

**National Association of Forest Industries**  
**submission for the**  
**Senate Environment, Communications, Information Technology and the Arts**  
**Committee**

**inquiry into**

**Australia's national parks, conservation reserves and marine protected areas**

**Introduction**

The National Association of Forest Industries welcomes this inquiry into the creation and management of national parks and other protected areas. From a long history of forestry in Australia, there has been a significant degree of interest in ensuring that the harvesting of timber from forests is balanced by the establishment and management of a healthy and comprehensive reserve system. This approach is backed by Australia's commitments to the Convention on Biological Diversity and to the national framework governing ecologically sustainable development.

Following on from the release of the National Forest Policy Statement in 1992, the forest and timber industry worked constructively with the Federal and State Governments to put in place 10 Regional Forest Agreements (RFAs). Those Agreements provided a framework to balance the economic, environmental and community outcomes from using or protecting a significant proportion of Australia's forest resources. Part of the balanced outcomes delivered by the RFAs was a considerable increase in the area of forests protected in formal reserves, national parks, and informal reserves.

Even after the RFAs were completed, successive State and Federal Governments continued to transfer many areas of production forests into national park, reserves and conservation areas. However, there has never been any clear scientific evidence provided which sets out the additional environmental or community benefits to be derived from these new reserves. Of even more concern is that the creation of the additional reserves has not been supported by a significant increase in funding to help manage those areas nor to monitor the ecosystems.

A growing body of evidence is building up to support the view that without active management of the reserved and protected areas, there is already a moderate decline in forest health. The increasing fuel loads that have been allowed to build up in the so-called protected areas, is causing changes to the ecosystems and raising the potential for far more intense bushfires when they do arise. Forest scientists, with long-term experiences in studying the impacts of fire on the structure of forest ecosystems, believe that the less-than-active management of our forests will most likely have a major negative impact on biodiversity.

Virtually all of the inquiries held into Australia bushfires last century and those of 2003, indicated that insufficient resources were being dedicated to the management of national parks and reserves. Insufficient resources, in terms of both the limited human resources and the funding, have been made available to reduce fuel loads (or undertake hazard reduction) and to develop plans for the sustainable management of our forest ecosystems. Even after all the inquiries into bushfires during last century, these matters fail to be addressed. Unfairly, it is expected that park managers will be able to develop management plans, undertake all of the hazard reduction activities and provide the services expected by tourists, without any significant increase in available resources. During the past decade, there has been a considerable emphasis on the protection of 'old growth forests'. Although old growth forests have a certain amount of biodiversity associated with them,

they do not represent the full array of plant, animal and invertebrate species that can be found in forest ecosystems. To ensure that Australia's national parks and reserves support the full range of biodiversity, it will be essential to have representative communities of our forests growing at different stages of their life cycles, at any single point in time.

To achieve this outcome, it will be essential for national park and reserve managers to use a range of management options that will have varying parts of the forests in the different stages of their growth cycles, including some areas of old growth forests, which contain mature, senescent and dying trees. By taking this approach, the forest reserves could be managed as a mosaic where the different ages and types of forest represent the more natural appearance of Australia's large forested areas.

## **Recommendations**

To support the sustainable management of Australia's forest resources, a number of issues must be addressed and in a far more coordinated manner:

1. If new national parks are created, Governments must clearly state the biodiversity, other environmental, economic and social benefits that will be provided by those national parks.
2. Where new national parks and reserves are created, Governments must provide sufficient funding to support the active, sustainable management of those areas. This will also require some catch-up in funding to make up for the past, inadequate resourcing of national parks.
3. When considering whether there is sufficient funding available to support the management of protected areas, consideration should be given as to whether the funding that is provided is being used most effectively. There are concerns that the limited funding is being used to suppress major problems when they arise (such as wildfires) as opposed to using active management to minimise the risks of major problems arising. By all accounts, it appears that the focus for protected area managers has shifted from active land management to the suppression of problems when they arise. This may be neither the most cost-effective approach or the best means of protecting our ecosystems and biodiversity.
4. Commonwealth, State and Territory governments should provide additional funding to support the comprehensive monitoring of biodiversity in a manner that would help to guide any future decisions on the management of national parks and reserved areas.
5. National park managers should be expected to meet the same standards of sustainability as those applying to managers of production forests and plantations. Those outcomes can be readily measured by auditing their performance against forest management plans written in accordance with the requirements of forest certification standards, such as the Australian Forestry Standard or equivalent international standards.
6. A range of management options can be used to have reserved areas growing as a complex set of vegetative communities at different stages in their growth cycles. If there is not sufficient funding available from Governments to support these activities, consideration should be given to having the forest industries play an active role in either thinning or harvesting a small proportion of these areas. The primary intention must be to introduce comprehensive management approaches that contain a mix of suitable management options which are designed to maintain the reserves as landscapes representing all stages of ecosystem development and that prevent declining health in the ecosystems of the reserved areas. It is therefore essential that Governments set clear management objectives for the national parks and other reserved areas, and that the managers are given greater flexibility to use a mixed approach to sustainably manage those protected areas.

## Detailed Submission

The terms of reference for the inquiry request the Senate Committee to consider a number of issues in relation to the funding and resources available to meet the management objectives for Australia's national parks, other conservation reserves and marine protected areas. Given the many different ways that national parks and other protected areas have been created and gazetted, it is virtually impossible to distinguish any clear objectives of what the respective Governments want to achieve from these areas.

Governments should state why the protected areas are created and the outcomes they will be seeking from those areas. Sufficient funding must then be provided to meet those objectives and the outcomes should be measured by requiring that national park and reserve managers achieve a standard of sustainability that can be defined through one of the international standards governing sustainable forest management practices. For Australia, forest managers have a choice between the Australian Forestry Standard and the Forest Stewardship Council.

At no time has sufficient funding been made available to support the active management of protected areas and, outside of the RFA process, only limited consideration is given to the environmental benefits associated with maintaining the existing forest ecosystems on private land. A far more comprehensive approach must be adopted to consider the outcomes from the current limited approach to ecosystem protection provided by the system of creating and managing national parks. This will require a much higher level of investment in monitoring changes to the ecosystems, using that information to guide future management decisions and ensuring that managers of protected areas are in a position to detect ecosystem changes that could be driven by climate change or other influences in the future, as the basis for further refining their management approaches.

The terms of reference for this inquiry are clearly focussed on the key issues associated with the creation and management of reserves and protected areas. The following responses are provided to each term of reference for this inquiry.

### *a. the values and objectives of Australia's national parks, other conservation reserves and marine protected areas*

It is quite often difficult to determine exactly why new national parks are created. General reasons are given, such as their natural beauty, their biodiversity or their potential as a refuge for animals and plants. However, if this were the true reasons for governments creating new national parks, it would be reasonable for the community to expect that sufficient human and financial resources would be provided by those same governments to the protected area managers so that they can suitably maintain and protect those values. These resources would provide for the development of management plans that could be fully implemented and where biodiversity conservation is a key objective, a long-term biodiversity monitoring program should be introduced to guide the future management planning and decisions for each national park.

Quite often, national parks and reserves will be created for multiple reasons. At the present time though, each of these protected areas are managed according to their individual plans and in many cases, they may simply replicate the protection of similar ecosystems and forest communities. To improve the biodiversity outcomes in protected areas and minimise the need for the creation of additional national parks, there should be a greater level of consistency and coordination in the way that the same ecosystems are managed across the different national parks.

For example, where multiple national parks contain the same types of coastal eucalypt forests, the program of hazard reduction and prescribed burning in one of the national parks should be coordinated with the activities occurring in the other similar national park ecosystems to provide a

mosaic of land treatments at any particular point in time. A biodiversity monitoring program that collected information for each of the ecosystems across multiple national parks would also provide a better indication of how the species are being managed, if the full range of biodiversity is being maintained and how the future management plans should be altered and improved across time.

Examples of the limitations on resourcing and funding are provided later in this submission. However, the primary concern from an industry perspective is that without sufficient funds to control fuel loads in forests, to maintain the network of roads, or to sustain the forests at many different stages in their development, the fuel loads build up, the biodiversity range becomes limited and the 'protected' areas are subjected to high intensity fires. As a result, the main values to be protected when the national parks were created, are often lost and in a number of cases, there can be an accelerated change in the nature of the ecosystems.

Kosciusko National Park is just one example of what happens when a national park is not adequately managed to preserve many of the things it was actually created to protect. In the mid-1980s, a major wildfire affected much of the alpine ash forests (and other forest ecosystems) in the park. Fortunately, after that fire, the burnt trees released their seeds and an even-aged alpine ash regrowth forest developed in its place, producing large tracts of forest of a single age, which would have only represented part of the biodiversity found in alpine ash forests.

In January 2003, the next major bushfire killed most of that regrowth forest. There was no new seed dropped from the trees and large tracts of the forest are now dead, leaving quite substantial volumes of fuel standing and waiting for the next wildfire. More importantly, the impacts of these fires when combined with the current management plan, will most likely accelerate the succession of the alpine ash forests into grasslands or other forest communities and ecosystems. The following picture shows the old standing trees that were burnt in the first fire and the dead, even-aged regrowth forest affected by the 2003 bushfire.



Will these forests ever grow back? It is highly unlikely, as the same wildfires burnt the vegetation in the moist gullies (a source of seed for repopulating forest communities) and affected the very northern extent of the alpine ash forests in Namadgi National Park. There is almost no capacity to regenerate this ecosystem and it is more than likely that the overall program of fuel load management in Kosciusko National Park would not be designed with the intention of recreating the alpine ash ecosystem. As a result, one of the major ecosystems for the national park will be permanently reduced in size. Similarly, there will be no accounting for the loss of water as other forest types in the national park regenerate (such as the snow gums and brown barrel, or *E.fastigata*) although the community might reasonably expect that the national park management plan would also have the maintenance of water quality and water quantity as key objectives.

The creation of new national parks is of interest to many of the State Premiers. Each in turn has proclaimed the creation of multiple new national parks. But never do they provide an indication of the additional species that will be protected by the new parks or how they will demonstrate to the community that a long-term program will be implemented to protect those areas. There are also general statements of job creation, new employment opportunities and eco-tourism. Has there ever been any real assessment of these outcomes to determine if the objectives for creating new national parks have ever been achieved? And if so, how many national parks have actually met all of the objectives that they were created to deliver?

It is quite disturbing that without suitable objectives, with very limited funding and resources, and a lack of coordinated management across similar forest ecosystems in different or even adjacent national parks, that the only option left for greater protection of biodiversity and landscapes is the creation of more and more national parks. Without a clear statement of objectives for national park managers there is likely to be some difficulty identifying the most appropriate management options. Where fuel load control by hazard reduction activities might be a primary management approach, it may be most appropriate to use low intensity fires and then monitor outcomes in the national parks, as the basis for protecting human and environmental values.

With a long list of environmental and landscape values to protect, national park managers need clearer directions on the objectives to be pursued. If those objectives are identified, then as with production forests, national park managers should be required to implement management plans that can be audited and certified as having been completed in accordance with the those management objectives. The Australian Forest Standard provides one mechanism for third-party, independent auditing of compliance with the management plan and management objectives. This process of auditing can be supported by a monitoring program that covers biodiversity, landscape and social outcomes, and which can be used as the basis for modifying or continuously improving the management plans.

However, there is limited value from having either management plans, greater coordination of activities and ecosystem protection between national parks, or introducing a system to certify that the practices employed are sustainable, without the management objectives being clearly defined. In association with having all these processes in place, governments must commit sufficient funds and resources to ensure that they are effectively managed.

**b. whether governments are providing sufficient resources to meet those objectives and their management requirements**

One of the key questions that needs to be addressed through this inquiry goes beyond whether or not there is sufficient funding to adequately manage national parks and other reserved areas. Other evidence will be provided that the amount of funding provided for the sustainable management of national parks and reserves is inadequate and has been so for a long time. More importantly, where funding is available to national park managers, is that money spent on the most effective means for protecting the reserved areas?

As indicated in the report *A Nation Charred: Inquiry into the recent Australian bushfires* (Parliament of the Commonwealth of Australia, October 2003) it seems that of the money that is available for ecosystem protection and management, too much of that funding ends up in fire suppression activities instead of being used for effective land management. Foresters with considerable experience in active forest management believe that the best outcomes for biodiversity are derived through active and effective land management in order to prevent large fires, as opposed to spending considerable sums of money to suppress fires after they have started.

The change in management approaches for protected areas can be best be described as there being an organisational shift from land management agencies to them becoming emergency response agencies. Instead of actively managing the protected areas over time to control fuel loads and protect biodiversity, there is now a growing need to deliver coordinated emergency services operations when they are needed. In this report, it is stated that in Tasmania for example, the level of fuel load production across the whole forest estate is approximately half of what it was a decade ago.

Bushfire inquiries continually point to the difficulties for land managers, with insufficient funds to meet the land management objectives and to carry out the management plans for the protected areas. It seems that only when there are devastating events affecting large areas of reserves and national parks, such as the catastrophic wildfires of 2003, that these matters are given due consideration.

For example, the Victorian Auditor General's report into the 2003 bushfires assessed the level of fire hazard management in Victoria's national parks and reserves. In Chapter 4 of the report, evidence is provided to show that the area of hazard reduction or prescribed burning in the eight years prior to 2003, was less than 40% of the optimal prescribed burning targets which had been set out in the Fire Protection Plans. It is this sort of shortfall in activity that must be addressed as well as providing sufficient funding to manage the large areas of reserves and national parks on a sustainable basis.

For example, it was found that the competition for physical resources meant that regional land managers might not be able to implement planned fuel reduction activities when the weather conditions were most suitable, because those people would not be released by the other service areas controlled by the Department of Sustainability and Environment (DSE). As a result, there was continually a failure to capitalise on the opportunities for reducing the hazards in low-risk fire years. It is therefore not surprising that the Auditor General's report made the following recommendations, to be addressed by DSE:

- The area targets for fuel reduction burning should be supplemented with measures that accurately reflected the level of risk reduction being sought. The level of risk reduction being sought and what is achieved should be reported.
- The agency fully accounts for the costs of fuel reduction activities within its budget, with both appropriate funding and personnel allocated to these activities.
- That there be a revised and more flexible funding approach employed, so that asset protection activities could be carried out in low fire risk years.
- More accredited field supervisors and staff should be employed to ensure that the asset protection targets are met.

The forest industries would agree that these measures are all necessary to ensure that the national parks and other protected areas are adequately resourced, actively managed and protected.

To determine, in any detail, whether governments are providing sufficient resources or funds to meet the management requirements for national parks, a benchmarking approach could be employed. However, it is quite difficult to obtain the information required to undertake such an

analysis. In 1999, the World Conservation Union (through their publication Parks Volume 2 – June, all in \$US) provided a summary of protected areas, budgets for managing protected areas and staffing levels. At that time, the average budget for managing protected areas was \$1.57 per hectare in developing countries and \$20.58 per hectare in developed countries. It was determined that the budgeted amount for the protection of national parks and reserves in developing countries was less than one third of the amount required to adequately meet their stated conservation objectives.

When comparing Australia to Canada and the United States, the budgeted amounts were \$3.59, \$10.17 and \$23.58 per hectare, respectively. Australia was providing just over double the average funding for developing countries to manage the protected areas. Although the level of funding in Australia may have increased since this report was released (and it is reasonable to expect that the funding in the other two countries would have also risen), it would be difficult to imagine that Australia's funding for protected areas had increased by between 3 and 6-fold in real terms to be between the funding level of these other two countries.

As would be noted in the submission from the World Commission on Protected Areas for this inquiry, it was stated that at that time 'funding for protected area management is currently half of what is required to achieve effective management of these areas.' Interestingly, this view would have been reached prior to a number of incremental increases in the protected areas managed by each of the States.

Similarly, the staffing numbers for protected area management in Australia are much lower than in other countries. The global mean staffing levels for protected areas is 27 people per 100,000 hectares, with an average of 26.9 people per 100,000 hectares in developed countries. At the time the IUCN report was released, only 6 people per 100,000 hectares were employed to manage the protected areas in Australia.

It is essential that when forests are converted to national park or some other reserve tenure, that sufficient human resources are available for managing those areas. There are many similar functions in both national parks and production forestry areas, especially given the large areas of production forests that are maintained as either formal or informal reserves. The similar jobs include road construction and maintenance, pruning, planting, fire protection, biodiversity monitoring, tree planting, and general conservation activities.

However, using New South Wales as an example, there are far too few field staff to undertake all of the operational activities required to effectively manage the forests classified as national parks, reserves or other conservation areas. From the 2004-05 annual reports, only 20% of the Department of Environment and Conservation staff are employed as field officers. This is in stark contrast to the Forests NSW staffing priorities, where 46% of employees are field officers. These figures demonstrate the relatively small proportion of human resources that are available for carrying out the activities associated with sustainable ecosystem management and protection in the national parks and protected areas reserve system.

While there are some different functions associated with production forests and national parks or reserves, the common requirement for both tenures is the sustainable management of the forest resources. Protection of ecosystems against wildfires and the proper planning of all operations are the priority activities for the respective land managers.

In New South Wales, the park rangers are required to look after almost twice the area that is managed by each of the production forest managers, with around one seventh of the financial resources to undertake the fire protection activities (table 1). It should therefore be of no surprise that, on a proportional basis, the national park managers have been able to treat less than 1% of the national park area within any one year (four times that area is protected by prescribed fires in

the production forest estate) and that a much larger proportion of the national park estate is affected by wildfires when they arise (table 1).

**Table 1. Comparison of total staff, total resources and fire protection on State forest and National Park land tenure in New South Wales**

	<b>Forests NSW</b>	<b>National Parks</b>
Area managed	2.8m ha	6.1m ha
Total field workers	481	563
Hectares per field worker	5,800 ha	10,800 ha
Total fire protection	\$8.2m	\$2.6m
Average fire protection	\$2.93/ha	\$0.43
Area prescribed burning	2.4%	0.6%
Area wildfire	2.0%	4.6%

Note: information in this table was obtained from Forests NSW Annual Report 2004-05, NSW Department of Environment and Conservation Report 2004-05, NSW Forests Seeing Report 2004-05, reported areas of hazard reduction and wildfire areas for 1992 to 2004.

A further demonstration of why additional funding is required to deliver the sustainable management of national parks and reserves, is based on an assessment of the areas that need further or improved management. In the New South Wales' *State of the Parks Report* for 2003, a number of important indicators were assessed to determine whether the current management approaches are effective. Some 72% of the national parks (or 59% of the area classified as national parks) were identified as having inappropriate fire regimes, which produce a significant threat to the natural and cultural heritage of the protected areas.

While the inappropriate fire regimes could mean that some areas are burnt too often while in others the fuel loads are too great and may lead to intensive wildfires in the future, part of the problem is the limited area of hazard reduction that has occurred over a fairly long period of time. In 2003-04, the fuel loads were reduced across almost 60,000 hectares of National Parks were by prescribed burning. However, in the previous ten years, the average area treated with prescribed burning to reduce the fuel loads was 25,300 hectares per annum.

Other indicators demonstrate that the national park ecosystems are under threat. 83% of the National Parks in New South Wales have a significant weed issue and in 45% of the national parks, the feral animal controls have no benefits or a negative impact. On the question of whether more resources should be dedicated to national park and protected area management, the evidence supports an equivocal response of 'yes'. However, any increase in funding will have to also support a catch-up in the long-term under-funding and poor resourcing of the National Parks system.

Beyond the increase in funding just to deliver adequate management of the protected areas, Governments must invest in a significant biodiversity monitoring program. If Australia is to protect its natural resources, biodiversity and forest ecosystems within the reserves system, there must be monitoring information collected so that it is possible to track the change in species and to develop new management approaches that can accommodate the impacts of climate change.

**c. any threats to the objectives and management of our national parks, other conservation reserves and marine protected areas**

If the main objective of creating national parks and other forms of reserves is the protection of ecosystems and biodiversity, the current approach of simply placing boundaries around large areas and withdrawing most forms of active management are unlikely to deliver the desired



outcomes. A considerable body of evidence indicates that the full range of biodiversity can only be obtained in forest ecosystems where there are representative areas covering the different stages of ecosystem development.

In the absence of differing forms of active management, especially those disturbances that encourage the regeneration of ecosystems, the health of the forests may decline and demonstrate symptoms of dieback or they may change to more fire-dependent species. The resulting long-term impacts may then include successional changes in the vegetative communities and in the animal or invertebrate species that depend upon them. Examples of these succession changes may include tall forests turning into short forests, woodlands, scrub or grasslands. In the near future, any decline in forest health, communities and ecosystems may be exacerbated by the impacts of climate change.

With so many variables affecting the functioning of ecosystems, and national park managers not having sufficient funds to actively manage and protect those areas, it is of concern to the forest and timber industry that Governments believe the only way to protect the forests is to lock them up in reserves. To overcome both of these problems, consideration should be given to the possibilities of using forest harvesting together with prescribed burning or hazard reduction burning as complementary active management tools, especially in those forests where natural disturbances (bushfires) are important forces for governing their long-term development.

For *Eucalyptus regnans* (mountain ash) and *Eucalyptus marginata* (jarrah) forests, as examples, there is ample evidence to indicate that these forest ecosystems could be best protected by using a combination of passive reserve management, hazard reduction burning and timber harvesting. In regnans forests, there has been no demonstration of a loss of biodiversity associated with the cycles of timber harvesting and forest regeneration (Peter Attiwill (1994) Ecological disturbance and the conservative management of eucalypt forests in Australia; Forest Ecology and Management Vol.63: pp.301-346). To truly protect the forest biodiversity, the forests should be managed as a mosaic of timber production and reserved areas that contain the full representation of the different stages of ecosystem development.

By encouraging disturbances, the ecological evidence supports the proposition that there will be a higher level of biodiversity attained. Such an approach would support the aim of having the greatest level of biodiversity across the whole of the forests, national parks or reserves. Unfortunately, this debate has been misled by the notions that forestry reduces the biodiversity within individual coupes when those areas are harvested and that protecting forest areas as old-growth forests is the only way to conserve biodiversity. However, neither notion is correct and the community should be more concerned with how the reserves as a whole can be managed to sustain the full range of ecological diversity.

The declining health of the dominant components within undisturbed forests suggest that a number of natural processes have been disrupted by the exclusion of fire. This like of fire or other forms of disturbance is a reflection of the more passive approach that is taken to the management of national parks and other reserved areas.

In some cases, the limited use of hazard reduction burning can be attributed to State Government policies and regulations, as well as a lack of funding. In New South Wales for example, regulations exclude low intensity burning from wilderness areas, old-growth forests, rare ecosystems, habitats of rare plants or animals, and drainage lines.

There is no requirement to assess the impacts of not using fire as a management tool in national parks and reserves. When combined with the complex set of regulations, planning and approvals that must be completed to permit hazard reduction burning in the other areas of the national parks,

it is quite obvious that the regulatory environment applying to the management of protected areas is favouring passive management.

The consequence of restricting the level of active management is the decline in ecosystem health. For forests, the declining health is manifesting itself in the form of dieback. The loss of the fire regimes that impacted on forests prior to white settlement in Australia has meant that eucalypts are declining while many of their competitors are proliferating (Vic Jurskis (2005) Decline of eucalypt forests as a consequence of unnatural fire regimes; Australian Forestry, Vol 68(4): pp.257-262). Shrubs are replacing trees and the declining health of the forests is a reflection of the growing outbreaks of insect pest predation and diseases.

In the absence of low-intensity fires, the forest ecosystems of Australia's national parks and reserves are suffering and changing. In the coastal forests of New South Wales, it is estimated that several million hectares may already be suffering the impacts of moderate health decline (Vic Jurskis (2004) Forest health decline in coastal New South Wales. Proceedings Forest Management Workshop, Canberra, 23-25 March). These changes also make the forests more susceptible to wildfires, where intensive fires can have a significant impact on the forest ecosystems that grow back after such major disturbances.

Prescribed burning should remain an important management tool for managers of forests in protected areas. It will not stop forest fires when they do arise. However, its major benefit is that it reduces the intensity of wildfires and can make their suppression much safer and more efficient.

A major difficulty that needs to be overcome is that individual national parks are managed according to separate management plans, where there is a wide array of approaches adopted, even for the same forest ecosystem when it is contained in adjacent reserves. As a result, there is a lack of consistency in the way that protected forests are managed, which may lead to further decline with an increasing number of management options attempted, albeit in the absence of any really clear data from monitoring activities, making it difficult to determine if the management objectives are being achieved.

The impacts of climate change are quite uncertain and could have fairly dramatic impacts on Australia's forest ecosystems. Changes in the patterns of rainfall, temperature and frosts could lead to new competitive forces between the various plant and animal species. For the eucalypt species, it has been predicted that with eucalypts, over 50% of the species have ranges where the mean annual temperature varies by less than 3°C and 23% grow in areas where the mean annual rainfall varies by less than 20% (Hughes, Cawsey and Westoby (1996) Climatic range sizes of eucalyptus species in relation to future climate change; Global Ecology and Biogeography Letters, Vol. 5: pp.23-29). Therefore, if the predictions of climate change are correct, it is possible that there will be significant future changes to the mix of species found in Australia's eucalypt forests.

However, the changes within the ecosystems could develop slowly as the species respond to the variations in climate. It is therefore essential that an effective biodiversity monitoring program is implemented in Australia. Biodiversity monitoring should occur across the national parks, other reserves, production forests and private land tenures, to ensure that any patterns of change can be linked to the varying forms of land management in those areas. Through these means, it should be possible to detect changes in the ecosystems, particularly in the reserved areas, and to potentially design changes to the management approaches as a means of conserving biodiversity.

In Australia's State of the Forests Report (2003) it was noted that 'no State or Territory has the capacity to monitor the health and vitality of forest ecosystems on a State-wide scale and suitable indicators are still being developed for future reporting.' It is therefore essential that funding is provided to adequately monitor biodiversity in the reserved areas, as the basis for identifying

long-term trends of changes in species and the relative size of the populations. Without that information, it will not be possible to determine if the ecosystems are being managed in a manner that conserves and protects biodiversity.

**d. the responsibilities of governments with regard to the creation and management of national parks, other conservation reserves and marine protected areas, with particular reference to long-term plans**

There are several responsibilities that Governments should address prior to the creation of new national parks. At the present time, none of these matters are given any transparent consideration:

1. An environmental impact statement should be prepared describing the additional benefits that will be created by the newly reserved areas and the specific outcomes that will be delivered from placing those areas into national parks or reserves. This information will determine the management objectives for the newly protected areas.
2. Before creating new national parks or reserves, Governments should determine whether the same ecosystems are being sustainably managed on other land tenures. In some cases, the adequate protection of ecosystems in existing informal reserves, in production forests or on private land, may mean that there are no other environmental benefits to be derived from simply creating additional reserves.
3. Where new national parks and reserves are created, Governments should require the managers of those areas to develop management plans for the newly protected areas that complement the management approaches applying to the same ecosystems where they are found on other land tenures.
4. Governments must provide sufficient funding for land managers to meet the objectives that underpin the creation of newly protected areas.
5. When creating new national parks and reserves, Governments should outline any additional management objectives that may need to be considered, such as the introduction of monitoring programs to identify any impacts of climate change, which could feed into improvements or alterations to the management plans for these areas.

To meet these requirements, Government should have to demonstrate that there are clear reasons for creating additional protected areas and that they are committed to the sustainable management of those areas through the provision of sufficient funding. Protected area managers and the community would then understand the objectives to be delivered through the creation of new reserves and appropriate management plans could subsequently be developed for those areas. How then would the managers of the reserved areas demonstrate that they are being managed on a sustainable basis?

In its recent submission on the effectiveness of the National Reserve System, the National Association of Forest Industries highlighted the importance of introducing a system for auditing and reviewing the management approaches applied to national parks and reserves (Attachment A). At the present time, Australian native forest and plantation managers use environmental management systems (eg. ISO14000 series) or independent auditing against certification standards to demonstrate that the forests are managed according to the principles of ecologically sustainable forest management.

A set of international criteria and indicators were developed during the 1990s and these are used as the basis for forest certification standards. In Australia, the management of over 5 million hectares of natural forests and plantations are independently audited and certified against these certification standards. One important advantage of the forest certification and monitoring system is that it provides advice to the forest managers on whether there have been any changes in the forest characteristics over time, and where and how their forest management practices can be improved.

It should be an absolute requirement that the managers of protected areas should have their management approaches and practices audited against such standards. At Appendix 1 to this submission, an outline is provided of the criteria and indicators that could be adopted from the Australian Forestry Standard and used for assessing whether national parks and reserves are managed on a sustainable basis. In the absence of this information, it is impossible for the managers of protected areas to determine if the national parks and reserves are being managed on a sustainable basis.

If protected area managers are provided with clear management objectives and they are required to have their management practices certified, this will lead to the introduction of appropriate and effective monitoring programs for their respective ecosystems. This information can then be used to guide the managers on how their management practices can be changed, taking into account any external factors that are impacting on the protected areas.

**e. the record of governments with regard to the creation and management of national parks, other conservation reserves and marine protected areas**

The record of governments with regards to the creation, funding and management of national parks, has been quite poor and is being delivered through a very narrow focus. As identified in responses to the other terms of reference for this inquiry, the debate over native forest management in Australia is driven by the notions that forest harvesting leads to a loss of biodiversity. Governments have responded by creating new national parks and reserves with quite significant restrictions on the way that those areas are managed. Part of the constraints on active management for the protected areas is due to the budgetary limitations that placed on national park managers. However, when viewed from the perspective of a whole forest estate, the ecosystem protection and biodiversity outcomes could be improved if a mixture of management options are applied to Australia's reserve system.

As has occurred in the United States under the Healthy Forests Initiative, managing forests as landscapes can improve the level of biodiversity. There should be old-growth forests, middle-aged forests and young forests. Prescribed burning should be applied to parts of the ecosystems and in some areas, logging in the form of clearfelling or thinning should be permitted to retain small patches of active growth intertwined with the older areas of forest.

The Healthy Forests Initiative was designed to prevent wildfires as there is a strong belief that in the absence of active forest and rangeland management, damaging wildfires occur more frequently, causing a greater amount of damage to communities, property and the ecosystems, themselves. Their aim is to implement a more active land management framework that minimises the risk of severe wildfires. It is noted that this is more expensive than the passive management approach generally adopted in Australia.

Any new forest management options applied in Australia would depend on the types of forests involved and how they respond to disturbances. In this way, the forests will be treated as a mosaic and should have the capacity to respond more effectively to potential threats, such as wildfires or climate change, in the future.

An additional benefit of taking a more active approach to managing the reserves of forests as landscapes is that by employing forestry, national park managers could address the problem of persistent under funding and limited resourcing. For example, if forestry were permitted in limited areas of the reserve system, the proceeds of the timber harvesting could help pay for management activities within other parts of the reserves, to maintain roads and to provide some forms of fire protection to the unlogged areas.

**National Reserve System Programme Evaluation 2006 - Submission from the National Association of Forest Industries**

**Introduction**

The principle objective of the National Reserve System (NRS), as stated in the *Directions Statement*, is to achieve an Australian system of terrestrial protected areas as a major contribution to the conservation of our native biodiversity. While it is important to protect ecosystems and biodiversity through the creation of the reserve system across the varying land tenures, that protection can only be conferred on the reserves through the implementation of appropriate and effective management regimes.

The management regimes should be accompanied by an ecosystem-dependent monitoring and reporting framework. This will allow the program of management activities to be reviewed and altered, if necessary, to deliver the outcomes sought when each reserve was created and added to the NRS.

The National Association of Forest Industries (NAFI) has some serious concerns that the NRS Programme has failed to deliver on its principle objective as the focus of the programme continues to be almost solely on increasing the size of the NRS. Adequate consideration must be given to the consequences of conserving biodiversity that has arisen from this 'reserve-only' approach.

Without being able to identify the individual areas, particularly the areas of public land that have been added to the NRS, it is difficult to determine whether the NRS programme is meeting its objectives. NAFI is interested in finding out if the newly protected areas have been added to the CAR reserve systems that were created during the RFA process and if so, then the reasons why those additional reserves have been created. However, this information on the individual areas added to the NRS is not readily available. It is therefore almost impossible to comment on or evaluate the success of the NRS programme.

The fundamental measure of a Comprehensive, Adequate and Representative (CAR) NRS should not be a simple statistic such as the area of ecosystems or forest types held in reserve. Rather, it should be the real capacity for the NRS to deliver the long-term conservation of biodiversity against a range of threatening processes. There is increasing concern that this is often not the case (Dudley *et al.* 1999).

The following submission outlines NAFI's concerns over the NRS Programme's likely failure to achieve its objectives. This follows on from a previous submission made by NAFI in April 2004 to the NRS Taskforce on the development of *Directions for the NRS – A Partnership Approach*.

**Forests in the NRS**

There are currently over 21 million hectares of forests in the NRS and the development of the CAR reserve system is a major component of Australia's approach to ecologically sustainable forest management. While the Regional Forest Agreements provide an important basis from which to consider the further expansion of the NRS, it is essential to recognise that a major effort in terms of resources and funding is still required to deliver the sustainable management of the current forest estate within the NRS.

Interestingly, there is a growing body of scientific evidence and other information indicating that the reserve-only approach to biodiversity conservation has led to a decline in the health of many

forest reserves over the past decade. Jurskis (2005) states ‘passive management of nature reserves in Australia has failed to maintain healthy ecosystems.’ In NSW alone, it is estimated that between 20 and 30% of the coastal forests are already suffering from a moderate decline in forest health due possibly to the lack of active management regimes for those “protected” areas (Jurskis, 2004).

### **Conservation achievements outside the NRS**

It is acknowledged in Section 1.4 of the *Directions Statement* that ‘conservation management may be undertaken in areas managed primarily for other purposes, such as forestry’ and these areas ‘play a substantial contribution to the collective conservation effort.’ It is unfortunate that the conservation achievements of areas outside the NRS, such as multiple-use forests incorporating timber production, are considered separately to the conservation achievements contained within the NRS.

Conservation objectives can be achieved in the forests used for timber production by establishing formal and informal reserves and through the appropriate regulation and monitoring of forest management activities. Therefore, the contribution that the production forests can make to conservation objectives of the NRS should be recognised in areas outside this system as a means of assessing whether the NRS program is achieving targeted biodiversity outcomes.

Section 3.1 of the *Directions Statement* states that multiple-use forests cannot be classified as a category IV protected area in the NRS ‘where the purpose for management is generally for harvesting of forest products, and not primarily for protection of biodiversity as required for a protected area.’ It should be noted that the protection of biodiversity is an important objective of multiple-use forest management. While this protection of biodiversity is stated as the primary objective of areas in the NRS, the current area-based approach does not in any way guarantee that it will be achieved.

### **Objectives of the NRS Programme**

Section 1.7 of the *Directions Statement* states that the key areas of concern associated with the development of the NRS include:

- ‘the lack of clear, agreed and measurable national targets for the NRS’
- ‘the lack of clear and agreed national guidelines as to what types of protected areas comprise the NRS’
- ‘the lack of an agreed national plan of action for the NRS’

For the forest industries, it is concerning that despite acknowledgement of the NRS Programme’s failure to identify agreed national guidelines for increasing the system of protected areas, the *Directions Statement* for the NRS clearly specifies ‘the highest priority needs to given to progressing reserve system comprehensiveness.’

The current primary focus of the NRS Programme is to ‘progress comprehensiveness’ by continually increasing the size of the NRS without giving due consideration to the implications this may have on ‘the conservation of biodiversity.’ For instance, under the directions to ‘progress comprehensiveness’ it is stated that there is a need for ‘examples of at least 80% of the number of extant regional ecosystems in each IBRA (Interim Biogeographic Regionalisation for Australia) region to be represented in the NRS.’

NAFI agrees with the statement made in Section 3.0 of the *Directions Statement* that ‘if lands included in the NRS are not sufficiently secured with respect to purpose and management standard, their values are at risk of being lost or degraded, and reserve system planners may well

have foregone opportunities to conserve the relevant ecosystems. For this reason a **precautionary approach** needs to be taken in deciding what is included in the NRS.'

However, this contradicts the *Directions Statement* definition of the '**Precautionary Principle**' as being a key principle in reserve system planning and design. It states 'the absence of scientific certainty is not a reason to postpone measures to establish protected areas that contribute to a comprehensive, adequate and representative national reserve system.'

Within this precautionary approach to reserve creation, some consideration should be given as to whether the addition of new areas of those ecosystems that are already protected in the NRS, and the management regimes applied to those ecosystems, will provide any additional environmental benefits beyond simply meeting a targeted area of reserve creation.

There is a current lack of 'scientific certainty' surrounding the contribution of the NRS to national biodiversity objectives. Without an appropriate monitoring and reporting system in place for reserve managers, it is impossible to measure the outcomes in terms of biodiversity and ecosystem protection. Therefore, the costs and benefits of allocating more areas to reserves are unknown, meaning there may not be any justification for including additional areas of certain ecosystems in the NRS.

### **The need to monitor the effectiveness of the NRS**

It is not possible or appropriate to evaluate the comprehensiveness of the reserved areas by simply calculating the area of each ecosystem held in reserve. Nor is it acceptable to rely solely on the development and application of plans of management if the actual management outcomes are not being fully evaluated. Rather, a system needs to be put into place to monitor the actual biodiversity outcomes, whether positive or negative, of these reserved areas. It is an inappropriate assumption that the comprehensiveness, adequacy and representativeness of reserves is enhanced by increasing the area of the NRS if there is no measure of the biodiversity outcomes under a particular management framework and regime. Any such regime should also have the capacity to be changed across time if the biodiversity targets are not being achieved.

It is noted that Direction 12 in the *Directions Statement* stipulates that for States and Territories to monitor the progress of NRS development 'biennial reports are to be prepared on the comprehensiveness, adequacy and representativeness of ecosystems in the NRS as per the NRS Scientific Guidelines.' While the merit of this direction is acknowledged, the level of current monitoring of the reserved areas comprising the NRS is highly questionable.

At present, no State or Territory has the capacity to effectively evaluate the health and vitality of its forest ecosystems (National Forest Inventory, 2003). Also, there is no generally accepted methodology that can be applied and there is no organisation with either the direct responsibility or the resources to collate any such information (Hockings and Phillips, 1999). Therefore, if this direction is to be effective, the implications for biodiversity from reserving areas under the NRS must be adequately monitored and reported in these biennial reports.

Section 3.4 in the *Directions Statement* highlights the need for there to be 'regular reporting on a set of basis attributes of the system (NRS).' These attributes are limited to 'area, location details, ecological communities represented, comprehensiveness, adequacy and representativeness and IUCN category' but fail to include the most important reasons for creating the additional reserves and the monitoring of any changes in biodiversity.

## **Certification and monitoring of forest management within the NRS**

In addressing the problems of inadequate management approaches and monitoring of the biodiversity outcomes within reserves, it is important to look outside the NRS and note the directions in place for certifying management practices within Australia's multiple-use forests. An appropriate monitoring and reporting framework would also indicate whether additional funds and resources are required to truly 'protect' the existing and any new, additional reserves.

Independent certification of Australia's forests managed for multiple-uses, including timber production, has become increasingly important in recent years as consumers of timber products seek reassurance that the forests supplying these products are sustainably managed.

An example of such certification in Australia's timber producing forests is the recent development and implementation of the Australian Forestry Standard (AFS). Currently, over 5 million hectares of forest on both private and public land throughout Australia are certified under the AFS.

The AFS is a nationally endorsed Australian Standard developed within the recognised international framework of the Montreal Process Criteria and Indicators (1995) and the ISO 14000 series of voluntary international environmental management standards. Importantly, the AFS also takes account of local operating conditions by recognising the unique character of Australia's forest ecosystems and the particular requirements for sustainable forest management.

The criteria stipulated under the AFS are used as the primary tests for forest managers to demonstrate that they are applying the principles of ecologically sustainable development to their management practices in both planted and native forests. By monitoring the outcomes of their current forest management practices and gaining recognition for their efforts, by certification against the standard, forest managers can gain some independent assessment of environmental performance and some direction on where they can improve their forest management practices.

As occurs within Australia's production forests, the management of conservation forests within the NRS, should incorporate a monitoring program to determine the effectiveness and sustainability of forest management approaches, based around the Montreal Process Criteria and Indicators.

The AFS defines sustainable forest management according to a set of nine criteria. These criteria address the management system itself, effective and cooperative public participation and governance to support the development and implementation of the standard, and management performance to maintain the various environmental, social and economic values of the forest. For each criterion, the AFS imposes a number of requirements that must be met in order to achieve and retain certification.

Although the AFS was developed as a standard for timber producing forests, it contains suitable criteria and indicators for assessing biodiversity protection, reserve creation and ecosystem management, that could be adopted for forest management in Australia's NRS. The criteria specified in the AFS, as shown in Appendix 1, would be relevant for the certification of management practices applied to forests within the NRS.

The utilisation of a suitable criteria and indicators framework would assist in monitoring the effectiveness of forest management in Australia's NRS. Currently, without a system for monitoring and assessing the outcomes of current management practices, it is difficult for reserve managers to explore and adopt alternative approaches that might help to achieve the desired management outcomes from the NRS.



It is important to note that whether forests are managed for timber production or conservation, the principles of ecological, social and economic sustainability must be applied, as all forests, whether managed actively or passively, are dynamic ecosystems. These principles will most likely be compromised, irrespective of management regime adopted, if there is not a clear set of management objectives and if there is inadequate monitoring of the outcomes of the management strategies that are applied.

As stated by Hockings and Phillips (1999), ‘many protected area managers are not able to systematically review the results of their efforts. In the absence of such reviews, however, money and other resources can be wasted on programmes that do not achieve their objectives. Protected area managers must expect to come under ever greater pressure to introduce systems of monitoring and evaluation.’

### **Recommendations**

NAFI proposes that the following recommendations be considered in the evaluation of the NRS Programme, given that there is a critical need to improve the way that the existing NRS is being managed and monitored.

1. Instead of relying on simple area targets for the NRS, the NRS Programme should require that any future investment in biodiversity conservation and ecosystem protection be supported through an adaptive and flexible approach to reserve management.
2. An effective and nationally consistent monitoring program should be established to assess the on-going health and vitality of ecosystems in the NRS.
3. No future expansion of the NRS should occur unless the areas added to, and those already contained within, the NRS are required to meet the standards of forest management set out in an independently-audited certification standard, such as the AFS or an equivalent standard.
4. A report should be produced on the actual outcomes, including biodiversity conservation achievements, which have been and are being delivered by the NRS Programme.
5. State, Territory and Federal Governments should recognise the conservation and biodiversity outcomes associated with production forests and the utilisation or conservation of forests on private land as a complement to the environmental outcomes derived from having elements of the same forest types managed in the NRS.

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## Appendix 1

### Certification Framework for Sustainable Forest Management in Reserved Areas

<b>AFS Criteria</b>	<b>Outcomes from each criteria</b>
Forest management shall:	
1) be undertaken in a systematic manner that addresses the range of forest values;	Provide reserve managers with a framework for establishing and achieving forest management objectives and enable ongoing improvements in forest management. <i>E.g: Forest management plans, audits, monitoring records.</i>
2) provide for public participation and foster on-going relationships to be a good neighbour;	Facilitate effective and cooperative participation with stakeholders and neighbours on forest management strategies and decisions. <i>E.g: Record inputs from stakeholders and community including level of support and options to handle disputes and grievances.</i>
3) protect and maintain the biological diversity of forests, including their seral stages, across the regional landscape;	Reserve managers could assess and identify the biological diversity values of forests and evaluate the impacts on these values from various management strategies and disturbance events such as wildfires. <i>E.g: Prepare plans and operational procedures for managing and monitoring biodiversity.</i>
4) maintain the productive capacity of forests;	Delivery of conservation outcomes in production forests to complement the biodiversity and ecosystem protection outcomes in the NRS. This will have implications for the management of forests in the NRS. <i>E.g: Biodiversity assessments of forests with varying productive capacity.</i>
5) maintain forest ecosystem health and vitality;	Assist reserve managers to prepare plans for protecting forest ecosystems against damaging agents such as insects, disease, vertebrate pests and non-endemic species. <i>E.g: Assessments of pest and disease impacts and prioritisation of prevention/control and rehabilitation measures.</i>
6) protect soil and water resources;	Suitable management of forests to protect soil structure and fertility, water quality and water flows. <i>E.g: Use operational plans, codes of practice and records for monitoring soil and water quality.</i>
7) forests' contribution to carbon cycles;	Through good management of the forest ecosystem biomass and carbon pools, reserve managers could maintain the capacity of forests to act as net carbon sinks. <i>E.g: Consideration of greenhouse gas emissions from current planning and management procedures.</i>
8) protect and maintain, for Indigenous and non Indigenous people, their natural, cultural, social, recreational, religious and spiritual heritage values; and	Provide a participatory and consultative approach to support the protection of cultural heritage sites and values. <i>E.g: Record inputs from Indigenous and non-Indigenous groups on forest management options..</i>
9) maintain and enhance long-term social and economic benefits.	Enable reserve managers to meet community needs from forests such as recreation and tourism, employment, income and social well-being, in perpetuity. <i>E.g: Introduce educational programs, recreational plans and environmental and socio-economic reporting.</i>