



CAR Reserves

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NEFA BACKGROUND PAPER
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The impetus for the Forest Reform process was the adoption of the National Forest Policy Statement in 1992 and the commitment to establishing a comprehensive, adequate and representative (CAR) reserve 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 foundation was the adoption of national forest reserve criteria. In accordance with the National Forest Policy Statement a working group of Commonwealth and State bureaucrats, called the Joint ANZECC / MCFFA National Forest Policy Statement Implementation Sub-committee (known as JANIS), was established in 1993 to identify national reserve criteria. 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. The sub-committee stalled.

In desperation after the 1994 woodchipping debacle the Commonwealth developed their own "*National Forest Conservation Reserves, Commonwealth Proposed Criteria*" (CoA 1995). 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 Criteria included reservation baselines of 60% for the remaining extent of oldgrowth and 90% of only the highest quality wilderness.

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).

After an aborted attempt to use the NSW Environmental Impact Statement process to establish a reserve system in north east NSW, the Forest Reform process started in NSW in 1995 with the election of the Carr Government. The process continued until 2003, though some reserve additions are still outstanding. (See: **A Short History of Reserves in North East NSW**)

The North East Forest Alliance represented conservationists in the process. Along with our southern counterparts, we had representatives on the NSW Resource and Conservation Assessment Council, the joint NSW and Commonwealth Steering Committee and the four technical committees.

The 1996 Interim Assessment Process was a trial of using explicit reserve criteria and targets, along with detailed vegetation and structural mapping, models of species distributions and timber resource mapping, in a negotiated process involving stakeholders using a Geographic Information System to identify forests likely to be required for the reserve system.

For north-east NSW the outcome of the IAP was inclusion of 172,012ha in reserves, placing approximately 600,000 hectares of State Forest in a moratorium from logging in Interim Deferred Forest Areas (IDFA) until the Comprehensive Regional Assessment was complete, placing mapped oldgrowth under a moratorium, adoption of Conservation Protocols to regulate logging, and granting five-year tradeable wood supply agreements to quota sawmillers at 50% of 1995/6 quota allocations, renewable for a further 5 years provided value-adding criteria were satisfied (known as "5 by 5" year agreements).

The Comprehensive Regional Assessments (CRAs) commenced as soon as the IAP was completed. These were the first time in NSW that systematic and scientifically rigorous assessments of conservation and socio-economic values had ever been undertaken with the aim of satisfying explicit national reserve targets to establish a Comprehensive Adequate and Representative reserve system.

Until near the end it was an open and balanced process allowing principal interest groups real and meaningful involvement. Towards the end the process became politicised, the committees were stacked with industry supporters, the Commonwealth withdrew and the timber industry were given 20 year timber commitments which precluded the establishment of a CAR 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. Due to the years of systematic collection of environmental data in the north-east forests, these data (though not without their problems) were the most comprehensive and reliable available for any regional forest assessment in Australia.

There was significant information collected on National Estate values (both cultural and environmental), though most of it was incomplete. The refusal of the Commonwealth to allow targets to be set for National Estate areas, the partial provision of data only for the UNE before the Commonwealth withdrew from the process and the lack of interest in National Estate values from State agencies in negotiations, meant that this data was to all intents and purposes ignored. World Heritage assessments did not occur until a decade later and are still incomplete.

For forest ecosystems the base target was set at 15% of their pre-1750 distribution. Rare and endangered forest ecosystems were given a 100% target, and vulnerable forest ecosystems a target of 60% of their remaining extent.

Rainforest across all tenures was mapped by Aerial Photographic Interpretation (API) of 1:25,000 photographs. All rainforest patches down to 2 ha in size were mapped. This means that up until the stage where a closed rainforest canopy becomes completely obscured by the emergent eucalypts (approximately 35% crown cover) it is classed as rainforest. Rainforest was set a 100% target.

The JANIS (1997) criteria adopt base targets for oldgrowth of 100% of rare and endangered oldgrowth and 60% of remaining extent for the rest. JANIS (1997) provides for these base targets to be increased to the "*levels of protection necessary to achieve*" protection of high quality habitat for species, appropriate reserve design, protection of the largest and least fragmented areas of oldgrowth, specific community needs for recreation and tourism, protection of rare and depleted oldgrowth and protection of aesthetic and cultural values.

An additional category of "High Quality Habitat Old Growth" (HQHOG) was created by intersecting modelled high quality habitat for 21 oldgrowth dependent species (selected by fauna experts) with mapped oldgrowth. HQHOG was assigned a target of 100%.

For wilderness areas identified in accordance with the Commonwealth's criteria the minimal JANIS (1997) requirement for protection of 90% of the "highest quality" wilderness areas was all that was adopted.

To satisfy the JANIS requirement to incorporate viable populations of priority fauna into the reserve system, reserve targets were identified by application of a formula which used life history parameters known to influence a species probability of extinction to give an estimate of the relative amount of area different species may need to persist. This was described as the minimum viable area needed to maintain a species in perpetuity and the output was termed a habitat protection target. Expert panels then identified subregions for populations separated by dispersal barriers. Targets were applied using modelled mapped habitat reviewed by expert panels.

For flora, targets were primarily based on reserving numbers of localities, as determined by an expert flora panel, rather than percentages of localities. This is still a long way from the goal of protecting viable populations.

An endemic species was defined as a species for which more than 75% of its range or more than 75% of its total population falls within north-east NSW (Upper and Lower North East regions combined). 15 Centres of Endemism for assemblages of flora, 6 for assemblages of fauna, and 12 for invertebrates were identified and assigned targets of 100%.

All this environmental data was mapped and included in a Geographical Information System, along with reserve targets in hectares. Timber volumes were represented spatially by a coarse timber volume priority index 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 (FRAMES) developed by State Forests.

In early September 1998 the Government agencies (State Forests, National Parks and Wildlife Service and Department of Urban Affairs and Planning) applied the environmental data and the national reserve criteria to identify the information point "Maximised JANIS", which was intended "to provide an indication of the likely maximum practicable achievement of targets in dedicated reserves within the region". However, even this benchmark was not allowed to be implemented unhindered and, regardless of significant shortfalls in target achievement, agencies were directed not to exceed an arbitrary 70% of the State Forest estate in either region. Even with this limitation 1,027,655 hectares of public forests in north-east NSW were identified as requiring reservation in order to reasonably satisfy the national reserve criteria. Without this limitation NEFA identified 1.2 million hectares as required.

The union and industry representatives then refused to take part in negotiations until they had obtained private commitments from the Government. After a delay of a month the purported "stakeholder negotiations" began in early October 1998. The Government had set them up to fail by stacking them with industry groups and undermining the industry's willingness to negotiate with promises of 20 years resource security at current levels and other commitments. Negotiations between stakeholders collapsed.

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 required a major wind-back from the "Maximised JANIS" position, though the outcome was based on the environmental data and did include many of the highest priority areas. The 'State Agency position' identified approximately 554,000 hectares of State Forests and Vacant Crown Land for reservation.

On the 12 November 1998, Premier Carr announced the creation of 386,627 hectares of new NPWS reserves, 3,820 hectares of new SFNSW Flora Reserves and 20,100 hectares of new Crown reserves in north-east NSW (Anon. 1999c and Anon. 1999d). The decision also promised to protect a subset of oldgrowth forests designated as 'high conservation value', all mapped rainforest, wilderness and steep and non-commercial areas in a management zoning system on State Forest tenure (Anon 1999c and Anon 1999d). The decision was implemented by the *Forestry and National Parks Estate Act 1998*.

The outcome of the process was that most reserve targets were not satisfied. The NSW Government limited its Summary of Achieved Targets (Anon. 1999c, Attachment 2) to forest ecosystem and oldgrowth targets, noting:

In the Upper North East Region there are 162 forest ecosystems and 144 old growth ecosystems. If the additions to the formal reserve system are adopted, as outlined in this Cabinet Minute, a total of 59 forest ecosystems and 26 old growth ecosystems will achieve conservation targets. This will leave 103 forest ecosystems below target, of which 74 are ranked highly vulnerable, and 118 old growth forest ecosystems below target, of which 76 are ranked highly vulnerable (see attachment G).

In the Lower North East Region, there are 198 forest ecosystems and 169 old growth ecosystems. If the additions to the formal reserve system are adopted, a total of 83 forest ecosystems and 59 old growth ecosystems will achieve conservation targets. This will leave 115 forest ecosystems below target, of which 87 are ranked highly vulnerable, and 110 old growth ecosystems below target, of which 56 are ranked highly vulnerable (see attachment H).

Based on this outcome the NSW and Commonwealth Governments signed the Regional Forest Agreement for North East NSW in March 2000 (Anon 2000), maintaining the agreement “*identifies areas in the region or regions that the Parties believe are required for the purposes of a Comprehensive, Adequate and Representative Reserve System*”. The outcome was far short of what we had been promised as a CAR reserve system.

NEFA maintained the pressure and by 2002 a further 122,334 hectares of unloggable forests and Crown land had been added to the reserve system. A further 370,000 hectares of unloggable forests, wilderness, oldgrowth and rainforest was included in Forest Management Zones excluded from logging.

Due to an ongoing campaign by NEFA, in the lead-up to the NSW State elections in March 2003 the ALP announced that it would protect 45,000 hectares in 15 “icon” areas as reserves and place 20,000 hectares of loggable oldgrowth forest on state forest into protected zones. This filled some significant gaps in the reserve system and resulted in the protection of most large patches of oldgrowth on public lands, though still left many reserve targets unmet.

As at 2004 an assessment of overall achievement of reserve targets for the upper and lower north-east shows that there is still a shortfall of over 670,000 ha (36%) in the attainment of the JANIS reserve targets for ecosystems within the formal reserve system. 282,000 ha of these unmet targets could be satisfied from public lands if the Government wanted to, though the balance would need to be sourced from private lands. If allowance is made for informal reserves on state forests and logging prescriptions then the shortfall in ecosystem protection is still over 410,000 ha, of which some 115,000 ha could be protected on public lands.

		Upper North East	Lower North East
Number of Ecosystems		162	198
Total target area		759,801ha	1,079,667ha
Total target area attainable from public land.		567,622ha	883,018ha
Reserves as at 2004	Number of Ecosystems under target	95	107
	Remaining Shortfall in targets	322,675ha	348,472ha
	Remaining shortfall available from public lands	130,097ha	151,823ha

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.

Flint, Pugh and Beaver (2004) analysed the adequacy of the north-east NSW reserve system for fauna as at 2004. They found that in the whole of north east NSW 52% of fauna species fail to meet the reserve targets set for any of their populations and only 31% of the CRA reserve targets for viable populations of fauna species have been achieved to date, noting:

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%.

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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.

Examples of the achievement of reservation targets for particular species (Flint, Pugh and Beaver 2004) in north-east NSW (UNE and LNE) were:

- **Hastings River Mouse**, a nationally Endangered species; target was 33,969 breeding females distributed across 8 populations (of up to 4,251 females each). The outcome was the reservation of a total of 2,863 breeding females, with 8% of the mean target achieved (1-29%).
- **Spotted-tailed Quoll**, a nationally Vulnerable species; target was 4536 breeding females distributed across 4 populations (of up to 1,800 females each). The outcome was the reservation of a total of 1,201 breeding females, with 25% of the mean target achieved (10-55%)
- **Barking Owl**, a State Vulnerable species; target was 1,610 breeding females distributed across 2 populations (of up to 805 females each). The outcome was the reservation of a total of 466 breeding females, with 61% of the mean target achieved (44-79%)
- **Powerful Owl**, a State Vulnerable species; target was 756 breeding females distributed across 2 populations (of 378 females each). The outcome was the reservation of a total of 234 breeding females, with 14% of the mean target achieved (11-18%)
- **Yellow-bellied Glider**, a State Vulnerable species; target was 9,240 breeding females distributed across 8 populations (of 1,155 females each). The outcome was the reservation of a total of 1,636 breeding females, with 18% of the mean target achieved (6-33%)

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 representing the full suite of forest ecosystems, and 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 give them a fair chance of surviving into our uncertain future.

There is obviously still a long way to go to establish a Comprehensive, Adequate and Representative reserve system that satisfies the national forest reserve criteria.

A Short History of Reserves in North East NSW

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