES. This is increasingly urgent, as Forests NSW is planning to complete the conversion of multi-age forests to regrowth within the next five years.

Consistent Overcut of Committed Yields

SEFR sent a report to DECCW on 8/9/08 regarding the over cutting of committed timber yields by Forests NSW being in breach of the NSW FA, RFA and IFOA. The information detailed in the legislation section of this report and in the breach report establishes the principles of ESFM and especially sustainable timber yield. SEFR stands by its opinion that Forests NSW is in breach of the NSW FA, RFA, ESFM plan and the Forestry Act 1916 by the over cutting of sustainable timber yield.

While the RFA/FA state “a minimum of $23,000\text{m}^3$ from the Eden Region” this has to be taken in the

context of ESFM and sustainable yield. In both the RFA/FA it also states any increase to these volumes has to be sustainable and consistent with FRAMES. There has been no recalculation of sustainable yield to date for the Eden Region, and so although it says minimum the 23,000m³ is also a maximum. The whole concept of sustainable yield is the maximum volume that can be harvested each year in perpetuity; any other interpretation is completely untenable in the context of ESFM and sustainable yield.

DECCW's interpretation of clause 5(3) of the Eden IFOA as to why Forests NSW are not in breach of over cutting is shallow reasoning, against one of the core concepts of ESFM, against all other Acts and Agreements and is also totally wrong.

While clause 5(3) does seem to negate any limitations on timber volumes there are other clauses in the IFOA which also need to be taken into account and this is what is meant by shallow reasoning on behalf of DECCW.

Eden IFOA

PART 2 – Provisions applying to forestry operations generally

7. Ecologically sustainable forest management

(1) In carrying out, or authorising the carrying out of, forestry operations SForests NSW must give effect to the principles of ecologically sustainable forest management as set out in Chapter 3 of the document entitled, “ESFM Group Technical Framework” (Ecologically Sustainable Forest Management Group, New South Wales and Commonwealth Governments, July 1999).

This clause states that Forests NSW must give effect to the principles of ESFM. These principles are in attachment 14 of the RFA.

ATTACHMENT 14 (clause 44)

PRINCIPLES OF ECOLOGICALLY SUSTAINABLE FOREST MANAGEMENT (ESFM)

Principle 1: Maintain or increase the full suite of forest values for present and future generations across the NSW native forest estate

Aims for values include

B The productive capacity and sustainability of forest ecosystems

- Ensure the rate of removal of any forest products is consistent with ecologically sustainable levels.*

Again this reinforces the concept of sustainable yield which Forests NSW must give effect to. Clause 7(2) requires Forests NSW to monitor the indicators for ESFM. As stated earlier indicator 2.1b is to report on actual yield against sustainable yield. Clause 7(3) states Forests NSW “must have regard to any data or information” from the monitoring of indicators. This monitoring should have told Forests NSW and DECCW, as DECCW writes the annual ESFM reports, that over cutting of sustainable yield was occurring.

PART 7 - Miscellaneous

44. Most restrictive requirement to be complied with

(1) If, in a particular set of circumstances:

- (a) more than one requirement applies to the carrying out of forestry operations, and*
- (b) by complying with the most restrictive of those requirements, all of the requirements will be satisfied, then the most restrictive of the requirements is the one which must be complied with.*

(2) A requirement for the purposes of this clause is a requirement imposed by a term of this approval (including a term of a licence set out in this approval) or a document with which this approval requires compliance.

This clause also needs to be taken into account. As there are obviously differing requirements and inconsistency between the IFOA and other Acts and Agreements and also within the IFOA itself then clause 44 must have effect and enforce compliance with the concept of sustainable yield.

As shown earlier the FNPE Act 1998 requires provisions with respect to sustainable timber supply. SEFR finds it hard to accept that Forests NSW are not in breach of the IFOA when they are in breach of the

FNPE Act which enables the granting of IFOA's.

These clauses in the IFOA override 5(3) with respect to timber volumes and obviously were not taken into account when considering SEFR's breach report.

Since sending the breach report and waiting almost a year for a reply there has been an additional cl 24 annual volume report obtained by SEFR. Updating the data in the breach report shows Forests NSW are still logging at an unsustainable level.

Section 3.3 *Timber Supply Arrangements* states “*Continuation of arrangements under existing agreements to allow for the carrying forward into subsequent years of volumes of under cut and over cut*”. This clause allows slight variations of over or undercut each year to give some flexibility due to operational constraints. While there are no values for these arrangements for Eden all other IFOA regions have the same specified values and these are applied in this analysis.

The maximum overcut allowed each year is 25% of 23,000m³ (23,000 x 1.25=28 750m³). Every 5 years the maximum overcut allowed is 5% of 5 x 23,000m³ (5 x 23,000= 115,000m³ x 1.05=120,750m³). At the end of the RFA period of 20 years the allowable volume harvested is to be no more than 20 x 23,000m³= 460,000m³.

Table 4: HQL harvested above allocated volumes

IFOA	Volume	5yr volume	Volume	excess
2000	25,378	2,378		
2001	23,726	726		
2002	25,154	2,154		
2003	26,806	3,806		
2004	26,513	3,513	127,577	6,827
2005	23,126	126	125,325	4,575
2006	24,708	1,708	126,307	5,557
2007	25,261	2,261	126,414	5,664
2008	24,311	1,311	123,919	3,169
Total		17,983		

* 23,000 x 5 x 1.05 = 120,750m³

The year 2004 was the first 5 year period for which there is available data. The 5 year volume column shows the total volume harvested in this period. The volume above 5 years + 5% column shows the volume harvested in excess of that which is allowable.

Forests NSW are still harvesting above the FA/RFA allocated volume of 23,000m³ and all 5 year periods are above the allowable volume plus 5%. The total over cut of 17,983m³ is almost one year's supply of the true sustainable yield of 20,650m³.

Inconsistency between data sets

There are three different data sets on timber volumes harvested in the Eden region that are in existence. The first data set, the one that SEFR relies upon, are the annual volume reports required by clause 24 of the IFOA. These reports are to be on a calendar year basis. SEFR has been obtaining these reports since

2001.

The second data set is that contained in the annual reports on the NSW FA/IFOA which are also repeated in the Draft report on Progress with Implementation of the NSW RFA's. These cover the period 99/00 - 06/07 and are on a financial year basis.

The last data set is from the Auditor Generals Report- *Performance audit-sustaining native forest operations 2009 appendix 1*. It reports on a financial year from 03/04 to 07/08.

Table 5: HQL harvested

Cl24 IFOA	FA/IFOA /RFA	Auditor General			
		99/00	23,735		
		00/01	27,056		
01	23,726	01/02	25,329		
02	25,154	02/03	21,901		
03	26,806	03/04	26,131	03/04	26,131
04	26,513	04/05	22,434	04/05	22,434
05	23,126	05/06	23,936	05/06	23,936
06	24,708	06/07	20,408	06/07	19,417
07	25,261			07/08	24,871
08	24,311				

Analysis of data sets

There is one obvious difference between the AG report and the FA/IFOA/RFA report for the year 06/07. After comparing the cl24 reports and the FA/IFOA/RFA reports it is impossible to reconcile the two, with cl 24 reports showing greater timber volumes , to a significant amount in some years.

Converting the FA/IFOA/RFA volumes to calendar years, eg (year ab + year bc)/2, and comparing the total volume harvested between 2001 and 2006 produces the following figures.

Table 6: HQL harvested adjusted to calendar year

Cl24 IFOA	FA/IFOA/R FA report		
01	23,726	01	26,192
02	25,154	02	23,614
03	26,806	03	24,015
04	26,513	04	24,282
05	23,126	05	23,185
06	24,708	06	22,172
Total	150,292	Total	143,460

The difference of 6,573m³ is too great for any slight discrepancies in the averaging method used. Only in year 2005 are the volumes in alignment. The reasons for these differing data sets need to be resolved and the exact volumes harvested reported.

Conclusion on Over-logging for the Eden Region

It is clear the intent of all the various Acts and Agreements is the establishment of an ESFM framework as the core principal for the management of the forest estate of NSW. It is also clear that sustainable timber yield is a cornerstone of ESFM. Timber volumes that are unsustainable will have negative implications for not only the environmental values of forests but also for future socio-economic values.

The timber volume of 23,000m³ is a maximum volume. If this volume is taken as a minimum then there can be absolutely no claim that forestry operations are conducted in accordance with the principals of ESFM and sustainable yield.

The timber volume allocated in the NSW FA/RFA for the Eden region is not derived from FRAMES and is not a sustainable yield volume. The allocated volume is at least 2,350m³ above sustainable yield which over the past ten years has seen several years of future timber volume already harvested. When combined with the actual over cutting of timber volume above that allocated in the NSW FA/RFA, the future timber supply has been severely compromised.

This situation should have been rectified years ago when the review of sustainable yield was due to be conducted with an updated FRAMES, and if DECCW enforced compliance with the allocated timber volumes being harvested by Forests NSW. It is indicative of the failure of the NSW FA and RFA process and outcomes to deliver truly sustainable forest management.

Forests NSW is claiming that timber supply is tight and that they have long term timber contracts to fulfil as to the reasons why they have to log the Koala habitat of Mumbulla State Forest. The real reasons are that the long term contracts are based on unsustainable yields and that Forests NSW have mismanaged the forest by over cutting.

Even if Forests NSW log the contentious areas it will not solve the long term problems that have already been caused. Therefore the NSW Government needs to cease all operations in the Eden region due to the unsustainability of these forestry operations. Industry buyouts and a move to the plantation estate are required immediately to protect the remaining multi-aged forests.

Conclusion on Over-logging for Both Regions

There is no justification for the sharp rise in pulp volumes over the past three years other than trees are being felled specifically for pulp, at a substantial loss to the taxpayer, to subsidise the profits of SEFE.

An analysis of compartments logged in the past five years shows that the quality of forest has remained relatively constant and therefore volumes should also have stayed relatively constant. The volume figures for pulp have risen dramatically, no matter which figures are used. The only way for this to happen is by logging more intensively, which will affect the remaining stand condition and ultimately sustainable yield.

As stated above there has been no noticeable difference in forest quality and so the only explanation is that pulp operations are the driving force in the region, not HQL as is alleged. At this rate of logging it brings the rotation time down to five to ten years, which is unsustainable.

Further there is no available data of the mark up of retention trees, both habitat and recruitment trees, and many trees that may have been retained have now been logged. Indeed currently there is no available data on past history of retention trees and their location thus previously retained trees are constantly available for logging.

The RFA, FA and IFOA have not been amended over the years. There has also been no recalculation of sustainable yield over this time. Therefore Forests NSW are in breach of these agreements and are

contrary to the principals of ESFM.

The Regional Manager of Forests NSW has stated:

"The remaining multi-age forests resource is coming to an end in the next two to three years."

Ian Barnes, The Eden Magnet Thursday, March 11, 2010.

If the objects of the Forestry Commission are:

- (a) to conserve and utilise the timber on Crown-timber lands and land owned by the commission or otherwise under its control or management to the best advantage of the State,
- (b) to provide adequate supplies of timber from Crown timber lands and land owned by the commission or otherwise under its control or management for building, commercial, industrial, agricultural, mining and domestic purposes,
- (c) to preserve and improve, in accordance with good forestry practice, the soil resources and water catchment capabilities of Crown-timber lands and land owned by the commission or otherwise under its control or management⁸¹

As evidenced the Commission has not only failed to meet it's legislated requirements it has failed to meet the objects of the Commission and the Act.

IFOA and PNF Prescriptions for Species

In the Southern and Eden regions there are 25 compartments active in State forest and 46 PVPs which mainly feed the pulp market. All of these contain threatened and/or endangered species.⁸² Once a species has been listed by the Scientific Committee it triggers numerous obligations for habitat conservation.⁸³ Thousands of dollars have been spent both State and Federally on each species recovery plan and threat abatement plan, yet despite this, and there being a plethora of legislation and regulations to conserve biodiversity, native forestry operations are exempt.

Scientists advocate an approach to conservation based on maintaining ecosystem structure and function, and therefore ultimately protecting more species.⁸⁴ Protecting species and diversity enhances ecosystem resilience therefore species are able to maintain their functions and processes.

The object of IFOAs are stated at s25 of the FNPE Act as 'for the protection of the environment and for threatened species conservation'.⁸⁵

The Scientific Committee's main recommendations to protect hollow dependant species were to establish appropriate recruitment tree ratios as part of the PNF Code under the NV Act, and adopt appropriate policies for recruitment tree ratios with a stipulated minimum retention density in areas of State forestry operations.⁸⁶

Both of these strategies for different land tenures are given High priority, both of these strategies have not been implemented. Given that generally eucalypts form hollows after about 120 years of age a sustainable rotation age would be one that allows forest values to regenerate.⁸⁷ Reducing forests to a flat rate of 5 or

⁸¹ The *Forestry Act 1916* (NSW) s8(a)1.

⁸² There are 91 forest dependant species of fauna in the region, National Parks and Wildlife, Atlas of NSW Wildlife, <<http://wildlifeatlas.nationalparks.nsw.gov.au/wildlifeatlas/watlasSpecies.jsp>> viewed 19 July 2010.

⁸³ See the *Environment Planning and Assessment Act 1979* (NSW), the *Protection of Environment Operations Act 1997* (NSW), the *Threatened Species and Conservation Act 1995* (NSW), the *Environment Protection Biodiversity and Conservation Act 1999* (Cth), *National Parks and Wildlife Act 1974* (NSW).

⁸⁴ McIntyre S, Barrett G, Kitching R, and Recher H, 'Species Triage – Seeing Beyond Wounded Rhinos' (1992) 6 *Conservation Biology* 4 p604-606; Walker B, 'Conserving Biodiversity Through Ecosystem Resilience' (1995) 9 *Conservation Biology* 4, p747.

⁸⁵ *Forestry and National Park Estate Act 1998* (NSW) s25.

⁸⁶ *Loss of Hollow Bearing Trees Key Threatening Process*, above n10; clicking on 'Threat Abatement Strategies' will take you to 'Review and Amend or Adopt Existing Legislation or Policies', clicking on this will take you to 'All Priority Actions for this KTP', clicking on that will take you back to 'All Priority Actions for this KTP'.

⁸⁷ Crane M J, Montague-Drake R M, Cunningham R B, and Lindenmayer D B, 'The Characteristics of Den Trees Used by the Squirrel Glider (*Petaurus norfolkensis*) in Temperate Australian Woodlands' (2008) 35 *Wildlife Research* 663.

less hollow bearing trees per hectare from an optimum of 27-37 hollow bearing trees per hectare puts at risk expectations that future generations will see fauna such as the Greater glider in the wild.

Prescriptions for threatened species and habitat conservation in IFOAs and the PNF code are grossly inadequate. Further neither a FOP or Harvest Plan can be classed as a species impact statement.⁸⁸ It is perfunctory to merely record species. Impacts of logging and post-logging burning on species and their habitat must also be recorded and monitored to ensure due process in achieving conservation objectives.

A comparison with a species recovery plan and threat abatement plan for species and prescriptions contained within the PNF Code and the IFOA TSLS highlights the inadequacy of these prescriptions. The results of this practice is reflected in numbers of threatened and endangered species rising in line with the increase in forests logged.⁸⁹

The regulators misconception of implementation of TSLS prescriptions has ensured that many breaches of licence conditions which have destroyed habitat have gone unpunished. Furthermore FNSW have recommended to DECCW that many prescriptions be nullified.⁹⁰

Compliance and Enforceability

Illegal forestry practice has been defined as:

- logging species protected by national law - (these are found on the CITES flora list).
- logging outside concession boundaries
- logging in protected areas
- logging in prohibited areas such as steep slopes, river banks and catchment areas
- removing under/over-sized trees
- extracting more timber than authorised
- logging when in breach of contractual obligations
- restricting information about procurement contracts
- tailoring contract specifications to fit a specific supplier
- failing to meet licence provisions including pollution control standards

Currently in NSW all of the above is occurring.⁹¹ Illegal forest activities have far-reaching economic, social and environmental impacts including ecological degradation and exacerbation of climate change.

On the South Coast there are varying forms of State-sanctioned land clearing. From farmers wanting to obtain more land for their commercial purposes, as they, or past owners have degraded their land to such an extent that they cannot grow crops on it (climate change being a mitigating factor), to Forests NSW desperately trying to sustain twenty year wood supply agreements with the chipmill and Boral.⁹² Logging is undertaken by Forests NSW or their contractors, whether on private or public land.

Although codes of practice are generally 'aspirational' they may be recognised as legal instruments and accorded formal stature as legislative instruments. Where they set out standards for compliance then they

⁸⁸ "I am obliged to note that, in my opinion, the Eden FIS is an appallingly inadequate document, even by Commission standards. It suggests they do not take the Act (and the conservation of endangered fauna) very seriously" *South East Forests Conservation Council Inc v Director-General National Parks and Wildlife and State Forests of NSW* [1993] NSWLEC 194, Deputy Director (Policy and Wildlife) Mr David Papps.

⁸⁹ For 2008 figures see <<http://www.threatenedspecies.environment.nsw.gov.au/index.aspx>>; for 2000 and 2003 figures see <http://www.environment.nsw.gov.au/soe/soe2003/chapter6/chp_6.3.htm#6.3.69> and for 2006 figures see <http://www.environment.nsw.gov.au/soe/soe2006/chapter6/chp_6.3.htm#6.3.71>.

⁹⁰ Original Eden TSL cl 6.6 Southern Brown Bandicoot *Isoodon Obesulus* a) An exclusion zone of at least 200 hectares must be implemented around each record of the species; amended Eden TSL now has very small buffer zone as evidenced by Nadgee Cpt 62 harvest plan; the SBB is an EPBCA endangered species.

⁹¹ See all correspondence SEFR to DECCW 2001-2010.

⁹² On the south coast logs from private native forestry make up 10% of the total volume that goes to the Eden chipmill, URS Environmental Assessment Eden Biomass Power Station; on the north coast the estimated annual volume of private native forest timber harvested is 270,000 m³.

create enforceable obligations.

Forests NSW, or any other person is subject to the conditions of the IFOAs including the terms of the relevant licences.⁹³ Under the PNF Code forestry operations under an approved PVP must be conducted in accordance with all provisions of the Code.⁹⁴ Both the IFOA and the PNF Code contain the precautionary principle and principle of intergenerational equity.

In *Environment East Gippsland Inc v VicForests*[2009] VSC 386 Mr Justice Forrest held at 80:

I am not persuaded that the reference to the precautionary principle is, at least on the analysis required for this application, simply a statement of objective or lofty principle... It is the terms of the Code and the emphasis on the mandatory nature of the obligation on VicForests both before and during operations that satisfies me that there is a *prima facie* case that it was obliged to comply with the Code in relation to both the application of the precautionary principle and the consideration of expert evidence relevant to the area the subject of logging.

The case as it stands is that in practice either the logging contractors are not reading the legislation or the drive for financial gain outweighs the need to comply with regulations.⁹⁵ This combined with the threat of enforcement and monetary loss being minimal could be a compelling factor for non-compliance. As FNSW and contractors are currently out of control when it comes to regulation and compliance there is therefore little hope that the legislation will have the desired affect regardless of adequacy.⁹⁶

Regulatory Response

Non-compliance relies on lack or inadequacy of regulatory response. The current 'whole of government' approach has resulted in the original regulator being subsumed, the establishment of a 'forestry unit' within a government department which regulate another government department, who both seem to have the same goal.⁹⁷

In deciding whether or not to prosecute the most important step is the decision. In the interests of the environment, the offender and the community at large care must be taken to ensure that the right decision is made. The wrong decision will undermine the confidence of the community in the criminal justice system.⁹⁸

Justice Lloyd stated in *Director-General of the Department of Land and Water Conservation v Greentree & Anor* [2002] NSWLEC 102 that:

In my opinion the balancing of the legitimate public interest in the conviction of a crime and punishment of those who may be guilty against ensuring that the defendants are able to meet the case sought to be made against them, requires that greater weight should be given to the former.⁹⁹

⁹³ *Forestry and National Park Estate Act 1998 Integrated Forestry Operations Approval for the Eden Region 1999*; the new unreviewed amended IFOAs make no mention of this clause.

⁹⁴ *Private Native Forestry Code of Practice for Southern NSW 2008* cl 1(2).

⁹⁵ See *Minister for the Environment & Heritage v Greentree (No 2)* [2004] FCA 741; for the classic "I thought I didn't need approval", and "the clearing was routine agricultural management activities"; and Appellants 'outline of argument' at <<http://www.envlaw.com.au/greentree13.pdf>>; and see also *Director-General, Department of Environment and Climate Change v Walker Corporation Pty Limited (No 2)* [2010] NSWLEC 73; Shoalhaven Council are seemingly at the forefront of action compared to Bega and Eurobodalla Councils, see

<<http://www.shoalhaven.nsw.gov.au/council/pubdocs/soc/region/indicator%20results%202005/Vegetationclearing%2005.htm>>.

⁹⁶ See Smith J, 'Making Law Work: Compliance and Enforcement of Native Vegetation Laws in NSW' (2009) 88 *Impact* p3-5; for an insightful history of the 'Redgums decision' see Flint C, 'River Red Gum: Barking Owls and Broken Laws on the Murray River' (2009) 88 *Impact* p6-10.

⁹⁷ The regulator is Department of Environment, Climate Change and Water ("DECCW"); DECCW will continue to work with Forests NSW. The State forests of the Eden Forestry Region...were set aside by the Eden RFA 1999 to provide a guaranteed timber supply to industry. Please be assured that the NSW Government and DECCW are working to protect the koala population and at the same time promoting regional economic development and employment' Letter to L Bower from M Saxon, Acting Director South, DECCW Environment Protection and Regulation, May 7, 2010.

⁹⁸ *Prosecution Policy of the Commonwealth*, DPP Prosecution Guidelines, 2009.

⁹⁹ See *Director-General of the Department of Land and Water Conservation v Greentree & Anor* [2002] NSWLEC 102, Lloyd J at [126] quoting Mason CJ, Deane and Dawson JJ in *Ridgeway v The Queen* [1994] HCA 33 at [38];; see also Australian Government

If the offender has made deliberate attempts to conceal their offences, previous administrative responses to contraventions have not resulted in compliance, the offender shows no contrition and the community of the area, and indeed Australia as a whole, expect that the offences will be dealt with by prosecution, conducted in public before a court, then there are good grounds for prosecution.¹⁰⁰

The two strongest forces ensuring environmental compliance are criminal prosecutions and potential clean-up liability.¹⁰¹ Regulators in Australia have been accused of not utilising the full scope of the penalty provisions and focusing on the 'less robust options'.¹⁰² This is evidenced by the current regulatory response practice of relying on voluntary agreement. If regulators continue to implement the softer penalty provisions the deterrence objects of the legislation will be, and have been, greatly undermined.

A successful strategic approach to better law compliance in the forest sector is needed by increasing clarity, transparency and consistency of forest and forest-related legislation.

This could be achieved by encouraging consistency of the regulatory framework to ensure that laws do not contradict others within the forest legal framework or other sectors, ensuring accountability and control of forestry operations at the local level, ensuring that in-country industrial capacity does not exceed sustainable supplies, for instance, by conducting feasibility studies and/or closing down mills.

It could also be achieved by promoting the independence of the regulator, giving the regulator and authorised officers stronger enforcement powers and creating transparency of the regulatory processes.

As the current criminal behaviour is so entrenched we have little faith that any code or legislative instrument will be adhered to and less faith that the regulator will enforce compliance.

Water Catchment

The environment in the areas covered under the NSW RFAs is in drastic decline as evidenced by the ever growing list of threatened species, the lack of water in all rivers where logging is occurring in their catchments and the closure of oyster farmers business due to siltation.

...it can be estimated that the annual sediment export from the catchment in an undisturbed condition would be of the order of 1,056 tonnes/year, and 2,640 tonnes/year for the existing catchment logging land use scenario.¹⁰³

As reported, in the State of the Forests Report 2008, NSW has about 200,000 hectares managed specifically for water supply. This equates to 0.24% of the land area of the state, or 0.76% of the NSW native forest area¹⁰⁴.

Research by the CSIRO states:

Timber harvesting and its associated activities cause drastic changes in soil physical structures and hydraulic properties. In situ changes of surface soil hydraulic properties using a newly developed disc permeameter are assessed. Five forest sites, two radiata pine forests near Oberon and three native eucalypt forests near Eden NSW, were investigated for the impact of timber harvesting on soil structure and hydraulic properties. On most

Department of the Environment, Water, Heritage and the Arts, *Compliance and Enforcement Policy*.

¹⁰⁰ DEWHA *Compliance and Enforcement Policy*, Australian Government, 2009,

<<http://www.environment.gov.au/about/publications/pubs/compliance-enforcement-policy.PDF>> viewed 16 June 2010.

¹⁰¹ Smith S L, 'Doing Time for Environmental Crimes: The United States Approach to Criminal Enforcement of Environmental Laws' (1995)12(3) *Environment and Planning Law Journal* 168; WA Department of Environment and Conservation v Szulc 2010? a three month jail sentence for Munglinup farmer Maxwell Szulc, 27 July 2010 <<http://au.news.yahoo.com/thewest/a-/breaking/7659368/wa-farmer-jailed-for-contempt/>>.

¹⁰² The Australian Network of Environmental Defender's Offices, *Independent Review of the Environment Protection and Biodiversity Conservation Act 1999*, Submission 189, p15, <<http://www.environment.gov.au/epbc/review/publications/interim-report.html>>; or <<http://www.environment.gov.au/epbc/review/submissions/pubs/189-australian-network-of-environmental-defenders.pdf>> viewed 16 June 2010.

¹⁰³ McAlister T, and Richardson D, 'Wonboyn Lake and Estuary - Estuary Processes Study' (2004) <http://www.begavalley.nsw.gov.au/environment/estuaries/pdfs/Wonboyn_Processes_Study.pdf>.

¹⁰⁴ See the State of the Forests Report, 2008, pp7 and 89.

sites, there was an increase in soil bulk density and a declining trend in sorptivity and hydraulic conductivity associated with logging. Changes in hydraulic properties suggest that the logging and associated activities had resulted in soil compaction, attributable mainly to redistribution of soil pore sizes and with a decrease mostly in pores greater than 3mm in diameter. This reduction in macroporosity suggests a reduction in aeration and a change of water retention characteristics.¹⁰⁵

Usually the majority of forestry operation non-compliances reported are on Environment Protection Licence breaches. The majority of non-compliance is on EPLs and how they rate to soil and water protection practices.

One CRA report stated that:

all impacts of logging were significant at only buffer widths of less than 30 metres.¹⁰⁶

Currently all unmapped, first and second order streams have less than thirty metre buffers, which suggests that current logging adjacent to these streams is having a significant impact. This report went on to say that the methodology used for the EPLs is not scientifically defendable. Even more recent research found in the State of the Forests Report 2008 suggests that twenty metre buffers need to be retained to generally reduce turbidity levels.¹⁰⁷

A study of the Eurobodalla catchments in NSW showed that approximately 905 tonnes of sediment were transported through the river in one four-day storm. This is compared with thirteen tonnes for the previous six-month period.¹⁰⁸ Significant sediment loads have also been identified as coming from the 50,000 kilometres of unsealed roads within state forests and reserves.¹⁰⁹ Suspended sediment loads in inland waters caused by gully erosion and degraded flow paths, can have significant impacts such as siltation of river channels, infilling of wetlands, reduced light penetration inhibiting photosynthesis, and loss of habitat and spawning sites for gravel-bed dependent fish.¹¹⁰

Water costs have soared since the CRA analysis was done. The price per kilolitre in the Eurobodalla in 2000 was \$0.80.¹¹¹ It is currently \$2.40 per kilolitre and \$3.60 per kL for consumption of over one hundred fifty kilolitres.¹¹² When forests are logged, the amount of water flowing in creeks and rivers, after a short initial increase, can decrease by up to fifty percent. It may even cease to flow in dry periods. Regrowth needs much more water to grow than mature trees.

In 1999 it was estimated that the cost of water lost by the logging of 2000 hectares of native forests in the Eurobodalla catchments in one year to be over ten million dollars. This amount is compounded each year that these catchment forests continue to be logged.¹¹³ Therefore there is a need to independently reassess the economic costs of native forest logging as it applies to water quantity and security.

The severity of the prolonged drought and inclement climate change conditions is readily portrayed by the

¹⁰⁵ Hung J (CSIRO, Division of Soils); Lacey ST (State Forests of New South Wales); Ryan PJ (CSIRO, Division of Forestry) 'Impact of Forest Harvesting on the Hydraulic Properties of Surface Soil' (1996) 02 *Soil Science* 161 (2), p79-86.

¹⁰⁶ From CRA report 'Water Quality and Quantity for the UNE, LNE and Southern RFA Regions' (1998) Project NA61/ESFM, p54.

¹⁰⁷ See the State of the Forests Report 2008, p109.

¹⁰⁸ Drewry J J, Newham L T H, Greene R S B, Jakeman A J, and Croke B F W, 'An Approach to Assess and Manage Nutrient Loads in Coastal Catchments of the Eurobodalla Region, NSW, Australia,' (2005), MODSIM 2005 International Congress on Modelling and Simulation, pp. 2658-2664.

¹⁰⁹ Drewry J J, Newham LTH, and Greene RSB, 'An Index-Based Modelling Approach to Evaluate Nutrient Loss Risk at Catchment-Scales' (2008) Integrated Catchment Assessment and Management Centre, The Australian National University, Canberra

<http://www.mssanz.org.au/modsim07/papers/43_s47/AnIndex-Based47_Drewry.pdf>.

¹¹⁰ See Monitoring and Evaluation Trials, New South Wales Region, Southern Catchment, Phase 1 Report, (2004) National Land & Water Resources Audit, <<http://lwa.gov.au/files/products/national-land-and-water-resources-audit/er050846/er050846.pdf>>; and also NSW Diffuse Source Water Strategy, DECC 2009/085, <<http://www.environment.nsw.gov.au/resources/water/09085dswp.pdf>>.

¹¹¹ See the Water Use and Allocation in the EuroBodalla,

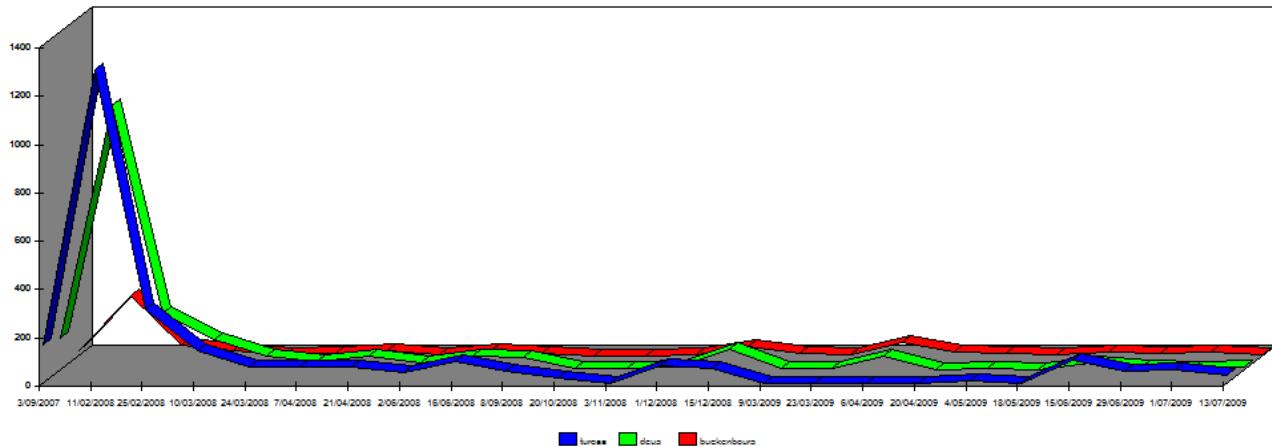
<<http://www.esc.nsw.gov.au/site/plans/Documents/Archive/1999/SOE/SOERd/TheReport/Eurobodalla/IndicatorResults/WaterDemandManagement.htm>>.

¹¹² See Eurobodalla Council, <<http://www.esc.nsw.gov.au/site/Publications/Brochures/PDFs/CouncilServ/ratesinfonotice.pdf>>

¹¹³ Atech Group, 'Southern Forests Catchment Values and Threats' (1999) <<http://www.atechgroup.com.au>>.

flow recordings of the three rivers, the Tuross, Deua, and Buckenboura, in the Eurobodalla shire. The Shire's water supply depends upon these rivers. Logging in these catchments is continuing to compound the negative effects of this form of land use on catchment hydrology. Since the last minor flood peak in February 2008 these rivers have been extremely low. Similarly the Bega River is now a road for four wheel drive vehicles.

Eurobodalla Rivers water flow 2007-2009 (ML/day)¹¹⁴



Conclusion

It is difficult to see how broadscale clearing of native forest can equate to improving environmental outcomes.¹¹⁵ Or how a logging event can be defined as regeneration. Carefully avoiding the word sustainable, the objects of the PNF Code are stated as ensuring:

supply of timber products from privately owned forests at a regular rate that can be maintained indefinitely for present and future generations while at the same time maintaining non-wood values at or above target levels considered necessary by society for the prevention of environmental harm and the provision of environmental services for the common good.¹¹⁶

Due to failure to enact principles of ESFM, principles of inter-generational equity in meeting the above objective seems in doubt. Further due to current logging practices it is difficult to argue that maintaining environmental values at or above target levels can be achieved. Given current knowledge on causes and effects of climate change it would be difficult to argue that continuance of native forest logging could maintain these levels given the amount of environmental harm caused. Certainly with regard to climate change and extinction of species it would be very difficult to argue that native forest logging was 'for the common good'.

The rate of native forest logging has exceeded levels which can be permanently sustained, current commercial rotation lengths will not meet the requirements of 5.6. and as native forests contribute to the

¹¹⁴ Collated data from Eurobodalla Shire Council Eurowater "Eye on Supply" statistics,

<<http://www.esc.nsw.gov.au/site/Water/index.html>>.

¹¹⁵ *Private Native Forestry Code of Practice for Southern NSW 2008* p1; see Gibbons P, Briggs S V, Ayers D, Seddon J, Doyle S, Cosier P, McElhinny C, Pelly V, Roberts K, 'An Operational Method to Assess Impacts of Land Clearing on Terrestrial Biodiversity' (2009) 9 *Ecological Indicators* 26.

¹¹⁶ *Private Native Forestry Code of Practice for Southern NSW 2008* p1.

maintenance of ecosystem functions, notably as water supply catchments they cannot be considered eligible for FSC certification.

It seems, while there is no guarantee of survival in the coming years, there is more chance for species if they are resident in National Parks, threats of habitat being consumed by 'reduction burns' aside.

Political will is crucial to improving forest law compliance and ensuring that measures taken have positive outcomes for conservation that are long-lasting. As there has been no compliance and over-logging, the only positive outcome for conservation would be to end native forest logging. The challenge now for native forest conservation is to pressure political will to transfer all State owned land to National Parks co-managed with traditional owners.

This measure could put increased pressure on private land therefore legislation should be enacted halting logging of all native forest. The anticipation is that, with increasing knowledge of the link between climate change and forest degradation, landowners and Government will cease logging of native forest. Until then species who can not speak or defend themselves are reliant on political will and the care of developers, farmers, loggers and multinationals.



Ironbark Orchid



Bega Wattle



Tessellated Spider Orchid