



Timber Production and Biological Diversity

(IFA Forestry Policy Statement Number 1.4)

Key Statement

The maintenance of biological diversity is an important component of sustainable forest management and can be achieved in native forests and plantations managed for timber production through the application of scientifically based forest management plans, forest certification standards and Codes of Practice.

The Issue

Forest managers (government and private sector) have policies and practices for managing native forests and timber plantations which ensure sustainable timber production in parallel with protection of biological diversity and preservation of landscape values. Implementation of internationally accepted forest management practices can minimise the impact of timber production from forests on biological diversity. However, unplanned short-term impacts may occur and demand remedial action.

Background

Biological Diversity

The Convention on Biological Diversity (CBD), to which Australia is a signatory, has used the following definition of biological diversity: *the variability which exists among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.* The objectives of the CBD are the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising from commercial and other utilization of genetic resources. Australia implements the objectives of the CBD under the National Strategy for the Conservation of Australia's Biological Diversity, the National Forest Policy Statement and through the implantation of Regional Forest Agreements, species management, forest and protected area management plans.

Forest biological diversity is defined as the variability which occurs among forest living organisms and the ecological processes of which they are part; this includes diversity in forests within species, between species and of ecosystems and landscapes. Forest biodiversity provides a wide array of goods and services, from timber, clean water and other non-timber forest resources, to maximising resilience to climate change. At the same time, forests provide livelihoods and jobs for millions of people worldwide. Forest biological diversity also has important economic, social and cultural roles in the lives of many indigenous and local communities.

Native forests and timber plantations contribute differently to biodiversity. Native forests are diverse in their species mix, age and forest structure, have long lifecycles and deliver a broad range of timber and non-timber values. Native forests are living entities with natural life cycles. They are in a perpetual state of change and may suffer significant biological change through natural forces, eg. climate change, wind and fire. However, the conservation of biological diversity is one of the important goals of managing forests in an ecologically sustainable way, particularly with respect to the potential cumulative effects of forest management practices.

The general good health and vigour of regenerated native forests throughout Australia is testimony to the success of past forest management and timber harvesting practices.

Plantations are generally monocultures of single age stands grown for a defined period and are generally planted for timber production. Plantations change size temporally and spatially in the landscape and hence their contribution to biodiversity will be changing and ephemeral. Despite this, through appropriate commercial management, plantations may have an important secondary role in supporting biodiversity by providing corridor frameworks between native forests or forest habitat in agricultural landscapes.

Timber production and its impact on Biological Diversity

Timber production can be based on plantations (trees planted and grown for timber production) or native forests or a combination of both. Timber production is the primary commercial objective of tree plantations; however some plantations may be planted as carbon sinks, for environmental remediation (ie salinity) or to compliment spatial environmental outcomes. Timber production involves removing trees to be processed for timber and other forest products. The process may include: felling, snigging (transporting logs from where they were cut to where they can be loaded on to transport for processing), road construction, stream crossing, and treatment for regeneration. These activities are required to comply with appropriate standards for sustainable forest management.

Timber production has short-term impacts which include: visual, aesthetic, environmental, water values, fauna habitat, and off-forest impacts. Harvesting may also change the native forest ecosystem through impacts on flora species composition resulting in changed seed pool, species regeneration and structure of the vegetation. These impacts need not be negative on all native forests species, or have long-term negative impacts – harvesting is followed by a regeneration process, which favours early colonisers of the site – creating new ecosystem processes. In plantations, harvesting generally removes the entire stand, but is generally followed by replanting a new crop of trees on the site; though this will frequently occur within a mosaic pattern within the broader plantation estate.

The response of Australian native forests to disturbance is remarkable. However, the potential impacts of poorly managed harvesting and timber extraction on the environment are well documented. Research and the implementation of improved forest practices are occurring in all Australian States and Territories. Codes of Practice for Timber Harvesting incorporate principles of environmental care to foster the maintenance of biological diversity values.

State Governments have adopted sustainable forest management principles and forest certification systems, which can be independently audited in accordance with Australian and international standards for environmental, social and economic management. Many private forest owners are also adopting this approach. In addition, the application of sustainable forest management certification to plantations and native forests provides demonstrated benefits through continuous improvement, independent recognition of sustainability outcomes and improved market access.

All Australian States have legislation and policies that provide for biodiversity conservation. These include legislation and policies dealing with vegetation management and the protection of endangered and threatened species, old growth and high conservation value forests, and riparian areas.

Policy

The Institute of Foresters of Australia (IFA) advocates that biological diversity can be effectively conserved in native forests and plantations used for timber production through scientifically-based management plans and prescriptions as well as through the implementation of forest certification and Codes of Practice.

The IFA supports and encourages:

- Adoption of the relevant principles under the Convention on Biological Diversity and the relevant objectives and actions under the National Strategy for the Conservation of Australia's Biodiversity in the sustainable management of native forests and plantations;
- Establishment and effective management of a comprehensive, adequate and representative conservation reserve network together with the complementary management of biodiversity outside of forest reserves;
- Protection of significant biodiversity values, including threatened species, by the application of scientifically-based management prescriptions;
- Consideration of the ecosystem and landscape approaches for maintaining biodiversity in large native areas of native forest;
- Development, implementation and monitoring of codes of practice for timber production and associated harvesting plans that recognise and protect biological diversity;

- Mitigation of unplanned short-term impacts and rehabilitation of degraded ecosystems (including off-forest) where long-term impacts are identified in native forest harvesting; and
- Ongoing research and development on adaptive management practices to protect biological diversity.

The IFA considers that:

- Timber production is a renewable, low energy use industry that need not threaten biological diversity;
- Excluding timber production from native forests does not guarantee protection of biological diversity; and
- Native forest ecosystems can recover from disturbance caused by timber harvesting and fire.

Further Information

Department of Environment, Sports and Territories (1996) National Strategy for the Conservation of Australia's Biodiversity. <http://www.environment.gov.au/biodiversity/publications/strategy/index.html>

McDonald, G. T. and Lane, M.B.(2002) Forest Management Systems Evaluation: Using ISO14000.. *Journal of Environmental Planning and Management*, 45(5), 633–652.

Vanderwoude Cas, Lobry De Bruyn, Lisa A.,and House, Alan P. N. (2000) Long-term ant community responses to selective harvesting of timber from Spotted Gum (*Corymbia variegata*)-dominated forests in south-east Queensland *Ecological Management and Restoration*.1(3). p.204-214.

(Policy approved 3 June 2007)
Institute of Foresters of Australia
PO Box 7002, Yarralumla ACT 2600
(www.forestry.org.au)