

**Submission  
No 357**

**INQUIRY INTO MANAGEMENT OF PUBLIC LAND IN  
NEW SOUTH WALES**

**Organisation:** Coffs Harbour Bellingen Branch National Parks Association of  
NSW

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The Native Forests in Northern NSW are increasingly being recognised as being of outstanding universal value for their eucalypts and rainforests as well as for their overall biodiversity values. They contain numerous wilderness areas and wild rivers and outstanding scenery. The North Coast forests have been extensively exploited and depleted of their timber resource. Firstly, for their iconic species and then over the last century, through increasingly mechanised harvesting, for hardwood and fiber products. Demand and supply for timber products is now decreasing and community pressure for more emphasis on managing the forests for their exceptional biodiversity values is increasing.

This submission describes in some detail the process of assessment and conversion of Crown Land, State Forests and agricultural land into National Park estate or other types of conservation areas for the North Coast forests resulting from the National Forest Policy (1992). In doing so it addresses many of the items in the Committees Terms of Reference for those forests. The National Forest Policy was also a major driver in the establishment of the River Red Gum conservation reserves in the Southern Riverina.

Major initiatives are required to ensure careful management and recovery of the Northern forests and the communities that are either now dependent on them or could prosper from their new uses. For the forests sake major initiatives are required to ensure they recover from over exploitation and to minimise to the future threats posed to them by fire, weeds, diseases and climate change.

# COFFS HARBOUR /BELLINGEN BRANCH OF THE NATIONAL PARKS ASSOCIATION

## **Management of public land in New South Wales. General Purpose Standing Committee No 5 inquiry into the management of public land in New South Wales, including State Forests and National Park Estate.**

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**Submission to the Inquiry from the Coffs Harbour /Bellingen branch of the NSW National Parks Association. The Coffs Harbour Bellingen Branch also supports the submission made by the NSW National Parks Association**

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**8/31/2012**

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## **1.Recommendations**

1. The Committee accepts that the application of the National Forest Policy for the Northern Hardwood Forests approached best practice in science and participation.

2. The Committee accepts that implementation of the National Forest Policy in the Northern Hardwood forests suffered two major political shortcomings in;

- (i) the shortfall in meeting recognised targets for the reserve system, and
- (ii) the over-allocation of timber resources to industry.

3. The Committee accept that the over allocation of timber resources is having the following effects on the Northern Hardwood Forests;

- the forests available for harvesting are being degraded by overharvesting and future sustainable yields dramatically reduced,
- timber is currently being taken that should be available to future generations,
- by over harvesting a carbon debt is being created on future generations,
- The health of the forests is threatened through increased fire risk to regenerating forests and from invasion by weeds and diseases, and
- wildlife conservation (such as coastal Koala populations) are being threatened with localised and broader extinctions.

4.. The Committee recommends the NSW Government establish a Northern Forest recovery program to ensure the regeneration of the forests through the fire sensitive regrowth stages and to reduce and minimise the impacts of weeds and diseases.

5. The Committee recommend that the State Government initiate and support a further restructure of the native forest industry utilising the Northern Hardwood forests to take account reduced and changing demand and availability for native forest hardwood timber.

6. The Committee recommend the NSW Government complete the development of a comprehensive, adequate a representative reserve system for the Northern Hardwood forests.

7. The Committee recommend NSW Government complete the assessment and where appropriate the nomination of further rainforests and eucalypt forests for World Heritage listing.

8. The Committee recommend the NSW Government form an ecotourism taskforce and strategy for the North Coast forests which particularly takes account the identified outstanding universal conservation values of those forests.

9. The Committee recommend that the NSW Government approach the Federal Government to cost share implementation of these recommendation through application of funds from the National Biodiversity Fund consistent with the benefits the changes will bring for carbon sequestration and from other appropriate sources if necessary.

## 2 Introduction

This submission primarily addresses the first Term of Reference for the Inquiry:

***The conversion of Crown Land, State Forests and agricultural land into National Park estate or other types of conservation areas, including the:***

- a. Process of conversion and the assessment of potential operational, economic, social and environmental impacts***
- b. Operational, economic, social and environmental impacts after conversion, and in particular, impacts upon neighbours of public land and upon Local Government***
- c. That the following cases be considered in relation to Terms of Reference 1(a) and 1(b):***
  - River Red Gum State Forests in the Southern Riverina,***
  - Native Hardwood State Forests in Northern NSW,***
  - Yanga Station in the Balranald Shire, and***
  - Toorale Station in Bourke Shire.***

The submission focuses on the conversion of Crown land, State Forest and Agricultural land into National Park estate or other types of conservation areas relating to the Native Hardwood Forests in Northern NSW. The policies and processes described were also applied to other forest regions in NSW. They were applied by to a degree by the NSW Natural Resources Commission to the River Red Gum State Forests in the Southern Riverina.

Further, the policies and strategies flowing from the National Forest Policy, particularly in relation to establishing a *Comprehensive, Adequate and Representative* conservation reserve system complimented by off reserve conservation measures have been broadly advocated for all terrestrial and marine environments .

This submission draws heavily the written papers by Dailan Pugh and personal communication with him .Dailan has been a prominent conservationist on the North Coast for twenty five years and has established an invaluable library of writings and reference material relating to conservation planning and process on the North Coast.

I believe Mr Pugh has more substantial knowledge or corporate memory, and written records of the application of the National Forest Policy process to forests on the North Coast than any agency or other stakeholder group.

The National Forest Policy process, as applied to the North Coast forests, has been considered in many areas as close to World's best practice. It has brought almost twenty years of relative peace to the forests of Northern NSW and brought resolution to a prolonged national dispute over the River Red Gum forests.

With new consideration of the role of forests in climate change and national and international changes to timber demand and supply the National Forest Policy process brokered solutions require regular revisiting and comprehensive review which have not occurred effectively to

date. Other weakness in the application for the approach are evident and well documented for Northern NSW by Dailan Pugh.

### **3. Overview of exploitation of the forest resource in Northern NSW**

The extent of the Australian native forest timber resource is relatively small by World standards. The quantity, quality and commercial value of much of the timber in the forests is also relatively poor in comparison to other global forests.

Accessing the North Coast cedar resources commenced in the 1830's and pioneered the opening up and white settlement of the region. With time areas more distant from the river network and more difficult to access were exploited for this valuable species which was mostly exported and the resource was fairly quickly depleted.

The focus on single species exploitation nevertheless continued and expanded to include White Beech, Hoop Pine, Turpentine, Tallowwood all of which were also heavily depleted. Only Hoop Pine was amenable to cultivation in plantations. The practice of growing Hoop Pine in plantations commenced mid last century and produced high quality peeler timber. It has now largely ceased.

Exploitation of the North Coast timber resources spread to include a range of hardwoods, with Blackbutt by far the most predominant. Again much of the output was exported, largely from ocean wharfs, of which Coffs harbour and Woolgoolga were typical examples.

Post World War II industrialisation, in particular the arrival of the chainsaw and bulldozer, rapidly increased the capacity to exploit coastal forests. Timber allocations were progressively increased to accommodate this increased capacity.

By the late 1980's the only areas that had not been accessed by industrial logging were excessively steep areas, non commercial forests and a few very remote areas approximately mid way between the major timber markets of Sydney and Brisbane. These remaining uncut 'remnants' of the original forest include now well known areas as Chaelundi, Dalmorton and Washpool. Fortunately, community campaigning in those areas ensured there were some relatively small areas retained free from modern mechanised harvesting.

The advent of the woodchip export industry in the early 1970's led to export of North Coast woodchips from the ports of Newcastle and Brisbane. Woodchip production led to increased the intensity of logging operations and facilitated their spread into areas previously uneconomical to log. Proposals also emerged for woodchip export facilities and even pulp and paper mills at Coffs Harbour and in the Clarence valley but fortunately never progressed.

The then NSW Forestry Commission predicted in a 1976 policy statement on native forests the demise of the North Coast hardwood industry around the turn of the century and its replacement as a timber resource by the softwood plantations based largely on the Central and Southern tablelands of NSW. The policy was unhelpful to those seeking to completely exhaust the north coast hardwood forests and after some years was officially withdrawn.

The 1995 incoming Labor Government was the first to accept and respond to over allocation of logging quotas, cutting them almost half shortly after being elected. By then both the Federal and State Governments were committed to the National Forest Policy which sought to achieve both a viable timber industry and comprehensive, adequate and representative reserve system in all forested regions.

This submission is largely devoted to presenting a description of the National Forest Policy process.

The application of the National Forest Policy has produced twenty years of relative peace in the forests of the North Coast. Timber allocations are still greatly overcommitted and the industry has commenced a series of claims for financial compensation for undersupply of compensatable wood supply contracts.

The use of hardwood timber has been replaced in Australia in the last forty years in most areas of construction by local or imported softwood or other products. Woodchips from native forests are being replaced in World markets by those from plantations both in Australia and from overseas.

A major product from North Coast hardwood forests is now solid hardwood flooring (predominantly Blackbutt) for the high end export market. Many lower cost alternatives for flooring including softwood derivatives, veneered softwood and more recently bamboo have been preferred throughout most of the domestic market.

There is yet again talk of crisis in the North Coast timber industry, this time by the from a drop in demand for hardwood timber (North Coast regional Development Board, 2012 ). This is hard to rationalise for an industry that, for Crown land areas anyway, can take the timber it wants at a highly subsidised price and get paid, up till 2023 at least, for the timber it does not take under the current long term wood supply agreements.

At the same time what has been happening in the forests in the last 10 to 20 years is new wave of mechanised harvesting which has led conversion of mixed species hardwood forests on the North Coast to young evenaged Blackbutt forests with the characteristics of plantations. This process is facilitated by intensive logging, which in practice is clearfelling with ribbons of forest retained along creek lines. Scattered mature seed trees of blackbutt are retained and black butt seedlings are planted if natural regeneration fails. The regenerating forests established through this process have much diminished values for native wildlife and are more prone to damage by fire, weeds and disease.

The increased acceptance of certification systems such as that run by the Forest Stewardship Council is likely to pressure the industry in the future away from taking timber from high conservation value forests. As noted in the following section we are coming to understand more that our North Coast forests are broadly of outstanding universal value for both their rainforest and eucalypt elements.

It is apparent that unless the high end specialty timber export market take off the industry will face both a further decline in demand for its products it will also face calls for increasing protection of our native forests on the North Coast.



#### 4. History of Conservation Reserves on the North Coast

The process of establishment of conservation reserves in NSW began in 1866 with the allocation of the first area of public land primarily for conservation. Since then the area of public land allocated to conservation has progressively increased. Public land conservation has been complemented by purchases of private property over time, such as through the Dunphy Fund for Wilderness.

A brief history of establishment of conservation reserves in NSW with an emphasis on Northern NSW is provided below.

1. 1866. Reserves to protect spectacular natural features and lookouts began to be created in NSW with the Fish River (Jenolan) Caves.
2. 1879. The 'National Park' (now Royal NP, south of Sydney) was gazetted on 26 April 1879 as the second national park in the world.
3. 1894. Ku-ring-gai Chase National Park was reserved. It was the first reserve to be established primarily for nature conservation.
4. 1903. The Cape Byron Headland Reserve was established for "*public recreation and the preservation of native flora*".
5. 1920. Mount Warning NP was one of NSW's early parks was protected
6. 1935. New England National Park was first established and declared World Heritage in 1986
7. 1960. Gibraltar Range National Park was proposed following the opening of the Gwydir Highway, with the park being reserved in 1963.
8. 1980. A network of Coastal national parks and reserves were established on the North Coast
9. 1982 The Rainforest National Parks and Reserves were established and included in the World Heritage in 1986.
10. 1992. National Forest Policy adopted by Federal Government and mainland States
11. 1995-98. National Forest Policy applied to public lands on the Northeast of NSW
12. 1997. The eucalypt forests of North East NSW /South East Queensland were recognized as the most diverse tall eucalypt forests in the World and recommended for assessment for World Heritage Listing
13. 2011. The forests of Northern New South Wales recognized by Conservation International as part of an International Biodiversity Hotspot

The National Parks and Wildlife Service had been established by the National Parks and Wildlife Act in 1967 by the amalgamation of the Fauna Protection Panel and the Parks and Reserve Branch of the Department of Lands. The prime objectives of the legislation were:

- the reservation of national and state parks and historic sites already in existence or to be provided in the future; and
- their preservation, care, control and management and to these ends, the bringing together in one service the related functions of national parks and fauna and flora protection.

The Act identified twenty five areas, as National Parks, State Parks and Historic Sites, though most areas were already reserved. The Act also led to approximately 48,600 hectares being removed from national park estate and transferred to forestry operations.

With the advent of the National Parks and Wildlife Act came the development of procedures for consultation and negotiation between government agencies for the consideration of new reserves over both Crown and privately owned land. The procedures, referred to as “referencing”, required the then National Parks and Wildlife Service (NPWS) after having assessed and documented the conservation values of each proposed conservation reserves. to consult and obtain the consent all landuse and planning authorities in the state.

The referencing process has significant limitations for effectively building a conservation reserve network. For individual reserve proposals it could take years to finalise consent which was also often withheld indefinitely by other agencies. Where agency consent was withheld the NPWS had the option, which was rarely taken up, to raise a proposal to Ministerial or at Cabinet level for determination of departmental objections. Where a private land holding was on the open market for sale the process often resulted in missed opportunities for purchase for conservation. In many cases park proposals were and still are referenced as individual areas making it difficult to establish a regional context for conservation and landuse assessment.

In the early 1980s the NPWS began to take a more landscape focused approach proposing first the North Coast coastal parks, followed by the northern rainforest national parks. The landscape or regional approach enabled the conservation, landuse, social and economic issues of park proposals to be considered for the first time in a regional context.

The adoption of a regional approach to conservation planning was firmly embedded in the 1992 National Forest Policy. Nevertheless the process of referencing still applies outside areas subject to Regional Forest Assessments or other regional processes. Further details of the referencing process would no doubt be available from The Office of Environment and Heritage.

Media coverage, following direct action taken by concerned locals to protect rainforest at Terania Creek in August 1979 dramatically brought the issue of rainforest logging to the nation’s attention. Thereafter the campaign broadened into a thematic rainforest campaign, focussed on specific areas of rainforest throughout NSW.

Following Terrania Creek, campaigns to protect remaining stands of high conservation forests from logging and woodchipping spread throughout Australia.

In response to the snowballing conflict that followed Terania Creek the Commonwealth Government established a series of processes which were to become known as the National Forest Policy process.

## **5. The National Forest Policy Process**

The National Forest Policy process, with local variations, was implemented in most of the forested regions throughout Australia. The process was applied to the forested areas addressed by this Inquiry including the Native hardwood State Forests in Northern NSW and the River Red Gum State Forests in the Southern Riverina.

As noted in the introduction to this submission the National Forest Policy process as it was applied to the forests of northern NSW, has been considered in many areas as close to Worlds best practice. The NFPS has brought almost twenty years of relative peace to the forests of Northern NSW and brought a resolution in most peoples eyes to the dispute over the iconic Redgum forests.

With new consideration of the role of forests in climate change and national and international changes to timber demand and supply the National Forest Policy process brokered solutions require regular revisiting and review. This has not effectively occurred to date. Other weaknesses in the application for the NFPS approach are apparent and some mentioned in this submission The weaknesses have been well documented for Northern NSW by Dailan Pugh.

For Northern NSW, the period for the development and application of the National Forest Policy process to the signing of a Regional Forest Agreement for North East NSW extended over ten years and had a number of identifiable stages. The stages are discussed separately below (includes input from D. Pugh, personal com)

### **5.1 The Resource Assessment Commission Inquiry**

The Resource Assessment Commission (RAC) was directed in 1989 by the Federal Government to hold a Forest and Timber Inquiry. After extensive consultation and review the RAC reported back in 1992.

The RAC Inquiry concluded that:

*“A reserve system that conserves viable representative samples of the biological diversity of natural forest ecosystems in Australia is an essential component of any strategy to maintain the permanent forest estate. Further, biological conservation outside reserves is an essential component of such a strategy.*

The RAC Inquiry report further considered that:

*“two challenges important to the nation are to establish an acceptable conservation reserve system and to define the allocation of forested land to particular uses outside conservation reserves.”*

The Inquiry identified several tasks to be performed to establish a system of conservation reserves, viz:

- *identify the data requirements and modelling techniques necessary to review the adequacy of the present conservation reserves system;*
- *develop principles and inventory techniques for identifying the forest resource and in particular, old-growth forests;*
- *determine whether present conservation reserve systems represent all forest ecosystems and species and are of sufficient size;*
- *develop criteria for determining the best possible location, size and configuration of reserves.*

The RAC Inquiry suggested the development of a national forest strategy as a suitable vehicle for development and implementation of a national policy concerned with the maintenance of a permanent forest estate in Australia. The Inquiry considered that the proposed national forest strategy should incorporate the following national policy goals:

- *to ensure that the reserve system is fully representative of forest ecosystems and viable populations of species in both national and regional contexts;*
- *to improve the structure and connectivity of the reserve system;*
- *to maintain ecosystems, populations of species and ecological processes in all tenures, including production tenures;*
- *to minimise the risk of extinction of all species;*
- *to conserve rare and endangered species across all tenures, including wood production tenures;*
- *to minimise the impacts of human use on natural ecosystems and species.*

The RAC Inquiry recommended that a national framework be established for;

*“cooperative, integrated, prospective regional assessments of National Estate, World Heritage, endangered species, biodiversity, oldgrowth, vegetation remnants, pests, diseases, water catchments and fire management, taking into account social and economic considerations.”*

The RAC Inquiry singled out oldgrowth forests and wilderness for special consideration. The Inquiry emphasised that it is not feasible to log oldgrowth forests and still retain, or ever regain, their full complement of old growth attributes and values, concluding;

*“Logging of old-growth forest potentially violates the precautionary principle of sustainable development in that an irreplaceable resource is being destroyed ... the values associated with the pristine attributes can not be replaced.”*

The RAC Inquiry gave two “justifiable” options for the management of identified oldgrowth forest:

*“The first option is to require a rapid cessation of all logging operations within [oldgrowth] forests; or*

*The second option is for forest management agencies to prepare comprehensive management plans that identify and rank old-growth forests in terms of their full range of values. Under this option it may be decided that after adequate protection of examples of old-growth forests some old growth may be available for logging.”*

The RAC Inquiry also recognised the increasing rarity and value of wilderness in recommending:

*“The Inquiry considers that the appropriate state and territory agencies should undertake comprehensive reviews ... of public land to determine all areas of wilderness quality, and that protection should be afforded these areas under state and territory legislation.”*

## **5.2 The National Forest Policy (NFPS)**

The first outcome of the RAC Inquiry was the development of the National Forest Policy Statement (CoA , NFPS, 1992) which was signed by the Prime Minister and the Premiers of all the mainland states in December 1992. Tasmania signed on a few years later.

The NFPS outlines a shared *“vision of ecologically sustainable management of Australia’s forests”* which is to be ensured by the pursuit of eleven broad national goals for: conservation; wood production and industry development; integrated and coordinated decision making and management; private native forests; plantations; water supply and catchment management; tourism and other economic and social opportunities; employment workforce education and training; public awareness, education and involvement; research and development; and, international responsibilities.

The NFPS established that:

*“It is important that Australia has a comprehensive, adequate and representative network of dedicated and secure nature conservation reserves for forests and reserves for protecting wilderness.”*, with the governments agreeing *“that the system of reserves should be reviewed and its development completed as a matter of priority.”*

The NFPS states that for conservation:

*“The goals are to maintain an extensive and permanent native forest estate in Australia and to manage that estate in an ecologically sustainable manner so as to conserve the full suite of values that forests can provide for current and future generations. These values include biological diversity, and heritage, Aboriginal and other cultural values.”*

In signing the NFPS the states committed themselves to establishing a comprehensive, adequate and representative (CAR) reservation system to protect old-growth forest and wilderness values by the end of 1995 for public lands, with the inclusion of necessary forest from private land by 1998.

The NFPS singled out oldgrowth forest and wilderness for special consideration *“because of their very high aesthetic, cultural and nature conservation values and their freedom from disturbance”*, stating:

*"The Governments' agreed approach to conserving and managing old-growth forests and forested wilderness has five basic elements:*

- *First, agreed criteria for old-growth forests and wilderness will be determined through the working group process already described.*
- *Second, using those criteria, the relevant State agencies will, as a matter of high priority, undertake assessments of forests for conservation values, including old-growth values, and of forested land for wilderness values.*
- *Third, until the assessments are completed, forest management agencies will avoid activities that may significantly affect those areas of old-growth forest or wilderness that are likely to have high conservation value.*
- *Fourth, forested wilderness areas will be protected by means of reserves developed in the broader context of protecting the wilderness values of all lands. For old-growth forest, the nature conservation reserve systems will be the primary means of protection, supported by complementary management outside reserves. The Governments agree that, conditional on satisfactory agreement on criteria by the Commonwealth and the States, comprehensive, adequate and representative reservation system to protect old-growth forest and wilderness values will be in place by the end of 1995. ... All necessary forest from private land will be included, preferably by agreement with landowners, in the reservation network as soon as possible thereafter. The Governments have agreed that their objective is to complete, to the extent feasible, the inclusion of any private forested land in the reservation network by 1998.*
- *Fifth, the relevant management agencies will develop management plans to appropriately protect old-growth and wilderness values.*

The principle biodiversity conservation outcome of the NFPS was the establishment of the principles of 'comprehensive', 'adequate' and 'representative' as the basis for developing reserve criteria from which to review and establish reserve systems to protect the conservation values of forests. These three key words are defined in the NFPS as:

**comprehensiveness** - *includes the full range of forest communities recognised by an agreed national scientific classification at appropriate hierarchical levels;*

**adequacy** - *the maintenance of ecological viability and integrity of populations, species and communities;*

**representativeness** - *those sampled areas of the forest that are selected for inclusion in reserves should reasonably reflect the biotic diversity of the communities.*

The signing of the NFPS was followed by a long period of inactivity. It was not until a major public outcry over export woodchipping, and the Government's failure to protect high conservation value forests in late 1994, that the Commonwealth was forced into action again and finally began to implement the NFPS.

### **5.3 Development of National Reserve Criteria**

In 1993, a working group of Commonwealth and State bureaucrats was established to identify national reserve criteria from the conservation principles outlined in the NFPS. (In a clear display of its contempt for the NFPS, the NSW State Government appointed a Forestry Commission employee, with no expertise in reserve design, as NSW's sole representative on the sub-committee.- D. Pugh pers com.)

The Working group was called the Joint ANZECC / MCFFA National Forest Policy Statement Implementation Sub-committee (later known as JANIS),

In desperation after the 1994 woodchipping debacle the Commonwealth developed their own *"National Forest Conservation Reserves, Commonwealth Proposed Criteria"* (CoA 1995). The Commonwealth criteria were developed by a Scientific Advisory Group based upon the JANIS deliberations to that time, and also involved reference to the Commonwealth's Forest Policy Advisory Forum (including representatives from conservation groups, the unions and the timber industry) and public submissions. The Commonwealth's criteria were a compromise between conflicting interests and were evidently based upon maintaining the apparition of being world leading while minimising the impact of establishing a reserve system on a national scale. (D.Pugh pers comm)

The Commonwealth criteria for the first time established quantitative targets for forest ecosystems, oldgrowth and wilderness. Perhaps the most significant, and certainly the most controversial, of these for NSW was the requirement to reserve 15% of the pre-1750 distribution of each forest ecosystem. Up until that time the NSW NPWS had been operating on the benchmark of 5% of the remaining extent of forest ecosystems as a basis for assessing the adequacy of the NSW reserve system. The Commonwealth's (CoA 1995) setting of reservation baselines of 60% for the remaining extent of oldgrowth and 90% of only the highest quality wilderness were regarded by the conservation movement as far too short of the RAC (1992) recommendations.

With the election of the Federal Howard Government the criteria were further compromised and weakened, finally resulting in *Nationally Agreed Criteria for the Establishment of a Comprehensive, Adequate and Representative Reserve System for Forests in Australia* (JANIS 1997).

Finally four years after the working group was established, and two years after the reserve system was due to be completed for public lands, the JANIS reserve criteria were agreed to by the Commonwealth and State Governments (though not the conservation movement (D. Pugh pers com )

JANIS (1997) establishes the objectives of biodiversity conservation for forests as:

- *to maintain ecological processes and the dynamics of forest ecosystems in their landscape context;*
- *to maintain viable examples of forest ecosystems throughout their natural ranges;*
- *to maintain viable populations of native forest species throughout their natural ranges; and*
- *to maintain the genetic diversity of native forest species.*

For forest ecosystems and species JANIS (1997) establishes that:

- (1) *As a general criterion, 15% of the pre-1750 distribution of each forest ecosystem should be protected in the CAR reserve system with flexibility considerations applied according to regional circumstances, and recognising that as far as possible and practicable, the proportion of Dedicated Reserves should be maximised (see Section 4).*
- (2) *Where forest ecosystems are recognised as vulnerable, then at least 60% of their remaining extent should be reserved. A vulnerable forest ecosystem is one which is:*
  - i) *approaching a reduction in areal extent of 70% within a bioregional context and which remains subject to threatening processes; or*

- ii) *not depleted but subject to continuing and significant threatening processes which may reduce its extent.*
- (3) *All remaining occurrences of rare and endangered forest ecosystems should be reserved or protected by other means as far as is practicable.*
- (4) *Reserved areas should be replicated across the geographic range of the forest ecosystem to decrease the likelihood that chance events such as wildfire or disease will cause the forest ecosystem to decline.*
- (5) *The reserve system should seek to maximise the area of high quality habitat for all known elements of biodiversity wherever practicable, but with particular reference to:*
  - \* *the special needs of rare, vulnerable or endangered species;*
  - \* *special groups of organisms, for example species with complex habitat requirements, or migratory or mobile species;*
  - \* *areas of high species diversity, natural refugia for flora and fauna, and centres of endemism; and*
  - \* *those species whose distributions and habitat requirements are not well correlated with any particular forest ecosystem.*
- (6) *Reserves should be large enough to sustain the viability, quality and integrity of populations.*
- (7) *To ensure representativeness, the reserve system should, as far as possible, sample the full range of biological variation within each forest ecosystem, by sampling the range of environmental variation typical of its geographic range and sampling its range of successional stages.*
- (8) *In fragmented landscapes, remnants that contribute to sampling the full range of biodiversity are vital parts of a forest reserve system. The areas should be identified and protected as part of the development of integrated regional conservation strategies.*

Section 4 of JANIS (1997) notes the aim of applying the reserve criteria is to include sufficient forests to meet the criteria in Dedicated Reserves equivalent to Categories I, II, III or IV as defined by the IUCN Commission for National Parks and Protected Areas.

JANIS further notes that where this is demonstrated to be not possible or practicable it is allowable to meet the targets in other areas set aside in Informal Reserves specifically for conservation purposes. Where this too is impractical then protection may be prescribed in Codes of Practice or Management Plans. These lesser categories are required to conform with the following principles:

- there is an opportunity for public comment on proposed changes;
- they have a sound scientific basis;
- they are able to be accurately identified on maps; and
- they are adequate to maintain the values they seek to protect.

All states finally agreed to, and signed, both the NFPS and the JANIS reserve criteria after they had been weakened sufficiently to minimise impacts and meet the lowest common denominator. Despite this, the states and Commonwealth maximised the use of prescriptions to achieve reserve targets rather than inclusion in Dedicated Reserves and limited application of reserve targets on the basis of limited and selective economic assessments. (D.Pugh pers com)



## 5.4 Interim and Comprehensive Regional Forest Assessments

It was not until 1996 that signing of Scoping Agreements committing the Commonwealth and the States to proceed to the negotiation of Regional Forest Agreements began.

Conservation groups engaged with the Commonwealth and made repeated attempts to engage with the NSW Government in the implementation of the National Forest Policy Statement. It wasn't until the election of the Carr Labor Government in 1995 that the NFPS began to be implemented in NSW (D. Pugh pers com)

The incoming Government was committed to a three stage approach:

1. urgently rescheduling State Forests' logging programs to avoid logging and roading in all high conservation value old growth forests and identified wilderness areas pending the completion of an interim assessment process;
2. initiating an interim assessment process, to be completed within nine months, to examine all available information bases to determine areas to be placed under logging moratoria at the completion of the interim assessment process; and
3. undertaking comprehensive environmental regional assessments of both public and private lands to establish a comprehensive, adequate and representative reserve system.

Following the election of the ALP Government in NSW in 1995 the Resource and Conservation Assessment Council (RACAC) was established to oversee the implementation of the NFPS in NSW .

In the NFPS process extensive studies of regional community structures and economics were undertaken. Though, given the Government's unwillingness to interfere with market forces by directing where the timber had to be processed, the availability of specific volumes of quota quality sawlogs became the most significant surrogate for economic impacts. ( D. Pugh pers com)

### 5.4.1 The Interim Assessment process (IAP)

The first task of RACAC was to undertake an Interim Assessment Process (IAP). The objective of the IAP was to:

*identify, on a regional basis, those forest areas that may need to be set aside from logging for inclusion in a Comprehensive, Adequate and Representative (CAR) reserve system.*

This was to be achieved by:

1. *identifying likely high conservation value old growth forest; and,*
2. *taking into account the proposed Commonwealth reserve selection criteria in relation to biodiversity (including threatened species), wilderness and reserve design.*

Data requirements were identified (achievable within the time and budget limits), and projects carried out by agencies and consultants, and developed methods to apply the data. Where possible all data was captured as digital layers in a Geographic Information System (GIS) at a scale of 1:25,000.

Some computer GIS software and most relevant data layers were provided to all stakeholders, along with other data generated in the process. The conservation movement considered this relatively open access to data as a very significant breakthrough.

Such sophisticated use of computer analysis for land use planning has still not been achieved today by the NSW Department of Planning some sixteen years after the forest land use assessment process described above.

The Commonwealth's *"National Forest Conservation Reserves, Commonwealth Proposed*

The aim of negotiations was to generate up to four options for each region: full application of the reserve criteria (Conservation Criteria Outcome), maintenance of 70% of 1995 quota sawlog supplies to industry, 50% of the 1995 quota sawlog supply and 30% of the 1995 quota sawlog supply. These were derived by firstly identifying the conservation outcome and then a "wind back" until the appropriate resource level was met.

C-plan was used to regularly check progress against conservation targets and at periodic intervals reports on remaining timber volumes and the sustainable yield of sawlogs were obtained.

Following the obligatory period of consultation and furious lobbying, in September 1996, the NSW Government reviewed the various options developed by the IAP and made a decision to:

- Permanently protect 172,012 hectares consisting of 46,411 hectares in eight new national parks and one nature reserve and approximately 125,601 hectares of dedicated wilderness
- Place approximately 600,000 hectares of the remaining CCO in a moratorium from logging in Interim Deferred Forest Areas (IDFA) until the Comprehensive Regional Assessment was complete.
- Place mapped oldgrowth forest outside the CCO in a moratorium, subject to ground truthing.
- Grant five-year tradeable and compensatable wood supply agreements to quota sawmillers at 50% of 1995/6 quota allocations (71% of 1996 levels), renewable for a further 5 years (known as "5 by 5" year agreements).
- Reduce sawlog quotas by a further 5-10% (depending upon the region) as from July 1997.
- systematic Conservation Protocols to regulate logging on State Forest land outside the IDFA (NPWS 1996), although there was one to two years further delay before these protocols were fully implemented (NPWS 1998a). The Protocols included:
  - general prescriptions aimed at protection of broad landscape features (*i.e.* oldgrowth forest, rainforest, rare non-commercial forest types, riparian buffers, wetlands, heath, rock outcrops, caves, and minimum numbers of habitat trees);
  - species-specific prescriptions aimed at providing some level of protection of potential habitat and habitat features (ie nest sites, roost sites) specific to a species;
  - site specific prescriptions to be applied should one of a number of the most poorly known species be found; and
  - pre-logging and pre-roading survey requirements aimed at locating threatened species in compartments prior to harvesting. ( Pugh pers com)

The Conservation Protocols were essentially developed through negotiations between the regulator (NPWS) and the regulated agency (SFNSW) without any independent scientific

review process. While many of the prescriptions had largely been developed in the NPWS licensing system since the introduction of the *Endangered Fauna (Interim Protection) Act 1991*, they had never been subject to any monitoring or evaluation to assess their effectiveness. ( Pugh pers com)

#### **5.4.2 The Regional Forest Assessment**

The NSW Regional Forest Agreement Scoping Agreement broadly outlined the matters which both Governments aimed to agree upon through the process of undertaking Comprehensive Regional Assessments (CRAs) and negotiating Regional Forest Agreements (RFAs):

- conservation of forest areas needed to form a comprehensive, adequate and representative (CAR) reserve system;
- definition of areas available for ecologically sustainable commercial use of forests;
- accreditation of codes of forest practice, including the process for continual improvement of these codes, and other management arrangements for forests within RFA boundaries;
- identification of forest resource use and sustainable development options and examination of any potential economic and social implications, including for communities, of these options;
- identification of the region's industry and other potential;
- measures to protect biodiversity, threatened species and cultural heritage;
- identification of performance indicators and development of monitoring arrangements to enable detailed assessment and reporting on the indicators and of performance of the agreement every 5 years.

The administrative arrangements to implement the CRA which were established notionally on the basis of achieving balanced representation state officials, and commonwealth officials, timber industry people and conservationists.

Four technical committees were formed to undertake the assessments: *Environment and Heritage (E&HTC)*, *Social and Economic (S&ETC)*, *Ecological Sustainable Forest Management (ESFM)* and *Forest Resource and Management System (FRAMES)*.

The CRA provided a far more sophisticated and comprehensive assessment of conservation values in north-east NSW than previous assessments. Major additional biological surveys were conducted and new analytical approaches were utilised to produce much improved data on natural and cultural heritage values, national estate values, forest ecosystems, oldgrowth forests, wilderness, centres of endemism, significant fauna species, fauna assemblages and significant plant species. Fine scale mapping of forest growth stages undertaken across all tenures resulted in a detailed oldgrowth forest layer *negligible*"

As for the IAP, independent scientists were again crucial to the scientific integrity of the process as participants on expert panels that determined core definitional and methodological issues, priority species lists, and the application of reserve criteria to produce conservation targets.

The database of conservation attributes that was constructed was the most comprehensive for any forest region in Australia and comparable or better than any similar database for a forest region anywhere else in the world

**Recommendation 1. The Committee accepts that the application of the National Forest Policy for the Northern Hardwood Forests approached best practice in science and participation.**

There were little spatial data collected on socio-economic values and instead this information was largely presented in written reports. Timber volumes were represented spatially by a coarse timber volume priority index from 1 (highest volume) to 5 (lowest volume) and the overall timber impacts of reserve options were assessed through a yield simulator and scheduler known as the Forest Resource and Management Evaluation System developed by SFNSW

The negotiation and options development component of the CRA process for north-east NSW –involved much posturing, tactical positioning and influence seeking by stakeholder and agency representatives. An extract from Pugh, 2012 report below depicts the flavour of the process

*“The State Government agencies were instructed to develop a reserve system that would allow the supply of 270,000 cubic metres of sawlogs per annum for 20 years only, with reductions in supply volume allowable thereafter. This volume was the full annual volume already committed in 5 by 5 year wood supply contracts in 1996. There was very little ‘timber’ left above and beyond this volume for building reserves, which meant that the overall size of the reserve outcome was severely constrained from the outset.”*

*“The starting point for the agencies was the stage in development of the Maximised JANIS information point that provided sufficient timber resources. In the agency negotiations the National Parks and Wildlife Service struggled to hang onto some of the higher conservation value areas while State Forests pushed for smaller reserves and unloggable areas. Every time the agencies reached agreement, State Forests would renege and, with their Minister, try to undermine it. In the end, the chairman of the Resource and Conservation Assessment Council, Mr. Gerry Gleeson, intervened to develop a final State position. Unperturbed State Forests continued to undermine it. There was also a negotiation with the mineral resources agency over areas of high mineral value. Most high value mineral areas were removed from the final position, and some were proposed for inclusion in informal reserves that would prevent logging but allow continued access for mineral extraction and exploration.”*

*“At the same time, the Government signed wood supply agreements with the timber industry committing to supply 270,000 cubic metres of quota sawlogs for 20 years (Anon. 1999c and Anon. 1999d). The value-adding review set down in the previous contracts that required value-adding measures to be implemented prior to further timber commitments being made, was dropped entirely. The new 20-year contracts had a clause that required a review of the available timber resource and sustained yield to be undertaken by December 2006 (Anon. 2000). This review represented the only mechanism for the Government to reduce timber volumes to industry at any time in the 20-year period without paying compensation.”*

**Recommendation 2. The Committee accepts that implementation of the National Forest Policy in the Northern Hardwood forests suffered two major political shortcomings in;**

**(i) the shortfall in meeting recognised targets for the reserve system, and**

**(ii) the over-allocation of timber resources to industry.**

## **6. Implementation- The Forestry and National Parks Estate Act 1998**

The Forestry and National Parks Estate Act 1998 that implemented the RFA wound back the legislative controls on forestry. Existing legislation was amended so that:

- State Forests of NSW forestry operations were exempted from the *Environmental Planning and Assessment Act 1979*, thereby removing the requirement for Environmental Impact Statements and Species Impact Statements (FNPE 1998).
- Ministerial discretion was introduced into the implementation of the *Threatened Species Conservation Act 1995* and the *Protection of the Environment Operations Act 1997*, which;
  - prevented the application of stop work orders to forestry operations,
  - removed third party appeal rights on forestry activities and
  - exempted forestry from most other pertinent environmental legislation including the *Wilderness Act 1987* (FNPE 1998).

These changes represented a fundamental erosion of the most important legislative controls on forestry in NSW and were implemented without any community consultation and directly contradicted the ALPs own 1995 election policy.

The outcomes were documented in the NSW Forest Agreements for north-east NSW that were completed in March 1999 (NSW, 1999(b)). The NSW Agreements were later used as the basis for Regional Forest Agreements that were signed by NSW and Commonwealth Governments in March 2000 (CoA & NSW).

The total area of new National Parks estate in north-east NSW since 1995 has increased by some one million hectares to 2.03 million hectares. Most of these areas are north of the Hunter River where the size of the reserve system has more than doubled since 1995.

In addition to these increases in the National Parks estate, there have also been increases in the informal reserve system in north-east NSW over the same period with the placement of some 310,000 hectares of State Forest in the region in Special Management Zones which are protected from logging under the *Forestry Act 1916*.

In a deal with the timber industry the NSW Government placed a 20 year timber supply limit of 269,000 m<sup>3</sup> per annum of large quota sawlogs on reserve outcomes, complementing this with multi-million dollar industry assistance packages. The intent was to continue logging **unsustainably** for 20 years before reducing logging down to a sustainable level. (Pugh pers com)

Unfortunately the Government's refusal to heed calls from conservationists that the resource was grossly over-estimated has meant that the scale of over-logging is far greater than intended with the result that;

- the remaining resource is heavily degraded and future sustainable yields dramatically reduced,
- timber is effectively being taken from future generations,
- by over harvesting a carbon debt is being created on future generations,
- The health of the forests is threatened through increased fire risk to regenerating forests and from invasion by weeds and diseases, and
- wildlife conservation (such as coastal Koala populations) are being threatened with localised and broader extinctions.

The binding nature of Wood Supply Agreements have already resulted in multi-million dollar compensation payout to companies who were given the commitments for free. Though this is nothing compared to the exposure of NSW taxpayers to future compensation claims and the cutting out of any future sawlog industry.

Bell Miner associated dieback was is listed in 2008 in NSW. as Key Threatening Process under the *Threatened Species Conservation Act* 1995. Extensive areas of eucalypt forests on the North Coast are increasingly affected by tree canopy dieback indicated by the presence of over-abundant populations of psyllid insects (*Glycaspis* spp.) often with over-abundant Bell Miner birds (*Manorina melanophrys*) (Wardell-Johnson *et al.* 2006).

Bell Minor associated dieback is particularly prevalent in north-eastern New South Wales. Reproductive success of eucalypts in forests subjected to this form of dieback is typically low, and recruitment of new individuals tends to be poor due to reduced seed production and reduced seedling establishment as a consequence of weed invasion. In its most severe form, dieback results in the loss of forest structure.

The North coast forest types most susceptible to dieback are those dominated by Dunn's White Gum (*Eucalyptus dunnii*), Sydney Blue Gum (*E. saligna*), Flooded Gum (*E. grandis*), Grey Ironbark (*E. siderophloia*), Narrow-leaved White Mahogany (*E. acmenoides*), Grey Gum (*E. punctata*) and Grey Ironbark (*E. paniculata*) (Bell Miner Associated Dieback Working Group, 2004). Other eucalypt species such as *E. moluccana*, *Corymbia maculata* and *C. variegata* may be affected, usually after a substantial decline in the most susceptible species. Mapping of affected areas has been most intensive in the Kyogle region 20% of 100,000 ha of susceptible forest types were affected by dieback attributable to this cause .It has been estimated that 2.5 million ha of forest in New South Wales has the potential to be affected (Wardell-Johnson *et al.* 2006).

In the Kyogle area where 39 species of threatened fauna and nine species of threatened flora occur in forests experiencing canopy dieback (Morrison *in litt.* 2007). Many of these species are dependent on habitat structure provided by eucalypt forests. Tree death and reduced eucalypt recruitment will eventually contribute to a shortage of tree hollows for hollow-dependent fauna. 'Loss of hollow-bearing trees' is listed as Key Threatening Process under the *Threatened Species Conservation Act* 1995.

**Recommendation 3. The Committee accept that the over allocation of timber resources is having the following effects on the Northern Hardwood Forests;**

- **the forests available for harvesting are being degraded by overharvesting and future sustainable yields dramatically reduced,**
- **timber is currently being taken that should be available to future generations,**

- ***by over harvesting a carbon debt is being created on future generations,***
- ***The health of the forests is threatened through increased fire risk to regenerating forests and from invasion by weeds and diseases, and***
- ***wildlife conservation (such as coastal Koala populations) are being threatened with localised and broader extinctions.***

***Recommendation 4. The Committee recommends the NSW Government establish a Northern Forest recovery program to ensure the regeneration of the forests through the fire sensitive regrowth stages and to reduce and minimise the impacts of weeds and diseases***

## **7. Ongoing process following adoption to the Regional Forest Agreement.**

The Regional Forest Agreement specified a number of ongoing processes which were designed to provide increased areas of protection and to monitor the implementation of the Agreement

Several on-going reserve processes which continued after the signing of Forest Agreements in north-east NSW. These included:

- the transfer to National Parks estate of large blocks of 'unloggable' Forest Management Zones and the new Crown reserves created in the 1998 decision, and
- 70,000 hectares of vacant Crown land. Over the next few years the Government reviewed these areas to decide which areas to be reserved and in what form.

The outcome was the reservation of a further 81,667 hectares of State Forest tenure and 40,667 hectares of vacant Crown land from 1999 to 2002.

Some 310,000 hectares of State Forest areas in the region already protected in Forest Management Zones were also given increased protection as Special Management Zones in 2002 under the *Forestry Act 1916* as a result of the on-going reserves processes (enacted in the *National Parks Estate Reservations Act 2002*). With 2003 additions the Special Management Zones now include all mapped oldgrowth forest, wilderness and most rainforest on State Forests in the region, but also include large areas of steep, low conservation value, and essentially unloggable lands. These Zones now require an Act of Parliament to be amended or revoked and thus have improved legislative security to previous management zonings. They are not available for logging, but are generally available for grazing and mining and are, as yet, not actively managed for conservation.

In the lead-up to the NSW State elections in March 2003, the ALP announced that it would protect a further 65,000 hectares of public forests. This included 45,000 hectares contained in 15 "icon" areas that were transferred to formal reserves and 20,000 hectares of oldgrowth forest that was transferred to Special Management Zones protected from logging (*National Parks Estate Reservation Act 2003*). The icons included many of the highest conservation value forests in the region, including a sequence of large coastal forest reserves and some important oldgrowth stands. The protection of the 20,000 hectares of oldgrowth meant that

all large areas of mapped oldgrowth on State Forest tenure in north-east NSW were finally protected.

Despite the reduction in the area of state forest the “net harvest area”, which is the basis of yield estimates, was actually increased by some 700ha, primarily because of the decision to remove “buffers on buffers”. This was achieved by amending the IFOA to allow the accidental felling of trees into most exclusion areas and the entry of machinery into some exclusion areas to fell trees. This significantly increased the proportion of the gross area that could be harvested. The new estimates also included new plantations and additions to State Forests’ estate from private property purchases.

For the timber industry the NSW Government issued new Wood Supply Agreements to North coast sawmillers for quota, small and low quality sawlogs and extended them for 5 years (until 2003) past the expiry of the NSW Forest Agreements. Most significantly the NSW Government removed the clause that allowed for a non-compensable reduction in commitment following a review of available timber resources.

For quota sawlogs this set a volume of 215,422m<sup>3</sup> per annum for 20 years, five years past the end of the UNE Forest Agreement, and resulted in firm commitments for a total supply of 4,365,852m<sup>3</sup>, and tentative commitments for a further 95,687m<sup>3</sup>. At the time the new WSA were made there were remaining commitments of 269,000m<sup>3</sup> of quota sawlogs for 15 years, which is a total of 4,035,000m<sup>3</sup>. These new WSAs thus resulted in an increase in committed volumes of large quota sawlogs of 330,062-426,549m<sup>3</sup> - not a bad windfall, particularly as yield reviews were showing that commitments needed to be substantially reduced.

The Government was even more generous, giving millers commitments of up to 1,777,180m<sup>3</sup> of high quality small sawlogs and 4,097,940m<sup>3</sup> of low quality sawlogs, increasing the total volume of sawlogs committed in WSAs by up to 260%. While such commitments of tradeable timber rights are worth a fortune to the millers, they were given freely. The large quota sawlog component had a market value of over \$60 million, with the balance of sawlogs having a similar value, though there was no tendering process.

The Auditor General (2009) commented:

*In this new agreement, the Government waived its rights to reduce commitments without compensating industry for any loss. This removed Forests NSW’s ability to better manage supply risks by adjusting commitments. In addition, timber volumes were more or less maintained despite the loss of forest estate to national park and reserves.*

The area available for logging was again significantly increased in 2004 by amendments to the Environment Protection Licence which effectively allowed logging within the buffers of most unmapped streams. This was simply achieved by excluding non-scheduled forestry activities from the requirements of the Environment Protection Licence on 17 May 2004. Over 90% of compartments no longer require Environmental Protection Licences.

Forests NSW further increased the area available for logging by refusing to protect Forest Management Zone 8 areas that were not counted as contributing to timber supply on the basis that they would be refined by field assessments and allocated to exclusion zones (ie FMZ 3A). These represent modelled high erosion areas and modelled streams that are intended to be further assessed at the Harvesting Plan stage. In practice they are not further assessed and simply counted as being part of the general logging area.



**Recommendation 5. The Committee recommend that the State Government initiate and support a further restructure of the native forest industry utilising the Northern Hardwood forests to take account reduced and changing demand and availability for native forest hardwood timber.**

## 8. NE forest Biological database

A most outstanding component of the Regional Forest Assessment process in North East NSW was the environmental assessment. A biological database forest conservation entities was established on a scale never seen before in Australia and comparable to any forest biological database anywhere in the world.

The planning system used to analyse the database( C-Plan) was more sophisticated than that currently used, fifteen years later, in regional and local landuse planning in NSW .

The provision of complete data sets, the planning software and necessary training were to all stakeholder groups as well as providing the opportunities to participate directly in negotiations were unprecedented in landuse planning in NSW . Similar planning systems were run for other regional forest assessments although the intensity of data involved did not match that provided for the North east Region

Reserve targets were established strictly in accordance with the JANIS national reserve criteria. Expert panels in various disciplines oversaw and reviewed the data analyses and established targets for all entities. The expert panels placed each entity on a scale from 1 to 5 (from highest to lowest priority) according to its relative vulnerability to threatening processes (such as logging and associated forestry activities) and its need for incorporation into the reserve system.

Data on environmental entities including 240 forest ecosystems, populations of 152 fauna species, 444 plant species, oldgrowth forest and wilderness was applied in the north-east NSW CRA process. This data was largely due to the years of systematic collection of environmental data in the north-east forests ( NPWS's North East Forests Biodiversity Study).

## 9 .Conservation Reserve Outcomes

		<i>Upper North East</i>	<i>Lower North East</i>
<i>Number of Ecosystems</i>		162	198
<i>Total target area</i>		759,801ha	1,079,667ha
<i>Total target area attainable from public land.</i>		567,622ha	883,018ha
<i>Reserves as at 2004</i>	<i>Number of Ecosystems under target</i>	95	107
	<i>Remaining Shortfall in targets</i>	322,675ha	348,472ha
	<i>Remaining shortfall available from public lands</i>	130,097ha	151,823ha
<i>Reserves as at 2004, plus informal reserves and prescriptions+</i>	<i>Number of Ecosystems under target</i>	80	92
	<i>Remaining Shortfall in targets</i>	199,551ha	214,044ha
	<i>Remaining shortfall available from public lands</i>	59,778ha	54,876ha

+ Note that the areas counted as being protected in informal reserves or by prescription are those given in the 2000 RFA, and as many of these areas were subsequently incorporated into reserves they have been in effect double counted – these figures thus overstate the ecosystem reservation status.

The reserve additions since 2000 have significantly improved the reservation status of forest ecosystems, though across both UNE and LNE 202 ecosystems (56%) remain below target, with 119 (33%) not even achieving 50% of their targets. Even with allowance for off-reserve protection it is likely that some 172 ecosystems (48%) remain below target.

		<b>UNE Ecosystem Target Achievement (no)</b>				
		<b>&lt;25%</b>	<b>25-49%</b>	<b>50-74%</b>	<b>75-99%</b>	<b>&gt;100%</b>
<b>2000</b>	<b>Dedicated Reserves</b>	52	23	17	18	52
	<b>Dedicated and Informal Reserves and Prescriptions</b>	34	24	11	20	73
<b>2004</b>	<b>Dedicated Reserves</b>	38	22	16	19	67

		<b>LNE Ecosystem Target Achievement (no)</b>				
		<b>&lt;25%</b>	<b>25-49%</b>	<b>50-74%</b>	<b>75-99%</b>	<b>&gt;100%</b>
<b>2000</b>	<b>Dedicated Reserves</b>	48	29	20	23	78
	<b>Dedicated and Informal Reserves and Prescriptions</b>	36	21	21	27	93
<b>2004</b>	<b>Dedicated Reserves</b>	36	23	23	25	91

Flint, Pugh and Beaver (2004) analysed the adequacy of the reserve system for fauna in 2004 (see Appendix 2 for the full assessment detailing the evolution of fauna targets and the outcomes). They found that there is still grossly inadequate reservation for most species; A binary target assessment of all 710 fauna populations under consideration (excluding targets for bat roosts) reveals that only 217 (31% of all populations) have met conservation targets. Seventy-two of the 139 species (or 52% of species) with targets set have failed to meet target for any of their populations. Only 17 species have met target for all their populations, while the remaining 50 species have met target for at least one but not all populations.

A proportional target analysis indicates that only 45% of fauna populations have sufficient habitat reserved to achieve 50% or more target fulfilment, and 20% of fauna populations are yet to achieve even 10% of the habitat required to meet targets. The mean target achievement for all populations across all tenures is 49%, and the target

area index is 33%. The mean target achievement for public lands is 76% and the target area index is 70%.

*...Of the 38 fauna species ranked by the expert panel as having the highest vulnerability to threatening processes (vulnerability 1), 30 do not attain targets for any populations, and none attain targets for all populations. Only 8 species attain targets for one or more populations. Therefore, species with the highest vulnerability to threatening processes remain very poorly reserved.*

Despite significant improvements in the reserve system following the National Forest Policy process ***the reserve system still falls well below the accepted criteria and agitation for expansion of the reserve system has and will continue.***

As Dailan Pugh ( pers com) goes on to state:

*These outcomes highlight the failure of the RFA process in north east NSW to satisfy national reserve criteria and deliver on the promise of an adequate reserve system sufficient to maintain the ecological viability and integrity of fauna populations. The extremely poor reservation status of many threatened fauna species in north-east NSW emphasises the need for substantial additions to the reserve system to improve fauna conservation, as well as the strict application of strengthened logging protocols that take into account the poor reservation outcomes.*

***Recommendation 6. The Committee recommend the NSW Government complete the development of a comprehensive, adequate a representative reserve system for the Northern Hardwood forests.***

Major commitments by the State and Federal government in the Forest Agreements and the Regional Forest Agreement to assess additional forests for their World heritage areas and to nominate suitable areas for listing remain unfulfilled

***Recommendation 7. The Committee recommend NSW Government complete the assessment and where appropriate the nomination of further rainforests and eucalypt forests for World Heritage listing.***

A failure of the National Forest Policy process has been that the biodiversity, oldgrowth and wilderness values of the Northern forests have not been widely recognised or utilised to develop and promote a sustainable ecotourism industry based on the forests.

***Recommendation 8. The Committee recommend the NSW Government form an ecotourism taskforce and strategy for the North Coast forests which particularly takes account the identified outstanding universal conservation values of those forests.***

The recommendations identified in this submission will require additional funding for implementation. The placement additional high conservation value forests currently available for logging in conservation reserves and the recovery of other forests from intense logging regimes will potentially generate carbon credits worth substantial amounts of money which could be directed to implementation of recommendations .

The federal Government has announced that the Federal Biodiversity Fund is available to purchase unsustainable timber quotas from crown forests

***Recommendation 9. The Committee recommend that the NSW Government approach the Federal Government to cost share implementation of these recommendation through application of funds from the National Biodiversity Fund consistent with the benefits the changes will bring for carbon sequestration and from other appropriate sources if necessary.***

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