

Clearing of native vegetation (conversion) for plantation establishment

A draft discussion paper for the Australian Forestry Standard Technical Reference Committee

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1. Preamble

The issue of the clearing of native vegetation for plantation establishment represents a major challenge for the development, implementation, and public acceptance of the Australian Forestry Standard (AFS). There is a major body of public environmental policy available to inform the development of the Standard's provisions on vegetation clearance for plantation establishment. Here we provide a review of policies, legislation and other relevant documentation in an attempt to extract a set of guiding principles to be used as a foundation for developing AFS criteria on the issue of vegetation clearance.

To begin with we present extracts from a range of relevant documents, we then synthesise a set of guiding principles, provide a series of specific recommendations for wording of AFS criteria that reflect the policies and principles as presented. We then present a brief discussion of the implications of the recommended wording of relevant criteria and some recommendations on implementation.

To reflect the national focus of the AFS, we have avoided focussing on State level policy and initiatives in the general review of vegetation clearance policy. However, we touch of some State level initiatives later in the paper when discussing the details of our proposed wording of criteria relating to vegetation clearance for plantation establishment.

2. Public policy relating to vegetation clearance

Major developments in National public policy relating to vegetation clearance took place in Australia in the early 1990's in line with parallel international developments at that time (WCED 1987, UNCED 1992). The National Strategy for Ecologically Sustainable Development was produced in 1992 and provided a clear statement of intent in relation to vegetation clearing: "*To conserve and where appropriate, restore native vegetation to maintain and enhance biodiversity, protect river water quality and conserve soil resources, including on private land managed for agriculture, forestry and urban development*". The National Forest Policy Statement (1992) makes specific reference to vegetation clearance in relation to plantation establishment: "*The Governments agree that it is desirable to maintain and protect the extent and ecological integrity of native forests on public land. Accordingly, the Governments will adopt the policy that further clearing of public native forests for non-forest use or plantation establishment will be avoided or limited, consistent with ecologically sustainable management, to those instances in which regional conservation and catchment management objectives are not compromised*". In the same year the Endangered Species Scientific Sub-committee of the *Endangered Species Conservation Act (1992)* was "*strongly of the view that land clearance has been the most significant threatening process in Australia since European settlement*". Numerous other national level statements and policies (Appendix 1) provide

further recognition of the threats posed by native vegetation clearance to biodiversity and water quality values. At the national level, it is clear that management activities involving native vegetation clearance have been considered far from best practice since the early 1990's.

The National Principles for Plantation Establishment (1995) reflect the broader policy position on native vegetation clearance stating that: "*Native forest should not be cleared for plantation establishment where this would compromise regional conservation and catchment management objectives. In some circumstances it may be appropriate to clear forests **that have been severely degraded by impacts such as disease, weed invasion, wind and fire** so as to enable rehabilitation through replanting.* In recognition of international and domestic concerns about native vegetation clearance, the Forest Stewardship Council (1994, 1996) identified principles and criteria that set the international standard of best-practice with respect to native vegetation clearance for plantation establishment. That standard makes it clear that "*Forest conversion to plantation **shall not occur***", except under some very specific conditions, and that any areas converted from native vegetation to plantation since 1994 would be excluded from certification under their standards.

Public environment policies on vegetation clearance follow a very clear message from the scientific community regarding the biodiversity and ecosystem service impacts of vegetation clearance. Several studies throughout the 1980's and early 1990's identified vegetation clearance as a major cause of concern for threatened species, ecological communities, soil and water values and carbon emissions (e.g., Houghton *et al.* 1987, Recher *et al.* 1990, Catterall *et al.* 1993, Sinclair *et al.* 1993). In 1994, The Ecological Society of Australia unanimously endorsed a clear statement on behalf of its professional membership calling for governments at all levels to "*introduce or tighten controls on vegetation clearance so that the loss of terrestrial biodiversity and land and water degradation are stemmed*" (Possingham *et al.* 1995). The Society subsequently updated this statement in 2005 (<http://www.ecolsoc.org.au/Vegetation.htm>). In some instances, statements by the scientific community (eg Wentworth Group of Concerned Scientists 2003) on vegetation clearance have been directly translated into legislation.

3. Specific initiatives of interest

While clear statements of policy were being made at the national and international level regarding vegetation clearance issues, specific management initiatives were being undertaken at the State level to address the issue. Throughout the late 1980's and 1990's State level regulations were being introduced in an attempt to reverse the trends in vegetation clearance (Glanzign 1995, Productivity Commission 2004). Of particular interest is the recent development of Victoria's "Net Gain Policy" under their Native Vegetation Management Framework (Appendix 2) and the improve or maintain environmental outcomes test of the NSW Native Vegetation Regulation 2005 Environmental Outcomes Assessment Methodology (*Native Vegetation Act 2003*).

Under the Victorian framework, some limited vegetation clearance is allowed subject to the condition that suitable "offsets" are identified and implemented (at the expense of the agent intending to clear vegetation) that ensures a net overall gain in native vegetation extent and condition.

Similar initiatives are developing or are in place in other States, largely under the direction of Commonwealth-State/Territory bilateral NHT partnership agreements. In all examples of this approach, various conditions are applied to the net gain or offsets principle including specific preclusions on clearing rare and threatened vegetation types or vegetation types already cleared beyond accepted regional or catchment targets, though on the whole, the principles of "Net-Gain" type policies are quite simple and general across States. The general principles are encapsulated by the concept of *mitigation* that is central to the NSW vegetation initiative, and has been the subject of a recent discussion paper (Environmental Protection Authority 2006).

4. Guiding principles to inform the development of AFS vegetation clearing criteria:

1. The overarching policy framework for resource use and management in Australia is Ecologically Sustainable Development (ESD: World Commission on Environment and Development 1987, National Strategy on Ecologically Sustainable Development 1992).
2. The cessation or severe restriction of land clearance is public policy at all levels of government, but most importantly for the national focus of the AFS, there is a clear national and international agenda toward the cessation of native vegetation clearing. This is embodied in the National Principles for Plantation Development (1995).
3. The regulation of land clearance within different Australian States and Territories have existed since the early 1980's via dedicated vegetation management and threatened species legislation, planning legislation, forest practices codes, environmental protection policies, or prior to that via land degradation controls implemented by soil conservation services [see Productivity Commission (2004), Plantations for Australia: The 2020 Vision (2004) for further details].
4. Progressive mechanisms for vegetation clearing controls are outcomes focussed and rely upon the application of the 'duty of care' principle increasingly adopted by legislative and policy mechanisms regulating environmental practice (Industry Commission 1998, Bates 2001). The test for compliance with the duty of care should be best practice (Industry Commission 1998 p.8). **Best practice, can be defined in the context of an industry code of practice for vegetation management, such as the AFS, as "enhancing industry practices, rather than simply 'codifying' the status quo"** (ANZECC 1999 p.59). Duty of care would require everyone who influences the management of the risks to the environment to take all 'reasonable and practical' steps to prevent harm to the environment that could have been reasonably foreseen. For examples of codified duty of care statements in State natural resource or environmental regulation see Industry Commission 1998 (p.136). The preferred approach to implementing such a statutory duty of care by the Industry Commission is by using voluntary standards such as codes of practice and environmental management systems.
5. The 'duty of care' principle is introduced via a series of on-site impact mitigation rules designed to manage adverse environmental impacts associated with conversion. One component of the mitigation approach is the use of offsets. Offsets are agreed management actions which ensure that any losses of biodiversity from clearing are exceeded by gains to biodiversity on other sites. Offsets are based on the principle of like-for-like to ensure that any gain is comparable with any loss. The test for designing offsets is ensuring the management actions improve or maintain environmental outcomes.

5. Guiding principles to inform the development of AFS mitigation criteria

Mitigation in an environmental context, refers to a sequence of considerations designed to help manage adverse environmental impacts, which includes (in order of preference):

1. Avoidance – avoiding the adverse environmental impact all together;
2. Minimisation – limiting the degree or magnitude of the adverse impact;
3. Rectification – repairing, rehabilitating or restoring the impacted site as soon as possible;
4. Reduction – gradually eliminating the adverse impact over time by preservation and maintenance operations during the life of the action; and,
5. Offsets – undertaking such activities that counterbalance an adverse, residual environmental impact.

An offset mechanism is only required where steps 1- 4 above cannot be applied. An offset means any natural resource management action or work required by a forest manager for the purpose of ensuring that conversion improves environmental outcomes, resulting in a 'net environmental benefit' and counterbalances any adverse environmental impact or harm resulting from the conversion. Examples may include ameliorative actions such as ecosystem restoration, rehabilitation.

Offsets have environmental benefits and are implemented via a legally binding form of property vegetation plan or management agreement. They are designed to improve environmental outcomes of any previous conversion. The benefits of the offset must persist for at least the duration of the negative impact of the proposed conversion.

Some general principles of offsets have been identified under various state vegetation management frameworks (Environmental Protection Authority 2006, Native Vegetation Regulation 2005; Environmental Outcomes Assessment Methodology, Gibbons *et al.* 2005):

1. Environmental offsets should only be considered after all other reasonable attempts to mitigate adverse impacts have been exhausted (guiding principles 5).
2. An environmental offset package should address both direct offsets and contributing offsets.
3. Environmental offsets should ideally be 'like for like or better'.
4. Positive environmental offset ratios should apply where risk of failure is apparent.
5. Environmental offsets must entail a robust and consistent assessment process.
6. Environmental offsets must meet all statutory requirements and be additional to actions or works carried out using public funds or to fulfill regulatory obligations.
7. Environmental offsets must be clearly defined, transparent and enforceable.
8. Environmental offset must ensure a long lasting benefit. The benefits of the offset must persist for at least the duration of the negative impact of the clearing

The concepts of mitigation are at the forefront of current public policy on vegetation clearance. Therefore, they represent a sound basis for the development of criteria relating to vegetation clearance under the AFS.

6. Conclusions and recommendations

Our review of public environmental policy pertaining to vegetation clearance leads us to some clear conclusions:

1. According to national and state policies, no further clearing of native vegetation is permitted in vegetation types or landscapes that are already cleared beyond accepted regional or catchment targets or are listed as rare or threatened at the national or state level, or are otherwise considered of conservation significance.
2. Vegetation clearing has been considered a major threat to biodiversity and other environmental values since the early 1990's (Possingham *et al.* 1995). Consequently, clearing is considered highly undesirable under current national and state policies and has been so since the early 1990's.
3. Clearing of native forest for the establishment of plantation has been considered below best practice 1990's (National Forest Policy 1992; National Plantation Principles 1995), which led to the decision of the Forest Stewardship Council to preclude certification of plantations established on land cleared of native vegetation after 1994.

As a consequence, we make the following general recommendations to the AFS Technical Reference Committee pertaining to clearing of native vegetation for the establishment of plantation:

1. A clear statement about the undesirability of clearing of native vegetation for the establishment of plantation should be made at the beginning of the relevant section(s) of the AFS, in particular under section 4.3.2.

2. In recognition of the undesirability of broad-scale clearing identified in national public policies, clearing of large areas (e.g., >20 ha) of native vegetation for the establishment plantation should preclude certification under the standard. Such a condition would apply from 2001.

3. Clearing of small areas of vegetation for infrastructure development or plantation development may not necessarily preclude certification if:

- the areas proposed for clearance do not include any vegetation types that are already cleared beyond accepted regional or catchment targets or are listed as rare or threatened at the national or state level, or are otherwise considered of conservation significance, and
- a rigorous offsetting strategy is adopted that ensures a net environmental benefit and net gain in overall native vegetation cover.

However, it is critical that a sound strategy for assessing vegetation type and quality and identifying suitable offsets is available. Such a strategy would necessarily involve consultation with the full range of stakeholders, relevant state agencies and appropriately qualified scientists.

4. The principle of mitigation and subordinate principles of offsetting should be applied to any clearing activity that took place between 1995-2001, on the basis that clearing of native vegetation for the establishment of plantation has been considered below best practice (ANZECC 1999; definition of best practice in section 4 above) since that time, according to several scientific and public policy statements including those given in conclusions, part 3 above. More specifically, management units on which conversion occurs, or has occurred between 1995-2001 will be assessed against a 'net environmental benefit' test. Any conversion must be considered to have passed this test via a post-hoc offset mechanism which effectively balances the environmental outcomes of the previous conversion for the relevant environmental value(s). Offsets must be based on clear and transparent risk assessment criteria, supported by stakeholders, suitably qualified scientists and relevant State agencies. Three environmental values must be addressed; vegetation conservation status, vegetation landscape value and vegetation site quality and quantity. Certification should only be gained if losses from past conversions (1995-2001) can be offset by commensurate long-term gains from management. Offsets can only improve or maintain environmental outcomes if:

- (i) offsets are in vegetation types of equal or greater conservation status to the vegetation proposed for conversion; and
- (ii) improvement in landscape value (the configuration of vegetation) from the offset exceed the losses in landscape value brought about by conversion; and
- (iii) improvement in vegetation site quality and quantity from the offset exceed losses in site quality and quantity from the conversion.

Offsets provide an opportunity for a net gain in biodiversity in the landscape to compensate for the biodiversity loss from conversion.

Unresolved issues

In researching the various vegetation management framework documents and the scientific literature, there remain some outstanding issues:

1. There is no clear message in the policy literature about what is considered the largest 'offsetable' area. On the whole, broad-scale land clearance is clearly not considered best practice. However, the definition of 'broad-scale' is rarely given.
2. There is no clear definition of exactly what constitutes a valid 'offset', though there is a recognition of the need for offsets to contain an area 'penalty' or 'multiplier' to account for the uncertainty associated with long-term rehabilitation success or the security of the offset area (Parkes *et al.* 2004, McCarthy *et al.* 2005, Victorian Government 2005).
3. There is no clear guidance on whether an area that is currently high quality forest can be used as an offset, simply by 'securing' the area in reserve. This would appear to defeat the basic concept of 'net gain' or 'no net loss' if it lead to the reduction of high quality vegetation simply because some vegetation fell into a different tenure. In general a net gain would occur where an area of vegetation in poor condition is managed to improve its viability as part of an offset.
4. There is a clear need for rigorous site assessment methods and a coherent approach to identifying and approving suitable offsets. There are some metrics available to measure condition (e.g., Parkes *et al.* 2004). However, there is some controversy in the literature concerning these approaches (McCarthy *et al.* 2005). Moreover, there are no clear rules about trading between different vegetation types or the consultative process that should be invoked to approve offsets (e.g., stakeholder involvement, state agency and scientific input). This is an area of development in several jurisdictions [e.g., BioBanking; Department of Environment and Conservation (2005)]

Recommended wording of AFS criteria relating to vegetation clearing

Existing wording of 4.3.2

- 4.3.1 The forest manager shall identify and assess the bioregional impact on identified Significant Biological Diversity Values of converting native vegetation to plantation or non-forest cover when planning the conversion of that vegetation and ensure that planning and practices support the protection and maintenance of Significant Biological Diversity Values likely to be affected by forest operations.

The forest manager shall not undertake conversion, except in circumstances where conversion entails a limited portion of the forest type at the bioregional level and where it is reasonably certain that it does not involve viable examples of:

- threatened (including vulnerable, rare or endangered) forest ecosystems **or ecological communities;**
- old-growth forest that is rare or depleted within a forest ecosystem; and
- important habitat of threatened (including vulnerable, rare or endangered) species.

In addition, the forest manager shall not carry out conversion of native vegetation which would result in that **native** vegetation, **ecological** community or ecosystem becoming threatened or endangered in accordance with Commonwealth, State and Territory laws, regulations or species recovery plans.

Any conversion for plantation establishment within the defined forest area should also make a significant contribution to long-term conservation, economic and social benefits at the regional level.

Note – While this requirement is designed to discourage native vegetation clearance, it is not intended to prevent certification where some clearing for infrastructure development within the defined forest area is required by law or regulation, such as for powerlines. It also allows for ancillary infrastructure development related to the objectives of forest management.

Note - It is not intended to allow sequential conversion of limited portions of the forest type at the bioregional level which when combined would result in conversion of a significant portion of the forest type.

Note – Managers of plantations established after the date of publication of this Standard will be required to demonstrate conformance with this requirement as part of the certification process. Non-conforming plantations may only be certified where the owner can demonstrate that they were not directly or indirectly responsible for the conversion and they commit to and implement a plan to ameliorate adverse impacts associated with the conversion of native vegetation.

Note – This requirement has some linkages to requirement 4.1.2 regarding development of a management plan or equivalent instruments, requirement 4.8.2 regarding protection of culturally significant sites and requirement 4.6.3 regarding consideration of possible impacts of plantation establishment on hydrological flows or values within catchments.

Suggested re-wording of AFS criterion 4.3.2

4.3.2 The conversion of native vegetation to plantation is considered below best practice and should be avoided. The principle of *mitigation* (see definitions) should be applied when forest managers are considering conversion of native vegetation to plantation.

Conversion of large areas (>20ha) of native vegetation to plantation precludes certification under this Standard. Clearing of smaller areas of native vegetation (<20ha) for the establishment of plantation or infrastructure development may not preclude certification where:

- certain defined offset conditions are satisfied (see definitions), or
- removal of native vegetation is required by law or regulation, or

Plantations established on areas cleared of native vegetation that is defined as:

- threatened (including vulnerable, rare or endangered) forest ecosystems **or ecological communities**;
- old-growth forest that is rare or depleted within a forest ecosystem; or
- important habitat of threatened (including vulnerable, rare or endangered) species, or
- vegetation otherwise considered of conservation significance.

will not be certified under the Standard.

Plantations established on lands cleared of native vegetation after 1995 and before 2001 may be certified under the Standard if certain defined offset conditions (see definitions) are satisfied.

Plantations established on lands cleared prior to 1995 may be certified where relevant legal requirements were satisfied.

Note - These requirements are intended to ensure that the expansion of the plantation land base is not at the expense of native vegetation extent. However, the exceptions identified explicitly provide for certification where plantation establishment is undertaken on significantly altered or degraded land that contains native vegetation, or where the losses to native vegetation arising from conversion are part of an explicit legally binding process which recognises offsets.

Note - While this requirement is designed to discourage native vegetation clearance, it is not intended to prevent certification where some clearing for infrastructure development within the defined forest area is required by law or regulation, such as for powerlines. It also allows for ancillary infrastructure development related to the objectives of forest management.

Note - It is not intended to allow sequential conversion of limited portions of a forest type at the bioregional level which when combined would result in conversion of a significant portion of that forest type.

Note - Managers of plantations established after 1995 will be required to demonstrate conformance with these requirements as part of the certification process. Non-conforming plantations may only be certified where the owner can demonstrate that they were not directly or indirectly responsible for the conversion and they commit to and implement a plan to ameliorate **or compensate for** adverse impacts associated with the conversion of native vegetation from this date. **These** actions could include post-hoc offsets.

Note – Conversion of native vegetation to plantation or non-forest cover will not be certified where the previous native forest cover has been logged and conversion occurs in the place of native forest regeneration. In such cases the forest manager of the plantation may not have been responsible directly or indirectly for the conversion.

Note - This requirement has some linkages to requirement 4.1.2 regarding development of a management plan or equivalent instruments, requirement 4.8.2 regarding protection of culturally significant sites and requirement 4.6.3 regarding consideration of possible impacts of plantation establishment on hydrological flows or values within catchments.

Definitions for 4.3.2

AFS needs to define assessment protocols:

- committee structure for assessing and approving the suitability of offsets
- involvement of a suitably qualified scientific expert
- need to define rules for qualification of extant forest/rehabilitation of non-vegetation cover
- need to define multipliers to adjust for the risk of failure

Mitigation in an environmental context, refers to a sequence of considerations designed to help manage adverse environmental impacts, which includes (in order of preference):

Avoidance – avoiding the adverse environmental impact all together;

Minimisation – limiting the degree or magnitude of the adverse impact;

Rectification – repairing, rehabilitating or restoring the impacted site as soon as possible;

Reduction – gradually eliminating the adverse impact over time by preservation and maintenance operations during the life of the action; and,

Offsets – undertaking such activities that counterbalance an adverse, residual environmental impact.

Offsets have environmental benefits and are implemented via a legally binding form of property vegetation plan or management agreement. They are designed to improve environmental outcomes of any previous conversion. The benefits of the offset must persist for at least the duration of the negative impact of the proposed clearing or conversion.

Implications of wording recommendations

Forest managers who have gained certification under the Interim Australian Forestry Standard (AS 4708(Int)—2003) (see http://www.forestrystandard.org.au/files/AFSCertification_Register.doc) or are currently pursuing certification would be aware that changes to the normative criteria and requirements were possible, as the Standard is progressed towards a full Australian Standard. (“When a committee votes on the approval for publication of a Standard, there is an implied rider that this approval is for a finite period and that the Standard will be revised or withdrawn at some time in the future as circumstances change and technology moves on.” Standards Australia 2005 p. 11). It is an accepted risk that the circumstances leading to certification at one time may or may not lead to certification at a future time under re-assessment against the full Australian Standard in 2006 or revised versions following the review period.

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Appendix 1: Key National Publications (and relevant policy to conversion)

1992 - National Strategy for Ecologically Sustainable Development, Council of Australian Governments, Commonwealth of Australia, Canberra.

“Native Vegetation Part 3 Intersectoral Issues - Chapter 11 Challenge
To conserve and where appropriate, restore native vegetation to maintain and enhance biodiversity, protect river water quality and conserve soil resources, including on private land managed for agriculture, forestry and urban development.”

1992 The National Forest Policy Statement

‘The Governments agree that it is desirable to maintain and protect the extent and ecological integrity of native forests on public land. Accordingly, the Governments will adopt the policy that further clearing of public native forests for non-forest use or plantation establishment will be avoided or limited, consistent with ecologically sustainable management, to those instances in which regional conservation and catchment management objectives are not compromised’. p. 11

1992 - Endangered Species Protection Act 1992 (replaced by the Environment Protection and Biodiversity Conservation Act 1999)

‘ESSS (Endangered Species Scientific Sub-committee) is strongly of the view that land clearance has been the most significant threatening process in Australia since European settlement. ESSS is also strongly of the view that land clearance continues to be a significant threatening process and that if it is not controlled it will lead to additional species becoming endangered, to additional species being listed in Schedule 1, and to ecological communities being listed in Schedule 2’

1992 - Biological Diversity Advisory Committee *A National Strategy for the Conservation of Australia's Biological Diversity*. Revised draft presented to the then Federal Minister for the Environment, the Hon Mrs R. Kelly MP. May 1992, DASET, Canberra.

“Habitat destruction, modification and fragmentation brought about by clearing of native vegetation is the greatest threat to biological diversity in Australia”

1995 Forest Practices Related to Wood Production in Plantations: National Principles

1.1 Native forest should not be cleared for plantation establishment where this would compromise regional conservation and catchment management objectives. In some circumstances it may be appropriate to clear forests that have been severely degraded by impacts such as disease, weed invasion, wind and fire so as to enable rehabilitation through replanting.

1995 - Glanznig, A. (1995) Native Vegetation Clearance, Habitat Loss and Biodiversity Decline An overview of recent native vegetation clearance in Australia and its implications for biodiversity.

Biodiversity Series, Paper No. 6. Commonwealth Department of the Environment, Sport and Territories (DEST) Biodiversity Unit

'The relationships between native vegetation clearance, habitat loss and fragmentation, and biodiversity decline are being increasingly recognised. This is reflected in the view of two independent working groups, expressed in a paper to the Prime Minister's Science Council in 1992. The working groups inferred that the factors causing biodiversity loss centre primarily on habitat destruction or modification and that 'first and foremost, by far the major factor has been clearing of natural vegetation' (Working Groups on Biodiversity 1992, p.7).'

1996 - Council of Australian Governments (1996). The National Strategy for the Conservation of Australia's Biological Diversity, AGPS, Canberra.

"Objective 3.2.2 of this Strategy sought to 'ensure that policies and controls are developed and implemented by the Commonwealth, State and Territory governments for the management and conservation of native vegetation on private and public lands, in consultation with landholders and community groups, and for controlling broad-scale clearance'. The specific reference to forest practices is found in Section 2.4.2 where priority is given to 'promoting integrated catchment management objectives among public and private forest owners through the application of codes of practice, forest management plans and, where appropriate, land clearing controls.'

1996 - Australia State of the Environment 1996 An Independent Report Presented to the Commonwealth Minister for the Environment by the State of the Environment Advisory Council.

"The clearance of native vegetation is the single greatest threat to terrestrial biodiversity and a significant threat to aquatic and some inshore marine biodiversity." , p. ES-13

1997 - Natural Heritage Trust of Australia Act 1997 Partnership Agreements.

Commonwealth Programs And Delivery Arrangements: Bushcare: The National Vegetation Initiative.

"3.2 Environmental Outcomes:

(c) Effective measures in place to retain and manage native vegetation, including controls on clearing.

(d) Avoid or limit any further broad-scale clearance of native vegetation consistent with ecologically sustainable management and bioregional planning, to those instances in which regional biological diversity objectives are not compromised."

1999 - ANZECC National Framework for the Management and Monitoring of Australia's Native Vegetation

'The native vegetation outcomes being sought in this Framework are:

a reversal in the long-term decline in the extent and quality of Australia's native vegetation cover by:

conserving native vegetation, and substantially reducing land clearing; ... "(section 3.3)

"Biodiversity outcomes sought:

limitation of broad-scale clearance of native vegetation to those instances in which the proponent can clearly demonstrate that regional biodiversity objectives are not compromised;..”(section 3.3.1)

2000 - National Action Plan for Salinity and Water Quality

The action plan recognises that land clearing in salinity risk areas is a priority cause of dryland salinity and states that any Commonwealth investment in catchment/region plans will be contingent upon land clearing being prohibited in areas where it would lead to unacceptable land or water degradation.

2001- Australia State of the Environment Report 2001 (Theme Report) CSIRO Publishing and Department of the Environment and Heritage, Commonwealth of Australia 2001

‘The impact of broad-scale vegetation clearance on natural heritage and biodiversity is profound and has been of concern for several decades in Australia. The immediate effect of clearance of terrestrial native vegetation on plant and animal species can be significant.’

2001 - Native Vegetation Policy Reversing the Decline in the Quality and Extent of Australia's Native Vegetation Cover. Statement by Senator the Honourable Robert Hill Minister for the Environment and Heritage. <http://www.deh.gov.au/land/publications/vegetation-policy.html> September 2001

The collaborative efforts of the Commonwealth, States and Territories in the National Action Plan and the Natural Heritage Trust will achieve significant results. However, the key reforms needed to achieve the national goal are action by the States and Territories to implement comprehensive land clearing controls that:

prevent all clearing and degradation of remaining native vegetation except where it is consistent with best practice native vegetation management, catchment management and regional biodiversity objectives;

2001 – ‘Land Clearance’ listed as a Key Threatening Process under the Environment Protection and Biodiversity Conservation Act (1999)

The TSSC re-affirmed the conclusions of ESSS regarding the effects of this threatening process on listed and unlisted species and ecological communities. TSSC believe that land clearance:

- could cause a native species or an ecological community to become eligible for listing in any category, other than conservation dependant;*
- could cause a listed threatened species or a listed threatened ecological community to become eligible to be listed in another category representing a higher degree of endangerment; and*
- adversely affects 2 or more listed threatened species (other than conservation dependant) or 2 or more listed threatened ecological communities.*

2001 - ANZECC Review of the National Strategy for the Conservation of Australia's Biological Diversity. Australian and New Zealand Environment and Conservation Council Environment Australia, 2001

“Vegetation clearance, modification and fragmentation remain major threats to biodiversity conservation in Australia.”

Appendix 2

Forest Stewardship Council criteria relevant to conversion

FSC Principles and Criteria for Forest Stewardship

6 Principle #6: Environmental impact

6.10 Forest conversion to plantations or non-forest land uses shall not occur, except in circumstances where conversion:

- a) entails a very limited portion of the forest management unit; and
- b) does not occur on high conservation value forest areas; and
- c) will enable clear, substantial, additional, secure, long term conservation benefits across the forest management unit.

(The FSC Founding Members and Board of Directors ratified principles 1-9 in September 1994.)

Principle 10: Plantations

10.9 Plantations established in areas converted from natural forests after November 1994 normally shall not qualify for certification. Certification may be allowed in circumstances where sufficient evidence is submitted to the certification body that the manager/owner is not responsible directly or indirectly of such conversion.

The FSC Members and Board of Directors ratified principle 10 in February 1996.

The revision of Principle 9 and the addition of Criteria 6.10 and 10.9 were ratified by the FSC Members and Board of Directors in January 1999.

Appendix 3 Indufor Oy (2003) benchmarking

FSC P&C	Comparable Criteria and Requirements of AFS	Comments
<p>6.10 Forest conversion to plantations or nonforest land uses shall not occur, except in circumstances where conversion: a) entails a very limited portion of the forest management unit; and b) does not occur on high conservation value forest areas; and c) will enable clear, substantial, additional, secure, long term conservation benefits across the forest management unit.</p>	<p>4.3.2: The forest manager shall identify and assess the bioregional impact on identified significant biological diversity values of converting native vegetation to plantation or non-forest cover when planning the conversion of that vegetation and ensure that planning and practices support the protection and maintenance of significant biological diversity values likely to be affected by forest operations. The forest manager shall not undertake conversion, except circumstances where conversion entails a limited portion of the forest type at the bioregional level and where it is reasonably certain that it does not involve viable examples of: - threatened forest ecosystems - old-growth forest that is rare or depleted within a forest ecosystem - important habitat of threatened species Any conversion for plantation establishment within the defined forest area should also make a significant contribution to long-term</p>	<p>The AFS is compatible with the FSC Criterion 6.10.</p>

FSC P&C	Comparable Criteria and Requirements of AFS	Comments
<p>10.9 Plantations established in areas converted from natural forests after November 1994 normally shall not qualify for certification. Certification may be allowed in circumstances where sufficient evidence is submitted to the certification body that the manager/owner is not responsible directly or indirectly of such conversion.</p>	<p>The AFS does not include a <i>specific</i> criterion or Indicators equivalent to FSC Criterion 10.9</p>	<p>The AFS is compatible with the FSC Criterion 10.9. The point of time after which the requirement 4.3.2 apply in conversion of native forests into plantations is fixed to the date of publication of the AFS and not to a fixed year as in the FSC. The time specification is indicated in the guiding note of the AFS requirement, which should in this case be considered as a essential part of the requirement. FSC is more categorical in denying certification of plantations converted from natural forests.</p>

From Indufor Oy (2003) Benchmarking the Australian Forestry Standard. Forest & Wood Products Research & Development Corporation Project no: PN02.2400 Indufor Oy Töölönatu 1 SE FIN - 00100 Helsinki, Finland
www.forestrystandard.org.au/14AFSC.asp

Appendix 4. Why 1995?

In order that the AFS reflects 'best practice' [see ANZECC (1999) *for a description of what* should constitute 'best practice' for industry developed codes of practice] for forest management nationally, a date is required upon which those 'best practice' standards are considered to have been generally accepted by the community, government and industry, and supported by existing scientific knowledge. From a review of relevant national policies, guidelines and legislation, and from an existing understanding of vegetation management frameworks in the State and Territories [eg Productivity Commission (2004), *Plantations for Australia: The 2020 Vision* (2004)] a key list of documents relating to conversion and land clearance was assembled and their dates examined. The review was restricted to the period 1992-2001 to encompass the initiation of the National Forest Policy and Strategy for Ecologically Sustainable Development and the early stages of the development of the AFS text.

The date recommended for the AFS is 1995 for the following reasons:

- it allows for further compatibility with the Pan European Forest Certification Scheme (PEFC) and Forest Stewardship Council (FSC) (www.fsc.org/en/)
- it is consistent with the National Plantation Principles (1995) and the more general national (NFPS 1992) and scientific (ESA 1994) recognition that land clearing should be avoided and has been the most significant threatening process in Australia since European settlement (Appendix 1).