

**National Report to the Fifth Session of the
United Nations Forum on Forests**

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Ministry of Agriculture and Forestry
Te Manatu Ahuwhenua, Ngaherehere

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II. Progress and issues related to implementation of IPF/IFF proposals for action

General

Assessment (including of the relevance, priority, status of implementation, planned actions) of the IPF/IFF proposals for action in the national context

The United Nations Commission on Sustainable Development (CSD) has facilitated deliberations on the actions needed to promote sustainable forest management (SFM) by initially establishing an Intergovernmental Panel on Forests (IPF) and then an Intergovernmental Forum on Forests (IFF). The IPF and the IFF examined a wide range of forest-related topics and recommended a number of proposals for action to be adopted by the international community. The United Nations Forum on Forests (UNFF) established by ECOSOC is the body responsible for overseeing the implementation of the IPF/IFF proposals for action.

Although the IPF/IFF proposals for action are not legally binding, participants in these processes (including New Zealand) have a political obligation to implement the proposals for action. Each country is expected to conduct a systematic national assessment of the IPF/IFF proposals for action and to plan for their implementation.

To conduct this assessment for New Zealand, the Ministry of Agriculture and Forestry (MAF) has convened an expert panel of officials who understand the production and/or conservation sectors of New Zealand forestry. This panel is continuing to work through the IPF/IFF proposals for action report and assessing how well New Zealand is doing. A scoring system is being used. Due to resource constraints, and having to work across, and co-ordinate with, a number of agencies, this exercise has been making slow progress. It is hoped that significant progress will be made by the end of the 2004/05 year. The next step will be to involve a number of NGOs in a similar “scoring” assessment.

The objective is to identify areas where additional work may be needed to more fully implement the proposals for action.

Development and implementation of a national forest programme or similar national policy framework for forests.

New Zealand does not have a national forest programme. The Government’s cross-sectoral planning and policy approach to resource management is to control adverse effects on the environment and establish a neutral legislative and economic framework. Forestry (both commercial and non-commercial) is seen as a legitimate land use to be treated fairly and equitably with other land uses. In this way decisions about sustainable forest management can equally be driven by market (commercial) or non-market (non-commercial) situations.

The Government has a number of goals to guide public sector performance and policy, two of which include:

- *Protect and enhance the environment*
Treasure and nurture our environment with protection for ecosystems so that New Zealand maintains a clean, green environment.
- *Grow an inclusive, innovative economy for the benefit of all*
Develop an economy that adapts to change, provides opportunities and increases employment, and while reducing inequalities, increases incomes for all New Zealanders.

These high-level goals provide the policy framework that helps enable sustainable forest management, without unnecessarily duplicating existing legislation or infrastructure.

Having said that, however, there could be some benefit in having an overarching generic policy statement that captures in one place all the policy aspects that the New Zealand government seeks from, and contributes towards, the wider national forestry sector.

International co-operation, including development and implementation of partnerships.

New Zealand has been working closely with the international community in a number of areas relating to implementation of the IPF/IFF proposals for action. The foremost among these was a joint convening in New Zealand in March 2003, of the UNF Intersessional Experts Meeting on the Role of Planted Forests in SFM. The meeting attended by over one hundred experts from forty five countries and a number of international organisations made far reaching recommendations to the UNFF promoting the role of this rapidly expanding resource to global SFM.

New Zealand has also been working closely with a number of international organisations in its efforts towards global SFM. These include in particular the ITTO and FAO. Some funding also have been provided through ITTO to promote projects in developing member countries as well as in further improving its main sustainable management tool – the ITTO Criteria and Indicators.

New Zealand maintains a focused relationship on SFM with neighboring Pacific Island states. Jointly with FAO and Australia New Zealand has helped sponsor regional meetings to help these countries to implement IPF/IFF proposals for action as well as general SFM.

Partnerships with key countries has also helped New Zealand to maintain an on-going dialogue on SFM. Most prominent among these are China and Korea with whom New Zealand maintains close bilateral forestry relations.

Mechanisms or initiatives to facilitate stakeholder participation, including indigenous and local communities, in forest sector planning, decision-making and/or forest management.

There are four main categories of forest in New Zealand:

- indigenous natural forest owned by the government and managed solely for conservation purposes;
- planted production forests owned or managed by central and local government;
- privately owned indigenous forest; and
- privately owned and/or managed planted production forest.

In the first two categories there is extensive opportunity for participation in forest sector planning, decision-making and/or forest management through the New Zealand government's "open government" policies and mechanisms. Stakeholder participation in the latter two categories is mainly through the mechanisms provided in New Zealand's environmental management legislation.

A significant recent initiative is a process to develop national standards for the sustainable management of New Zealand's planted forests and small area of production indigenous forests. This initiative (described in section 17 of this report) includes broad stakeholder participation.

Implementation of the IPF/IFF proposals for action related to thematic issues of UNFF 2

Combating deforestation and forest degradation

2. Preparing diagnostic studies to analyse historical and underlying causes of deforestation and forest degradation, including processes outside the forest sector

Deforestation is not an issue in New Zealand as there is a net increase in forest cover (due to expansion of the planted forest estate). Commercial timber production from natural indigenous forest is restricted to that permitted under the sustainable forest management provisions (Part IIIA) of the Forests Act 1949. Deforestation and other types of land clearing are tightly regulated under the Resource Management Act. Current concerns relate more to the possibility of forest degradation especially from introduced pest and weed incursion.

Before the first Maori settlers arrived in the 11th Century, about 80% of New Zealand's 27 million hectares were covered in natural forest. The rest of the land was unsuitable for forest growth, being too wet, too high or too dry. By the time European settlement began to intensify in the 1840s, the forest cover had fallen to 53%. Most of this deforestation occurred while New Zealand's strong agriculture-based economy was being developed. There were also later periods of conversion of regenerating or partially logged areas to agriculture, particularly when agricultural subsidies were available. Today, with the historical and underlying causes of deforestation and degradation well understood, 24% of New Zealand is under natural forest.

With almost all deforestation now prevented halted, the key threat to forest biodiversity is alien species. There are around 400 environmental pests and weeds being managed by indigenous forest managers, and many are also problems in planted forests. New Zealand originally had no land mammals (except three bat species), and introduced mammals are having major effects on forests. Some forests would be completely destroyed in a relatively short period by deer, goats and/or brushtailed possums without controls. A large proportion of endangered species are at risk because of introduced mammals. Weeds are also a significant problem, including by preventing regeneration after natural disturbance. Control of weeds and pests is an important aspect of forest management.

NZ has strong biosecurity legislation, which controls the deliberate and unintentional import of alien species that may cause deforestation and forest degradation. The legislation provides powers to allow eradication or national containment of species which are not yet widespread, and to require integrated control of pests at a regional level.

There are a range of programmes in place to address the restoration of degraded indigenous forest, e.g. QEII Trust, Nga Whenua Rahui, (a fund set up to enable Maori to protect their indigenous forest land).

The Resource Management Act has an important role in controlling actual or potential impacts on deforestation and forest degradation. For example many district plans developed under the Resource Management Act control the clearing of vegetation, including natural and planted forests.

3. Formulating and implementing national policies and strategies, through an open and participatory process, for addressing the underlying causes of deforestation

The principal national policy tool supporting sustainable resource use in New Zealand is the Resource Management Act. Regional and district plans under the Resource Management Act require resource consents for the clearing of vegetation (of any type, including natural and planted forests, and for any

reason) above prescribed limits (which vary according to the region or district, but are rarely above 10 hectares). This helps address deforestation situations.

The East Coast Forestry Project aims to encourage sustainable land management on severely eroding lands that are predominant throughout the East Coast of the North Island by encouraging the retention of existing indigenous forest and the establishment of planted forest. Financial incentives are available for this work. Much of this land was deforested in the late 19th and early- to mid-20th centuries for pasture.

The Department of Conservation manages the public conservation estate, including indigenous forests. No harvesting or deforestation is allowed on this estate. The Department also has a number of programmes that address deforestation and restore degraded forest, including partnerships such as:

- With private landowners for the protection of natural areas through covenants and other conservation measures such as Nga Whenua Rahui
- With universities and research institutions to improve knowledge and techniques of conservation
- Providing opportunities for corporate sponsorship of conservation programmes
- Providing and promoting opportunities for community involvement in practical conservation projects and policy development
- Joint programmes for protection of biodiversity, such as Project Crimson and organisations such as the Nature Heritage Fund.

The New Zealand Forest Accord 1991 is a strategic agreement between conservation groups and major planted forest growers and users. One of its objectives is to reduce or eliminate deforestation and degradation of indigenous forest. It requires signatories to:

- define areas unsuitable for exotic production forestry;
- acknowledge that existing natural forest should be maintained;
- recognise commercial planted forests as essential;
- ensure any use of wood for indigenous forest is on sustainable, value added basis; and
- ensure new planted forests will not disturb areas of natural indigenous vegetation.

4. Raising awareness of the importance of issues related to deforestation and forest degradation and the multiple values of forests

While deforestation is not generally an issue in New Zealand, action is being taken in other areas. MAF has sponsored a number of best management practice (BMP) guidelines to assist land managers be aware of and avoid, remedy or mitigate adverse environmental impacts such as deforestation and forest degradation. They include such publications as “Harvesting Contractor Environmental Management System” and “Indigenous Forestry Best Management Practices”. The New Zealand Forest Code of Practice also describes how to avoid adverse environmental impacts.

A web-based information programme called *Forestry Insights* (www.insights.co.nz) is a readily accessible resource designed to provide easy-to-read material on many aspects of forestry. It includes sections on the multiple values of forests. Many Department of Conservation and Ministry for the Environment publications also highlight the multiple values of forests.

Forest conservation and protection of unique types of forest and fragile ecosystems

5. Creating or expanding protected areas to safeguard forest and related ecosystems and their full range of values and, developing and applying criteria and methodologies for assessing the conditions and management effectiveness in protected forest areas

New Zealand has legislation which seeks to achieve protection of a representative range of ecosystems. The protected area network is extensive (around 30% of NZ's land area), but is not yet representative of all ecosystem types. It is estimated that around 20% of ecosystem types are now completely lost, but for those where natural areas remain, the Department of Conservation has an active protection programme to progressively achieve appropriate protection of a representative range of sites.

New Zealand is finalising a new national ecosystem classification system which will help to inform that process. It will also help to ensure that work under the Resource Management Act to prevent adverse effects on ecosystems can accurately reflect the scarcity of the particular ecosystem, compared to its original extent.

The Department of Conservation is also developing a Natural Heritage Management System which will allow management work to be better targeted to the most important sites and management issues.

Part IIIA of the Forests Act provides for the sustainable management of indigenous forests by restricting the commercial milling and export of indigenous timber and tree fern trunks. Private owners of indigenous forest who wish to harvest trees must have a Sustainable Forest Management Plan or Permit approved by MAF and registered against the land title before harvesting can start. Plans and Permits require forest land to be managed in a way that maintains the ability of the forest growing on that land to continue to provide a full range of products and amenities in perpetuity while retaining the forest's natural values.

Under its sustainable forest management provisions the Forests Act also recognises many values of indigenous forests including flora and fauna, soil and water quality protection, amenity and commercial values.

The New Zealand Forest Accord is a voluntary agreement between members of the New Zealand Forest Owners' Association and environmental groups under which protection is provided for indigenous forest owned by Association members.

The majority of indigenous forest in New Zealand is held in public ownership under the Conservation Act, or National Parks Act. Conservation Act land is managed for conservation purposes, while the National Parks Act requires such parks to be preserved as far as possible in their natural state.

The Government will spend an extra \$57 million on controlling animal pests and weeds on public conservation lands and protected areas (managed by the Department of Conservation) over the next five years. This funding is part of a comprehensive package involving conservation, environment, and biosecurity to support the Government's Biodiversity Strategy. It will increase the current work in controlling animal pests and weeds. Specific actions planned include assessing the adequacy of invasive weeds and pest control techniques, two vital elements in the management of protected areas.

On the international front, NZAID has supported work in a number of countries seeking to find appropriate ways for developing partner countries and their local communities to protect indigenous forests. Ecotourism projects in Fiji, Laos and Indonesia (Mt Rinjani, Lombok) have all won international awards for sustainable tourism. While part of the Fiji project is focused on marine protection and tourism, the principal focus of the others has been on forest and cultural resources. NZ has supported the development of the Indonesian national parks over a number of years. The Mt Rinjani project is the current focus however.

6. Developing and implementing partnership mechanisms to engage forest owners, private sector, indigenous people and local communities in the planning and management of forest conservation areas and developing and implementing a range of innovative mechanisms for financing and encouraging forest conservation

Forest conservation areas are an important component in the management of New Zealand's biodiversity. The Department of Conservation and the Ministry for the Environment developed the Biodiversity Strategy in association with 13 other government departments. Many other organisations, groups and individuals with interests in biodiversity participated in the consultation and submission processes. The ideas and opinions in over 900 submissions helped shape and refine the final Strategy. Work on the Biodiversity Strategy began in 1996 and a draft strategy was released for consultation in January 1999. This was then revised based on feedback during consultation and from submissions. The revised strategy was adopted by the Government and released in March 2000.

One of the objectives of the Biodiversity Strategy is to enhance and broaden individual and community understanding about biodiversity and increase community involvement in the conservation and sustainable use of New Zealand's biodiversity. Another objective is to encourage natural resource managers and users and landowners to adopt realistic and pragmatic steps to conserve and sustainably use biodiversity.

One of the ways in which this has been achieved is in financial support for landholders. The Strategy was supported in December 2000 with a funding package totalling \$187 million over 5 years. Of this over \$40 million was allocated to supporting biodiversity conservation on private land. Forest owners and others can apply for funding to help improve the condition of forest conservation areas and funding assistance is also available if landholders want to covenant those areas.

The Resource Management Act promotes the sustainable management of natural and physical resources (including forests) through a series of national policy statements and standards, regional policy statements and plans and district plans. The Act requires that the development of these instruments follows a thorough public consultation process, through which the private sector, indigenous people and local communities have opportunities for input.

New Zealand has a strongly developed system for encouraging private landowner involvement in conservation of forest remnants. Such areas can be covenanted by agreement between government and the landowner, or between a special trust (the Queen Elizabeth the Second National Trust – QEII Trust) and the landowner. A separate covenant system operates for Maori land. There are also other legal avenues for protecting private land. The Government provides considerable funding to assist in the costs of covenanting land, and of managing biodiversity on private land. Reduction or waiver of land taxes is also provided for private protected areas.

Under the Biodiversity Strategy, the Government has also established a fund for developing improved information systems for biodiversity (the Terrestrial and Freshwater Biodiversity Information System), in order to make information more readily available to all biodiversity managers.

There are many community partnerships already in place and being developed to manage particular forests. These include national organisations such as:

- the Royal Forest and Bird Protection Society (which is a lobby group for nature conservation and manages a number of private protected areas), the Forest Restoration Trust (which purchases and restores degraded forest areas);
- local trusts that are protecting and restoring specific areas (e.g. the Karori Sanctuary Trust is a multi million dollar community initiative that has built a predator proof fence around a local reserve to allow restoration and reintroduction of endangered species);

- Maori organisations managing collectively owned land or public lands; and
- organisations that provide voluntary support for particular public lands or resources (e.g. the Ornithological Society undertakes bird survey work, many "Friends of" groups help restore public areas, the Geological Association maintains a national inventory of important geological features).

7. Giving high priority in national forest programs to the rehabilitation and sustainable management of forests and trees in environmentally critical areas, recognising the linkage between forest protection and sustainable development and improving the coordination among such policies and programmes.

Ecologically important or unique forests and environmentally critical areas are identified through the process of developing a National Policy Statement on biodiversity, and through the Biodiversity Strategy. Insofar as trees are a recognised and important part of New Zealand's biodiversity, Objective 4.1 of the National Policy Statement on biodiversity is to promote and encourage partnerships and co-operation between central government, regional and district councils, iwi, community groups and individuals in the management of indigenous biodiversity.

New Zealand is finalising a new national ecosystem classification system which will be used to identify representative and rare ecosystems. An enhanced threat-classification system for species was implemented in 2002, and has allowed the identification of over 2000 threatened species (and their habitats). Both these systems will be used by all relevant agencies, ensuring a coordinated view of what are critical areas.

The Terrestrial and Freshwater Biodiversity Information System is helping to achieve cooperation in data collection and sharing. There are also a range of other coordination mechanisms. These include coordination mechanisms for particular management issues (e.g. a coordination committee for possum control), for particular areas (landscape planning systems, cooperative management systems for particular areas) and for nationally dispersed species (e.g. species recovery plans and groups).

Rehabilitation and conservation strategies for countries with low forest cover

8. Expanding forested area, establishing and managing plantations to enhance production of forest goods and services, while avoiding the replacement of natural ecosystems, and recognizing the role of imports in satisfying the needs for forest products and services.

Low forest cover is not an issue applicable in New Zealand now, given that all state-owned natural forests is under conservation and the planted forests have helped replace a part of the area cleared for farming by new settlers in the 19th century. As a result forests now account for around 30% of the land area.

It was recognised by New Zealand in the 1890's that if felling natural forests for agricultural development and to meet wood needs continued, they would all be cleared well before the close of the 20th century. It was due to documented foresight that New Zealand now has an alternate resource of nearly two million hectares of planted forests. The primary (and stated) reason for planting exotic forests in the first place was to enhance the production of wood products from planted forests.

The choice (mostly in the early 20th century) of radiata pine as the main exotic production species was initially on environmental (it grew in the type of soils and climates available) and economic (it grew well, thus shortening the economic rotation) considerations. Other early economic considerations with social implications included:

- Supply of domestically produced timber as a (relatively) low-cost house-building material.
- Industrial wood processes in centralised locations, supporting local communities (e.g. mill towns and forest villages).

- Improvement of the national economic well-being through import substitution.

There is a range of environmental benefits that radiata pine forests can provide. These are well documented in a Forest Research bulletin number 198 “Environmental Effects of Planted Forests”. It would be wrong to say that planted radiata pine forests do not have any effects on an environment, which are also covered in the same publication. Whether they are bad or not depend of the type and scale of both the effect and the environment. New Zealand recognises the possibility of adverse environmental effect for any activity and the purpose of the Resource Management Act is to ensure the effects are avoided, remedied or mitigated while still allowing the activity.

9. Promoting the regeneration and restoration of degraded forest areas including through partnerships and building capacities to promote effective participation in decision making, and development and transfer of environmentally sound technologies.

Prior to a policy change in the mid 1970s, some of New Zealand’s planted exotic production forest was planted on harvested (and usually degraded or degrading) indigenous forests (a form of reforestation, sometimes called conversion). While difficult to measure, it has been estimated at about 17% of the then planted exotic estate. Some “conversion” by private forest companies carried on through to around 1990 (the Forest Accord was signed in 1991) but it is estimated to still total about 17% of the 1990 exotic estate.

Since then afforestation has mostly been on farmland not needed for profitable pastoral farming. Some afforestation has occurred on degraded and/or eroding land with low vegetation cover (e.g. coastal sands and, to a lesser extent, scree slopes and mine tailings).

Most (estimated at over 95%) of the harvested planted exotic production estate is restocked after harvesting, usually in the winter after harvesting, but rarely more than two winters later (due to weed control requirements, and the cost of carrying non-producing capital land). In New Zealand, all exotic forest establishment is by planting, rather than regeneration, as planting is the only sure way of improving the forest through tree breeding.

A range of land managers, including the Department of Conservation, conservation groups, private landowners and Maori, is undertaking restoration of degraded forests, and the re-creation of forests in areas that were deforested in the past. There is government support available for many of these programmes, e.g. the QEII or Nga Whenua Rahui schemes.

There are significant areas of forests that are naturally regenerating from previous exploitative logging or clearance occurring across New Zealand. Some are being actively managed by planting, pest and weed control and fencing. Many of these are funded under the QEII, Nga Whenua Rahui, or Nature Heritage schemes. Other areas have regenerated without active interventions, and are managed as key restoration forests, such as lands under the New Zealand Forest Accord and areas within the conservation estate.

10. Improving the efficiency of international cooperation to support the management, conservation and sustainable development of all types of forests and building capacity to monitor forest resources.

New Zealand has worked closely with international organisations, in multilateral fora and bilaterally to help promote SFM. For details see the general section on International cooperation, including development and implementation of partnerships.

Rehabilitation and restoration of degraded lands and promotion of natural and planted forests

11. Promoting the creation of new forest resources through plantations and recognizing their role in rehabilitation of degraded lands and forests in environmentally critical areas.

It was recognised by New Zealand in the 1890's that if felling natural forests for agricultural development and to meet wood needs continued, all accessible forests would be cleared well before the close of the 20th century. It was due to this foresight that New Zealand now has an alternate wood resource of nearly two million hectares of planted forests. That has taken the pressure off natural forests, which now contribute less than one half of one percent to the 23 million cubic metres of wood produced in the year to March 2004. For New Zealand, many of these natural forests have far more value for tourism, recreation, biodiversity habitat and soil and water conservation than providing wood. The primary reason for planting exotic forests in the first place was to replace indigenous harvesting.

In 1987 almost five million hectares of natural forests under state ownership (77% of the total natural forest area) was put into a conservation estate by the government. One thing which made this possible is an alternative source of wood supply.

The governments of Chile, Denmark, India, New Zealand and Portugal sponsored an international meeting of experts entitled "The Role of Planted Forests in Sustainable Forest Management" (Santiago, Chile, 6-10 April 1999) to support the Intergovernmental Forum on Forests (IFF) in implementing actions to promote sustainable forest management. Seventy four participants attended the meeting from 31 countries from all regions representing governments as well as the private sector, international and non-governmental organisations. A number of recommendations for further deliberation by the IFF.

A follow-up intersessional meeting on "The Role of Planted Forests in Sustainable Forest Management" was held in New Zealand in March 2003. This meeting brought more than 120 delegates together from 45 countries to discuss the role of planted forests in sustainable forest management. As well as promoting the benefits of planted forests, it provided an excellent opportunity for NZ to showcase its very successful and sustainable production forestry industry.

Recommendations from the meeting about promoting the role of sustainability in planted forests were delivered to the UN Forum on Forests and were considered at a Geneva meeting in May 2003. Of special note is that the recommendations specifically included farm forestry, one of the few times this has happened in international forestry meetings.

12. Promoting policies to meet increasing demand for wood and non-wood forest products and services, through sustainable forest management.

The primary policy implemented by New Zealand to meet increasing demand for wood products was the establishment of a planted exotic production forest resource. These forests now supply all New Zealand's current demands for wood products, with sufficient remaining to supply all future demands out into the foreseeable future. There is an excess of wood product supply over domestic demand, which is exported.

Initially the government set up the exotic planted production forest programme early in the 20th century. Private forest companies were established from the 1920s and 30s. The government privatised its exotic forest estate in the late 1980s and early 1990s. All programmes are now on commercial lines, with 92% of planted forests and 100% of processing facilities being owned or managed by the private sector,

In relation to non-wood products, the major commodities harvested from the forest estate (both planted and natural), other than timber products, are game meat and hides (from feral deer, goats and pigs), pelts

(from the Australian brushtailed possum), sphagnum moss and honey. New Zealand's forests are utilised extensively by the beekeeping industry. The Department of Conservation monitors beekeeping concessions on its land.

A regionally important non-timber forest product is the gathering of sphagnum moss, principally the variety *Sphagnum cristatum*. It is collected primarily from the forests and bush lands of the West Coast of the South Island, mostly from areas where the forest was destroyed in the past, and which are now in low scrub or just open sphagnum/rush systems. The Department of Conservation manages the majority of sphagnum moss collection sites. Harvesting operations on conservation land are monitored through the Department's concession system, and are assessed for sustainability and environmental impact.

A number of forest plants are utilised by Maori for medicinal remedies. The production of these remedies is undertaken at a local level and generally involves the harvesting of new season leaves. There is minimal disturbance to woodlands as a result of this activity. Maori also harvests berries from a number of indigenous trees and shrubs, including the Kotukutuku. The berries are harvested primarily for private use rather than commercial sale.

Research has been underway for some years on the potential for incorporating secondary crops into planted forests. The emphasis has been upon edible mycorrhizal mushrooms and crops such as ginseng, which are high-value, low-volume commodities that could significantly increase the viability of planted forestry.

One of the foremost non-wood outputs of New Zealand's natural and planted forests is carbon sequestration. The use of forests as carbon sinks is a key plank in the Government's climate change policy.

Planted forests in New Zealand are not merely a source of wood. They provide a number of other goods and services including watershed protection, recreation, and rehabilitation of degraded land as well as serving as a basis for regional and national economic growth and development.

The use of bio-fuels and the evaluation of wood waste from harvesting operation in planted forests and the optimal use of biomass co-generation are areas of research being pursued by the wood industry. Bio-energy is a very viable option for the industry, given the large increases in available wood over the next decade and the carbon neutral status of the residues from processing timber grown in planted forests.

The development and use of bio-energy is an import part of the Government's climate change policies, following its ratification of the Kyoto Protocol. It is working with the forestry sector to make progress on developing bio-energy systems.

Implementation of the IPF/IFF proposals for action related to thematic issues of UNFF 3

Economic aspects of forests, including trade

13. Valuation of forest goods and services (this may include, among other things, the development and use of new valuation methodologies, valuation of a wider range of goods and services, and policy decisions that reflect a more comprehensive assessment of forest values).

The NZ Institute of Forestry has developed a Forest Valuation Standard that registered members are expected (under the Institute's Code of Ethics) to abide by. In New Zealand, forest goods and services can be divided into (1) wood resources, and (2) other "forest goods and services".

1. Wood resources

The three data requirements for valuation of wood resources are yield, costs and revenue.

1. **Yield:** Research, development and management of the two primary growth, yield and supply models used in New Zealand, e.g. Standpak (per hectare growth and yield) and an estate-level model called FOLPI (Forest-orientated Linear Programming Interpreter), is carried out by Forest Research. These and similar models are used extensively by forest management practitioners
2. **Costs:** MAF periodically monitors (by survey) the cost components of exotic production forest management, which are available on request.
3. **Revenue:** Similarly, MAF monitors export and domestic log prices by grade, which are available on the MAF website.

2. Other “forest goods and services”.

Statistics New Zealand, in association with the Ministry for the Environment, is currently preparing stock and flow estimates for five of New Zealand’s significant natural resources: forestry, fishing, water, land and subsoil resources. Technically, the physical estimates are referred to as natural resource accounts, while the monetary estimates are referred to as environmental accounts. However, these terms are often used interchangeably. The initial impetus to begin compiling natural resource and environmental accounts came about as a result of decisions stemming from the *Budget 2000* where it was decided that more information was required on complex relationships between the economy, environment and society.

The forestry accounts are based on an international framework called the System of Environmental and Economic Accounts (SEEA). This framework is an extension of the System of National Accounts (SNA), which Statistics New Zealand uses to compile the national accounts, including Gross Domestic Product (GDP). The SEEA is designed to measure the use of natural resources and the resulting effects on the environment. The forestry account utilises SEEA to focus on the stocks and flows of the forestry resource from an environmental and economic perspective.

The release of natural resource and environmental accounts reflects an international trend towards compiling information beyond the traditional measures of economic activity. The accounts reflect the view that the environment has a finite capacity to supply materials and absorb wastes. This environmental information is collected under a framework that allows for adjustments to conventional measures of GDP to reflect environmental degradation and depletion. Existing measures of GDP do not currently account for the degradation and depletion of environmental assets. For example, if all of New Zealand’s native forests were commercially harvested, GDP would increase due to an increase in the output of the forestry industry. However, the loss of the asset and therefore of any future production (due to this depletion) is not accounted for¹. Regardless of whether the information is used to adjust GDP², the accounts provide an important record of the state of the resource over time, and its significance to the New Zealand economy.

¹ Harvest from New Zealand’s natural indigenous forests is sustainably managed at present, so in practice the forestry account does not include any depletion estimates. Depletion estimates are normally produced as part of the stock accounts (and can be derived on a physical or monetary basis).

² To date, no country has produced an official fully adjusted GDP using the SEEA framework.

14. The amount, scope, or quality of market data and information for wood and non-wood forest products and their substitutes.

Market demand for wood products is a function of consumption and trade. Trade is estimated by MAF, as part of the New Zealand Treasury's twice-yearly national forecasting system. Long-term consumption for wood products is also predicted, mainly as a function of population.

Data on supply and demand of, and prices for, wood products are collected under MAF's forestry statistics and economic forecasting processes. Statistics and data for non-wood products is readily available through various sector and industry statistical categories managed by Statistics NZ.

15. Use of economic and policy instruments to facilitate progress toward sustainable forest management (these may include improved tax policies and forest revenue collection systems).

Most of the New Zealand government's policies to promote SFM are based on legislation and policy initiatives that are aimed at creating a broad environment that promotes the sustainable use of its resources, including forestry. As such there are no direct interventions aimed specifically at a particular sector of the economy. In the 1980s, New Zealand moved from being a country with high levels of government-financed financial incentives to one with hardly any. Similarly, for tax-based incentives. The view is that these distort market situations and can (and in the 1970s and 1980s probably did) lead to unwise (and unsustainable) land-use decisions. The correct interpretation of undistorted market signals is seen as a primary incentive for practising sustainable forest management, e.g. market demands for certified wood has led to the New Zealand forest industry to adopt the principles of sustainable forest management as supported by the Forest Stewardship Council.

New Zealand makes use of non-economic incentives, such as the provision of best management practice guidelines for land managers (including foresters), detailing what is expected of "good environmental citizens". The New Zealand Biodiversity Strategy encourages "sympathetic management" of private land (which includes forestland). A type of "reverse incentive" is that provided through legislation, such as requiring resource users (including foresters), through the Resource Management Act, to practice sustainable management and avoid, remedy or mitigate harmful activities, with penalties for contravening resource use consents.

The Department of Conservation charges both market rentals and cost recovery charges for commercial activities on public lands they administer, and where necessary will also require mitigation activities to be undertaken. As 96% of the planted forest estate is privately owned and/or managed, forest revenue collection systems for revenue from these forests is entirely up to the private owners/managers.

16. Efforts to reduce negative impacts of trade.

As a country heavily dependent on trade, New Zealand is fully committed to the liberalisation of the multilateral trading system. New Zealand also recognises that strong protection of the global and national environment is necessary to maintain a natural resource base in order to ensure long-term economic vitality. New Zealand strongly supports multilateral efforts to make trade and the environment mutually supportive. New Zealand's position is based upon the principles endorsed by the international community at UNCED and successor fora and enshrined in relevant trade agreements.

Trade liberalisation is consistent with, and a necessary complement to, New Zealand's market-led domestic economic reforms of the past decade. The free-market philosophy is based around the concept that when firms and people are completely free to buy and sell goods and services, those goods and services will, all other things being equal, be allocated to those who value them most highly. Similarly, a

non-discriminatory trade policy will assist achievement of sustainable forest management by helping to ensure forest resources are appropriately valued.

The Doha ministerial declaration commits WTO members to negotiate the reduction, or where appropriate, elimination of tariff barriers (including tariff peaks, high tariffs, and tariff escalation) and non-tariff barriers to trade in non-agricultural products (which includes forestry). Frameworks for the negotiation were agreed on the 31 July 2004. Also in July, it was decided to extend the timeframe for negotiations past the initial deadline of 1 January 2005, but no specific end date was decided upon. The objective for this phase of the negotiations is the establishment of modalities, for which the initial target date was 31 May 2003. The next milestone in this process will be the WTO Ministerial meeting in Hong Kong, in December 2005.

The removal of forestry tariffs and non-tariff barriers (NTB) is a high priority for New Zealand negotiators. New Zealand is advocating the elimination of all remaining tariffs and the development of a negotiating approach to address trade-distorting non-tariff measures. It is estimated that New Zealand forestry exporters pay in excess of NZ\$40 million annually in tariffs. Quantifying the trade distorting effects of non-tariff barriers is more difficult, but it is much larger than that for tariffs.

Negotiations during the round, up until the fifth Ministerial Conference held in Cancun, Mexico in September 2003, have focussed on how countries will remove tariffs. New Zealand negotiators anticipate the use of a general tariff reduction formula supplemented with sectoral agreements and bilateral negotiations to speed up trade liberalisation. New Zealand has been working with a forestry group within the negotiation, which was established in 2003 and consists of New Zealand, Australia, USA, Canada, Chile, Uruguay and South Africa, in order to give due attention to forestry issues.

Different export policies apply to New Zealand planted and indigenous forests. Planted forests are the mainstay commercial forests and there is no quantitative restrictions placed on the export of wood products (including logs) from these forests. However, the sustainable forest management provisions (Part IIIA) of the Forests Act 1949 limit commercial timber production from indigenous forests. For conservation reasons these provisions prohibit export of all but specific dimensions of beech and rimu sawn timber, other timber categories such as salvage timber and finished products manufactured from indigenous timber.

Within New Zealand's free market environment, a number of (mainly private sector) policies and actions are being undertaken to promote and facilitate trade in wood products from sustainably managed forests.

One of these is Certification. Certification of forest management and labelling of forest products is a growing phenomenon world-wide. Increasingly timber traders and their customers are demanding environmentally sound products. Certification provides consumers with a guarantee in the form of a written certificate from an independent third party that the products come from well-managed forests. Environmental NGOs and the industry are using certification to reach environmental goals through market initiatives. A focus for companies seeking certification is market acceptance and market access. The rapid adoption of such schemes show the importance placed by the forest industry on certification as a marketing tool.

Currently, around 450,000 hectares (about one quarter)³ of New Zealand's planted forest area has Forest Stewardship Council (FSC) certification. In addition about 600 hectares of private production indigenous forest has FSC certification with an additional 12,000 hectares under evaluation.

³ *New Zealand Forest Industry Facts & Figures 2004/2005*, NZ Forest Owners' Association.

In May 2001, a New Zealand National Initiative to develop forestry management performance standards for third-party audit and certification was launched. This was organised by Greenpeace New Zealand, New Zealand Forest Industries Council, New Zealand Forest Owners Association, Royal Forest & Bird Society and WWF New Zealand and involved industry and non industry stakeholders from economic, social, environmental and Maori groups. Industry representation came from both the plantation and indigenous forestry sectors.

Other initiatives aimed at reducing the negative impacts of trade include the New Zealand Biosecurity Strategy and New Zealand's active participation in international SFM fora.

17. Participation in forest certification and labelling schemes and work toward mutual recognition and comparability of such schemes.

In 2001, a New Zealand National Initiative to develop forestry management performance standards for 3rd party audit and certification was launched. This was organised by Greenpeace NZ, NZ Forest Industries Council, NZ Forest Owners Association, Royal Forest & Bird Society and WWF NZ and involved many industry and non-industry stakeholders from economic, social, environmental and Maori groups. Industry representation came from both exotic and indigenous forestry sectors.

The National Initiative is developing sustainable forest management national standards. These standards will be able to be used by forest owners wishing to join certification systems such as FSC and other certification systems, such as SFI or PFEC for example. A number of forest owners in New Zealand have already gained FSC certification, using interim standards. Certification is an important step for the future marketing of New Zealand's forest products and for providing those markets with the assurance that New Zealand forest management is ecologically sound and socially beneficial while maintaining economic viability.

With regard to imported tropical timber there is a voluntary forum of importers, distributors, NGOs and other interested parties (including the ITTO, of which NZ is a participating member) that promotes imports from sustainably managed forests. The New Zealand Government has also put in place measures to ensure its own procurement policies favour timber from sustainably managed forests and promotes a preference for certified wood.

The New Zealand Imported Tropical Timber Group (ITTG), made up of timber importers and marketers and environment and conservation NGOs, was formed in 1994. The ITTG requires its members, under a Charter of Understanding, to actively seek trade in timber sourced from sustainably managed forests.

18. Efforts to reduce illegal trade (exports from or imports into your country) in wood or non-wood forest products. Please indicate achievements made, lessons learned, constraints encountered, and planned initiatives.

Part IIIA (the sustainable forest management provisions) of the Forests Act 1949 prohibits export of all but specific dimensions of beech and rimu sawn timber, other timber categories such as salvage timber and finished products manufactured from indigenous timber. Exporters require authorising documentation that is inspected by MAF's border inspection services. MAF and NZ Customs inspect imports and they police illegal trade according to internationally accepted definitions. New Zealand is a member of the WTO and APEC and pursues the objectives of fair and legitimate trading through these memberships.

New Zealand, represented by MAF and the Ministry of Foreign Affairs and Trade, is contributing to the international battle against illegal logging, through the Forest Law Enforcement and Governance Taskforce (FLEG).

Domestic developments such as timber and forest sector initiatives on certification and import standards, are also linked to FLEG and its associated trade issues. The Government, in supporting these initiatives, is considering what additional measures it might also take. It is also highly relevant to NZ's involvement in international discussions related to forest sustainability.

New Zealand's role will be as a regional contributor. New Zealand's developments in GIS and satellite imagery-based landcover assessment are tools that are likely to find increasing roles in forest monitoring, such as in FLEG. Another position will be to focus on pushing for measures that set standards for good forestry practices, and ensuring that countries in our region can meet such standards. Equally important are agreed standards for trade by timber-consuming countries through the development and adoption of certification and procurement policies. These would underpin the enforcement measures that are the current focus of FLEG.

Forest health and productivity

19. If damage to forests from air pollution is a significant problem in your country, please provide information on recent national strategies or programmes to minimize damaging air pollution.

Air pollution is not an issue specifically applicable in New Zealand.

Maintaining forest cover to meet present and future needs

20. Progress made and lessons learned in efforts to harmonize or to make compatible policy frameworks in your country (e.g. national forest programme or a similar policy framework for forests, biodiversity strategies and action plans, national action plans to combat desertification, etc.) that collectively address the full range of forest values.

New Zealand has adopted an approach that makes the need for a single national forest plan or program (NFP) less of a requirement.

In 1987 substantial administrative changes in natural resource management resulted in most Government-owned indigenous forests being fully reserved and placed under a new Department of Conservation. Such forests are subject to various plans and strategies relating to biodiversity and conservation administered by the Department and so are partly covered by "national plans".

Twenty-three percent of the indigenous forest estate is privately owned. Production is allowed on private indigenous forestland under Part IIIA of the Forests Act, which provides for the sustainable management of indigenous forests by restricting the commercial milling and export of indigenous timber and tree fern trunks. Private owners of indigenous forest who wish to harvest trees must have a Sustainable Forest Management (SFM) Plan or Permit approved by MAF and registered against the land title before harvesting can start. SFM Plans and Permits require forest land to be managed in a way that maintains the ability of the forest growing on that land to continue to provide a full range of products and amenities in perpetuity while retaining the forest's natural values. MAF has produced national guidelines on the process, which is a form of national forest programme.

The Resource Management Act also imposes controls on indigenous forestry and conversion of indigenous forest to other land uses (such as plantation forestry). The Act is the centrepiece of sustainable resource management in New Zealand. Its purpose is to promote the sustainable management of natural and physical resources (including forests). This is achieved through a series of national policy statements and standards, regional policy statements and plans and district plans. These instruments set out the legal framework within which resource users (including forest owners) may use natural and

physical resources. In this way the Act addresses, manages and controls the wider range of forest values beyond wood production, e.g. soil and water conservation.

The New Zealand forestry sector has negotiated a number of national initiatives with environmental groups, which help to ensure that production forestry is sustainable and that non-wood values are catered for. These include the New Zealand Forest Accord 1991 and the Principles for Commercial Plantation Forest Management 1995. The forest industry also promotes sustainable forest management in planted forests through innovations like the New Zealand Forest Code of Practice 1993. Other industry initiatives include adoption of certification systems under FSC and/or ISO. These systems also address a range of forest values beyond solely wood production.

The Department of Conservation and the Ministry for the Environment developed New Zealand's Biodiversity Strategy in association with 13 other government departments. The Strategy was adopted by the Government and released in March 2000. One of the objectives of the Biodiversity Strategy is to enhance and broaden individual and community understanding about biodiversity and increase community involvement in the conservation and sustainable use of New Zealand's biodiversity. Another objective is to encourage natural resource managers and users and landowners to adopt realistic and pragmatic steps to conserve and sustainably use biodiversity.

The New Zealand Institute of Forestry has prepared a National Policy on Forestry and an Indigenous Forest Policy based on a forest ecosystem approach to sustainable management.

21. Please provide information on recent efforts to assess long-term trends in national supply and demand for wood, non-wood forest products and services and whether your country's national forest programme or similar policy framework for forests takes into consideration future needs for forest goods and services.

Forecasts on future wood availability are produced under the National Exotic Forest Description partnership between MAF and the Forest Owners' Association with the detailed modelling work done by Forest Research. The forest estate optimisation model Forest Oriented Linear Programming Interpreter (FOLPI) is used for the wood supply modelling. Each species group is modelled independently under separate average clearfell ages and yield constraints. Radiata pine clearfell yields are constrained to be non-declining, i.e., the yield in any one year was required to be greater than or equal to the yield in the previous year. Douglas-fir yields are also constrained to be non-declining where a significant resource existed (more than 10,000 hectares) otherwise harvests were held generally constant.

Demand for wood products is a function of consumption and trade. MAF uses a spreadsheet based quarterly forecasting system for forestry export prices and volumes and for domestic consumption volumes (and hence production volumes). A two-step forecasting approach is used. It begins by deriving price forecasts for each forestry commodity group. These price forecasts are then used as inputs to derive export volume forecasts for each forestry commodity group.

Trade-weighted GDP and CPI indexes are used to forecast export prices and volumes. Forestry commodity prices are forecast in US dollars, and are based on world CPI, own price and cross prices. Forestry commodity volumes are forecast using an error correction methodology. Long-run export volumes typically are a function of trade-weighted GDP and prices and short-run equations contain the error correction variable, trade-weighted GDP, and lag dependants. Long-run consumption volumes typically are a function of population and domestic GDP forecast and short-run equations contain the error correction variable, and lag dependants.

Statistics and data for non-wood products are readily available through various sector and industry statistical categories managed by Statistics NZ.

Implementation of the IPF/IFF proposals for action related to thematic issues of UNFF 4

Social and cultural aspects of forests

22. Promoting the fair and equitable sharing of the benefits arising from the utilization of forest genetic resources and addressing the issue of intellectual property rights, including the identification of the origins of forest genetic resources, taking into account work undertaken by the Convention on Biological Diversity and other international agreements.

In mid-2000 the government set up a five-year fund for Maori to develop appropriate frameworks to preserve customary knowledge about nature, the Maturanga Kura Taiao (*Knowledge of biodiversity*) Fund. This new funding enables the Government to work with appropriate Maori experts to develop an appropriate framework for the retention and promotion of Maturanga Kura Taiao with the knowledge (i.e. the intellectual property) remaining as the property of the particular local Maori community.

The Maturanga Kura Taiao project is a contestable fund to support tangata whenua/Maori initiatives to increase their capability to retain and promote traditional Maori knowledge and its use in biodiversity management (including forestry). The fund also helps increase Maori participation in processes for managing biodiversity in their rohe (area). It recognises that the use and protection of traditional knowledge is central to Maori participation in biodiversity management.

Over the last 50 years, needing to rely on forest resources for daily life has lessened for many Maori. Many older Maori have, however, kept alive a lot of TFRK (e.g. medicinal plants). The project aims to foster TFRK though facilitating the transfer of this knowledge to future generations by recording it using modern technology. Much of this TFRK relates to specific communities, such as the use of certain plants growing in specific areas that assist individual ailments. The Maturanga Kura Taiao project helps develop that local “intellectual property”. The project also helps local Maori communities recognise and plan for specific forest protection activities, with follow-up management advice available from the Department of Conservation.

Maori have considerable interests in native and exotic forests, either as landowners or developers or both. As well, Maori have a particular interest in retaining traditional knowledge related to biodiversity and sacred sites.

For example the New Zealand Conservation Authority and the 13 regional Conservation Boards are both citizen bodies with Maori on them with functions to advise on management of the conservation estate and any other aspect of conservation they deem fit. They have statutory decision-making powers (which bind the Crown) with respect to Regional Management Strategies and National Park Management Plans. This therefore brings traditional-forest related knowledge into real play in the management of New Zealand's protected areas. Tikanga Maori input is an established practice in the management of planted forests as much as it is indigenous forests, and, indeed it was a prerequisite in the establishment of planted forests on Maori-owned land. Tikanga Maori is also part of the process to develop a national standard to facilitate forest certification. Maori currently continue to use indigenous biodiversity for cultural purposes, such as collecting bird feathers for weaving and making use of mature rimu trees for carved meeting houses or waka (canoes). Wahi tapu (sacred sites) within planted forests are legally protected.

23. Strengthening the role of women in sustainable forest management, including through capacity building and greater participation in community-based forest management.

Women in New Zealand have equal opportunity in access to education and training in all areas relevant to all types of forestry. The Ministry of Women's Affairs makes a significant contribution to the Government's goals for women and to the Government's social and economic objectives as expressed in the Key Government Goals to guide public sector policy and performance.

24(a) Integrating local and indigenous communities in sustainable forest management programmes, particularly as regards recognition and respect of the customary and traditional rights and privileges of indigenous and local communities.

This is covered under section 22 above.

24(b) Integrating local and indigenous communities in sustainable forest management programmes, particularly as regards participation in decision making regarding the management of forests.

An important aspect of the Resource Management Act is the involvement of individuals and communities in decision making that affects the environment. The Act requires both central and regional government to consult widely with the public when environmental policy decisions are made. Public participation is also part of the framework for developing national and regional plans and policy statements under the Act. Any activity (including many forestry activities) that needs a resource consent from local government (who apply the provisions of the Act) may require stakeholder participation under the consent application process. Stakeholders are defined as anyone having an interest in, or being affected by, an activity, and include indigenous people, forest owners, women and local communities.

For public conservation lands, there is a management planning and decision making system that involves extensive public input. In addition, a national citizen committee (the NZ Conservation Authority) and 14 local boards (Conservation Boards) provide independent advice and oversight of the management of public lands by the Department of Conservation.

Indigenous Maori are significant participants in the New Zealand forestry sector. There are approximately 18,000 hectares of Maori-owned exotic production forest on Maori freehold land. Maori participate directly in decision making regarding the management of these forests. A further 157,000 hectares of planted forest on Maori freehold land are subject to lease arrangements. Maori have less participation directly in decision making regarding the management of these forests though many lease arrangements require that the landowners be consulted over management issues.

24(c) Integrating local and indigenous communities in sustainable forest management programmes, particularly as regards the attainment of secure land tenure arrangements.

All privately owned land in New Zealand is subject to the Land Transfer Act 1952. This Act sets down the method of creating and terminating property rights in land, records title to land and gives a guarantee of title by the State. Registration is the official recording of all relevant dealings with the land and results in the issue of a new Certificate of Title or the reissue of an existing amended Certificate of Title to the land.

With regard to Maori land, Part 1 of Te Ture Whenua Maori Act 1993 outlines the constitution of the Maori Land Court, along with its objectives, jurisdiction and powers. Section 6 (2) of this Act binds the Maori Land Court to the definitions of Te Ture Whenua Maori Act 1993. In Te Ture Whenua Maori Act 1993 Maori Land means Maori customary land and Maori freehold land.

The Waitangi Tribunal was established as a permanent commission of inquiry under the Treaty of Waitangi Act in 1975. The purpose of the Act is to provide for the observation and confirmation of the principles of the Treaty of Waitangi and to determine claims about certain matters (including land-related issues) that are inconsistent with those principles.

Planted exotic production forests owned by the Government were privatised in the late 1980s and early 1990s. This constituted approximately half of the exotic production forest estate at the time. While the trees were sold, the land is retained in Government ownership. Crown (government) Forestry Licenses secure access by the licensees to the land to manage and harvest the trees. The licenses are transferable and subject to periodic review (mainly regarding the rental). They are for 35 or 70 years (depending on individual circumstances), slightly more than one or two normal commercial rotations of radiata pine (the most common species).

24(d) Integrating local and indigenous communities in sustainable forest management programmes, particularly as regards capacity building and technology transfer for sustainable forest management directed at indigenous and local communities.

Capacity building to implement sustainable forest management is chiefly through the provision of forestry education, which is actively supported by government and industry. The provision of high quality training ensures that people well positioned to pursue SFM are employed by those institutions involved in forest and plantation management. Training is also a primary tool for technology transfer.

Forestry training covers a broad spectrum in New Zealand, from silviculture and harvesting techniques through to timber machining, fibre science and product marketing. The majority of trainees who are undertaking skill training do so while still in full employment. This workplace training is normally supplemented by technical block courses. A major provider of these intensive, short courses is the Waiariki Institute of Technology, based in Rotorua.

The principal university involved in forestry training is the University of Canterbury, which has a dedicated School of Forestry, offering degree courses through to doctoral level. Three other universities offer forestry courses ranging from diploma through to master's level (covering pulp and paper technology, forest planning, agro-forestry and industry economics).

A number of New Zealand's polytechnics offer single year silviculture, harvesting and timber machining courses. Trainees can progress from these courses to more specialised training at the Waiariki Institute of Technology. Waiariki provides certificate and national diploma courses in aspects of wood processing, forest harvesting and a national diploma in forest management.

Support for indigenous people to practice SFM is provided through programmes supplied and/or supported by Te Puni Kokiri (Ministry of Maori Development) and the Department of Conservation. For example, the Government Mataranga Maori fund (managed by the Department of Conservation) is designed to increase iwi and hapu participation in managing biodiversity (including on Maori forestland) in ways that are consistent with customary knowledge.

Traditional forest-related knowledge

25. Inventorying, cataloguing, and applying traditional forest related knowledge for sustainable forest management and promoting research on TFRK with the involvement of the knowledge holders .

The Government has set up a fund (managed by the Department of Conservation) to increase iwi and hapu participation in managing biodiversity (including on Maori-owned forest land) in ways that are consistent with customary knowledge (Matauranga Maori) with the knowledge remaining the property of the particular iwi or hapu. This funding is part of a comprehensive five-year package involving conservation to support the Government's Biodiversity Strategy.

Other projects provide opportunities for Maori involvement as well as protecting biodiversity of value to Maori and biodiversity on Maori-owned land, such as Nga Whenua Rahui. Nga Whenua Rahui is a contestable Ministerial fund which was established in 1991. In 1998 the scope of the fund was widened to include non-forest ecosystems.

The purpose of the fund is to protect indigenous ecosystems on Maori land that represent the full range of natural diversity, including forests, originally present in the landscape by providing incentives for voluntary conservation. The fund, administered by the Nga Whenua Rahui Committee and serviced by the Department of Conservation, receives an annual allocation of funds from Government.

The criteria and mechanisms of Nga Whenua Rahui used for the formal protection of the Maori owned indigenous ecosystems, are geared towards the owners retaining tino rangatiratanga (ownership and control). Mechanisms used have been Nga Whenua Rahui kawenata and Nga Whenua Rahui Deed pursuant to sections 338 and 340 of Te Ture Whenua Act - creation of Maori reservations.

Since its inception Nga Whenua Rahui has had over 95 proposals approved by the Minister of Conservation involving 112,000 hectares of indigenous ecosystems

Methods of protection

Covenanting

Maori landowners can protect their indigenous ecosystems under a Nga Whenua Rahui kawenata. The agreement is sensitive to Maori values in terms of spiritually and tikanga. Cultural use of these natural areas is blended with the acceptance of public access within the agreements. The objective of the protection mechanism is long term protection with inter-generational reviews of the agreements.

Maori Reservations

Some of the smaller blocks have opted for formal protection pursuant to sections 338 and 340 of Te Ture Whenua Act 1993. This involves the setting aside of areas as Maori reservations. Public access is with permission of owners.

Physical Protection

Fencing costs are assessed at the time of application and the fund provides assistance for fencing off indigenous areas from farmed lands. Often these costs are the major requirement for protecting the area from pest such as deer and goats package.

The sizes of blocks protected under the fund vary greatly. Twelve blocks of over 2,000 hectares have been approved by the Minister of Conservation for protection, including three blocks over 10,000 hectares. At the other end of the scale, in terms of size, are 20 projects under 100 hectares, including five

important areas in the Chatham Islands. For larger blocks, a cash consideration payment is paid in respect of an agreement for long-term protection coupled with public access.

26. Supporting the application of intellectual property rights and/or other protection regimes for traditional forest related knowledge, and the fair and equitable sharing of benefits arising from the use of traditional forest related knowledge, innovations and practices.

The Ministry of Economic Development (MED) is responsible for policy relating to the protection of intellectual property and New Zealand representation in international intellectual property forums. MED through the Intellectual Property Office of New Zealand grants patents, registers trade marks and designs and makes available to the public technical information from patent specifications originating in New Zealand and other countries. MED advises Government on patents, trademarks, and design policy. The Plant Variety Rights Office administers the Plant Variety Rights Act 1987 under which grants of plant variety rights may be issued to breeders for new plant varieties. Plant variety rights give breeders control over the commercialisation of their varieties helping them to obtain a financial return from their efforts and investment.

In 1991 a group of Maori comprising representatives from four iwi lodged a claim with the Waitangi Tribunal that became known as the Wai 262 – Indigenous Flora and Fauna claim. The claim relates to traditional uses of indigenous plants and animals. It is broad in scope and includes the ownership and use of indigenous flora and fauna and their genetic resources, related knowledge, intellectual property rights and the management and conservation of habitat. The Tribunal granted the claim urgency in 1995; however, the research and hearings have not yet been concluded.

Matauranga Maori asserts group ownership of intellectual property rights in knowledge or the expression of thought that is passed down from one generation to another. Matauranga Maori means the knowledge and understanding founded on Tikanga Maori (custom, culture and protocol), whether in document or other form.

The Copyright Act has no express provisions for the protection of Matauranga Maori. Its implications for Matauranga Maori issues are noted where they may arise. The Department of Conservation deals with Matauranga Maori issues with respect and consultation with iwi on a case by case basis.

Scientific forest-related knowledge

27. Disseminating scientific knowledge to all interested parties, including through new and innovative ways, and strengthening capacity and mobilizing funding for national and regional research institutions and networks.

28. Enhancing interaction between scientific research and policy processes, including priority setting of research, addressing of knowledge gaps and using scientific knowledge to support decision-making

The Ministry of Research, Science & Technology (MRST) is a New Zealand Government Department that develops research and innovation policies and manages the publicly funded part of the RS&T system on behalf of the Government. MRST works on policies, strategies and statistics. It contracts other agencies such as the Foundation for Research, Science and Technology (FRST) to manage the actual funding of research and innovation projects.

FRST invests in research, science and technology (RS&T), including forestry, on behalf of the New Zealand Government. It invests nearly \$400 million annually in a wide range of RS&T initiatives with economic, environmental or social benefits. Each year, around 8% to 8.5% of its budget goes to forestry research.

Research priorities for forestry must align with government priorities and FRST criteria in order to secure a portion of the contestable research budget.

The Foundation has worked closely with key stakeholders to determine how New Zealand's major business sectors should be performing in the future. As part of this process a series of strategic objectives has been prepared, for each industry. The objectives for the wood fibre industry include:

- Developing new and improved product lines and processes to maximise the value from timber;
- Creating production and processing regimes to achieve greater efficiency gains throughout the value chain (including energy efficiency);
- Development of environmentally sustainable and economically viable production and treatment regimes;
- Breeding the next generation of the planted resource – including alternative species other than the predominant radiata pine;
- Developing new areas of endeavour, based around technologies employed in forest related activities (including electronics, machinery and biofuel production);
- Identifying technologically based opportunities for horizontal linkages with other sectors, such as the development of secondary crops and extracting value from waste products;
- Determining the influence of the sector's activities on the environment and immediate communities; and
- Achieving a greater understanding of environmental sustainability and the integration of forestry in multiple land use applications.

The Government, FRST and the forest industry have worked collaboratively over the past two years on the development of an Integrated (and interdisciplinary) RS&T strategy for the sector. The strategy identifies the type of research needed to build the industry and the mechanisms for increasing investment by industry and government. The key elements of the strategy include:

- Developing better market intelligence, in order to meet consumer needs and opportunities;
- Distinguishing between the needs of the existing planted forest resource and the future resource, as they will have different requirements;
- The development of pan-industry research platforms built around key issues such as wood/fibre properties, wood quality, market access and bio-security; and
- The identification of different funding mixes for research, depending upon whether the work is classed as 'business as usual', 'added-value' or 'transformation' (i.e. new opportunities, outside of the existing business realm).

The Strategy is seen as a blueprint for guiding R & D investment in New Zealand forestry over the medium- to long-term.

The forest industry announced its research, science and technology strategy in mid-2001. It was developed following widespread consultation within the industry and with government agencies, particularly with the Foundation for Research Science and Technology. It identifies the type of research to be undertaken to build the industry and sets out the principles and mechanisms needed to increase investment in production forestry, both by the industry and government. In addition, there will be pan-industry research platforms built around key issues such as wood/fibre properties and wood quality, strategic market intelligence, market access, climate change, sustainable forest management, bio-security, etc.

Technical information transfer is an integral requirement of government research monies distributed through the Foundation for Research Science and Technology. Development of the Internet as an information dissemination system for forestry information is progressing, especially in relation to

government held information generally (e-government) and forestry information in particular (through MAF).

Research priorities for forestry must align with government policy priorities and Foundation for Research Science and Technology criteria in order to secure a portion of the contestable research budget. MAF sponsors forestry research projects to provide information for forest policy development. Global forest information services are available through FAO, ITTO and other international organisations. New Zealand contributes extensively through membership of these organisations.

Monitoring, assessment and reporting, concepts, terminology and definitions

29. Improving information on national forest resources, making the information widely available, assisting other countries in their related efforts.

Information on forest resource assessments and forest statistics for New Zealand's planted production exotic forests is through the National Exotic Forest Description (NEFD), which is New Zealand's national forest inventory (NFI). The NEFD system includes quantitative forest area and yield data at a national and regional level. Planned improvements to the NEFD are to enhance the collection of planted forest area data on smaller forest holdings (<40 ha) and migrate the database into a GIS with a cadastral linkage.

The NEFD is currently non-spatial. In order to improve the quality of data on planted forests a spatial forest database is being developed. The spatial data for this database will be created by collection of existing spatial data from forest owners where possible, to complement the NEFD tabular data. This spatial data collection is being handled by Forest Research for MAF. Other spatial and tabular data on planted forests which is not gathered by Forest Research will be collected through a process of postal surveys. This will be assisted by reconciling forest locations and owners with a farm-based database called Agribase

A review of the NEFD system was carried out in 2001 and most of its recommendations regarding improvements to the system have been adopted. In 2003 another review was undertaken on the accuracy of wood availability forecasts. Again, most of the recommendations of this review have been accepted and are being implemented. Currently (2004) a review of the yield tables is underway with a view to updating them and subsequently producing a new set of forecasts of wood availability.

All NEFD information is freely available through MAF web site.

In 2000 a New Zealand wide GIS-based Land Cover Database (LCDB1) was established. The database has developed from initially being intended as a forest-mapping project to a comprehensive land cover database with applications for a number of government monitoring and reporting obligations, both domestic and international, and for regional government spatial information requirements.

The Ministry for the Environment is the steward for the land cover database and plans to maintain it through a five yearly update cycle. The Ministry has been funded to produce Land Cover Database 2 (LCDB2) to report on land cover change over the five years since the previous version was completed.

The implementation of a carbon monitoring system for New Zealand's indigenous forests and soils is currently underway. The system will improve New Zealand's ability to more fully report changes in greenhouse gases under the Framework Convention on Climate Change. The significant carbon pools contained in indigenous forests, scrub and soils were not previously being monitored or reported. This is in contrast to the well-refined methodologies for monitoring carbon fluxes in the planted production

forests. In addition to monitoring carbon stocks the proposed forest and scrub system will provide key national statistics on New Zealand's indigenous forests.

Criteria and indicators of sustainable forest management

30. Developing and using criteria and indicators of sustainable forest management (at national level and/or subnational level and for policy, planning, management and/or monitoring purposes), and participating in regional and/or international C&I processes.

New Zealand is an active (and founding) member of the Montreal Process and is fully involved in all of the Process's initiatives and work relating to criteria and indicators (C&I).

New Zealand is also closely involved in promoting International Tropical Timber Organisation (ITTO) C&I. It is taking part in global initiatives through the UN Food and Agriculture Organisation (FAO) and ITTO in promoting their use in countries that have not yet adopted any C&I processes and in efforts to harmonise concepts and descriptions.