

**Preliminary National Report
To the Third Session of the
United Nations Forum on Forests**

*Progress and Issues Related to the Implementation of
The IFF/IPF Proposals for Action*

United States of America



May 30, 2003

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This is a preliminary National Report for the United States prepared for the Third Session of the United Nations Forum on Forests (UNFF3) held in Geneva, Switzerland, May 26 – June 6, 2003. It has been prepared with the assistance of the Pinchot Institute and presents initial assessment results for specific UNFF3 themes, as well as plans for continued work.

II. Progress and issues related to implementation of the IPF/IFF Proposals for Action

US support for Proposals for Action –The Proposals for Action (PfAs) represent the most comprehensive and integrated direction ever assembled to guide nations to achieving the goal of sustainable forest management. From 1996 through 1999, the United States worked with other nations of the United Nations to develop suggestions for country implementation. Forests are also vitally important to the people of the United States for their ecological, social and economic values, but work is needed to ensure their sustainable management. For these reasons, the United States is working to inform stakeholders of the proposals; conduct an assessment of the proposals against the current state of institutions and programs related to American forest management; and facilitate commitment to taking action on key items identified through this process.

General lessons learned and initiatives to further the information on forests –The primary lesson learned to date is that building ownership and the will to implement the PfAs within the forestry community in the United States will take a sustained effort. At this time, given many other immediate and more familiar natural resource issues, the Proposals for Actions are not seen as a priority to implement within the forestry community. Therefore, an assessment process involving stakeholders is a key part of the overall process to build involvement and ownership in the IPF/IFF implementation process.

How the US is approaching implementation – During the past 130 years, the US has developed the capacity to deal with many of the currently understood elements of SFM identified within the PfAs. Beginning with national legislation to protect the “natural wonders” (national parks) of the United States, followed by protection of “forest reserves,” and capacity building at the state and local level, today hundreds of millions of forest acres are, to some degree, protected and managed sustainably. There are Federal and state laws that address the conservation and protection of forests with focus ranging from public involvement in forest management decision-making, to research, soil and water protection and sustainable yield. The US, however, recognizes that improvements can and should be made in its institutional capacity to manage for SFM. The PfAs are recognized as one means to accomplish this goal.

Assessment and implementation of the Proposals for Action – A US response to the PfAs is difficult to formulate due to the complexity of impacts on forests from non-forest laws (such as air pollution laws), the many Federal and States forest laws, and the programs authorized by these hundreds of laws. It is for this reason that an in-depth assessment of the PfAs against current Federal and state laws and private and public institutional capacity and programs is being conducted. The inherently subjective nature of such an assessment requires the participation of forest stakeholders as an important part of the process.

Initial results of this assessment are partially presented later in this document and can be viewed in more detail at: www.Pinchof.org/pic/UNFF/assessment.html.

The process for the assessment and implementation of the PfA consists of:

- Compilation of US laws and programs, identification of their adequacy and gaps in capability to achieve SFM.
- Prioritization of gaps.
- Identification of priority PfAs.

Why forests are important to the people of the US – The early development of the United States occurred primarily in the forested eastern regions of the country. For hundreds of years, forests were a source of sustenance, life style and culture. Although the urbanized population of the United States is not as dependent on the country's forests, forests are still significant to Americans. They are a rural source of employment and provide agriculture, urban areas and industry with many environmental services (e.g. regulated sources of clean water). Forests also remain very important to the culture of Americans and valued for their own sake, and in fact, forested "green-space" is of increasing importance within cities and new suburban development

Sustainable forest management – In the United States, Federal and state forest managers generally understand that sustainable forest management is needed to achieve acceptable ecological, social and economic national and regional forest-related trends. To that end, the United States has participated in the Working Group on Criteria and Indicators for the Conservation and Sustainable management of Temperate and Boreal Forests (also known as the Montreal Process) to identify a practical set of criteria and indicators, acceptable to forest stakeholders and the scientific community, to monitor trends and progress in achieving sustainable forest management. In addition, the private forestry community and NGOs have focused on assuring quality management through using the tool of forest certification.

Forests contribution to sustainable development – In the U.S., forests are a major economic resource. In recent years, softwood lumber production alone was valued at more than US\$250 billion annually, with exports valued at more than US\$17 billion. Management of these highly productive, mostly temperate forests continues to be an important source of income, employment, and tax revenues in communities throughout the US. Collectively, US forests are of perhaps greater value for the array of other benefits they provide, such as watershed protection, habitat protection and outdoor recreation opportunities. Although these forest benefits have poorly understood market values, the American public expects their consideration in decisions to ensure forest conservation and timber from sustainably managed forests, and the equitable distribution of those benefits.

Federal forests established at the start of the 20th century account for approximately two-fifths of the nation's forests, and are managed for a wide diversity of goods and services that benefit local communities and the nation as a whole. Three-fifths of US forests are in state and private ownership, providing most of the nation's commercial wood production. Some private forest holdings are managed for a variety of other purposes, while some are hardly managed at all.

Forest lands in many regions of the US are coming under increasing development pressure, particularly in the Southeast. The loss of private forest lands entails the loss of important public values as well. There are numerous Federal, state, private and NGO programs

aimed at reducing management and land-holding costs, and increasing financial returns on private lands, in hopes of stemming conversion of private forest lands to non-forest land uses, as well as reducing impacts on publicly protected areas. Given the rate and effects of development, the adequacy of these programs is at issue.

Government and private partnership/roles – As mentioned above, in the United States forest ownership is highly decentralized. About 33% of forestland (100 million ha) is federally owned and managed by agencies, including: the Forest Service (FS) within the US Department of Agriculture (USDA); Bureau of Land Management (BLM), National Park Service (NPS), US Fish and Wildlife Service (FWS), and Bureau of Indian Affairs within the US Department of the Interior (DOI); and US Department of Defense (DOD). The FS, Bureau of Land Management (BLM) and the US Park Service are the key agencies responsible for managing federally owned public forestland. Roughly 58% of forests in the United States (174 million ha) are in the hands of 10 million private owners who account for 89% of the timber harvested annually. The majority of these private landowners are small “non-industrial” landowners.

In the US, the 50 states are responsible for guiding and regulating how private forests are managed. state as well as Native American tribal governments, counties, cities, towns, and other jurisdictions also own and manage forests. Decentralized forest regulation and extensive private ownership, the actions of tribal, state, and local governments, non-industrial landowners, industry, local communities, land trusts, environmental groups, and other non-governmental organizations (NGOs) all have a profound influence on the inception, support and implementation of policies and practices, as well as on the progress made domestically towards forest conservation and sustainable forest management.

Sorting through public and private goals – In the U.S., each forest landowner, whether public or private, has their own management goals and objectives. Some seek to maximize revenues from their forested lands, while others accept reduced revenues in order to protect their lands’ esthetic, recreation and/or wildlife values. This applies to both public and private lands. American culture strongly defends the right of individuals to manage their lands as they see fit.

The issue in the United States, therefore, is monitoring the collective result of millions of individual forest management decisions. This is the purpose of using criteria and indicators to monitor trends on forest conditions. If forest trends are unacceptable, actions can be taken in the public and private sector to change them.

US strategy for forests – Forest management has been guided nationally by strategic plans since the 1970s. The priorities of the current draft “national strategic plan” are presented below. Many of the individual US States with significant forest cover also have strategic plans.

The US Forest Service is specifically charged by Congress to develop a national strategy for management of the nation’s forests. Although the plan focuses on management of the 8.5 percent of the nation’s forest and grasslands administered by the United States Department of Agriculture’s Forest Service, it also addresses research, government coordination, and support to other Federal agencies and the States to improve Federal and

state institutional capacity to deal with forest management issues.

Six priority areas of the current US strategy are:

- Reduced risk to communities and the environment from catastrophic wildland fire, as a result of improved health of the nation's forests and rangelands.
- Improved health of the nation's forests and rangelands through reduced impacts from invasive species.
- High quality outdoor recreational opportunities on forests and rangelands which contribute to meeting the nation's recreation demands while sustaining natural resources.
- Opportunities are available for energy development and supporting infrastructure on forests and rangelands to help meet the nation's energy needs.
- Restore high-priority watersheds, and restore or actively maintain riparian habitat within high priority watersheds.
- Agency processes and programs are simplified and streamlined for more effective and efficient management of the nation's forests and rangelands

For additional information see: <http://www.un.org/esa/agenda21/natlinfo/wssd/usa.pdf>

How the US strategy relates to the UNFF elements – The U.S forest strategy has a strong correlation to the Proposals for Action being addressed by UNFF3. Each area is discussed in detail below.

Forest Health and productivity – There is a consensus within the United States that the nation's forests are being degraded by a number of biological (exotic invasive species) and non-biologic (suppression of natural fires) factors. Three of the six priorities of the strategic plan outlined above specifically deal with forest health issues. These are: management of accumulated forest fuels (fire), the control of invasive species, and the protection and restoration of watersheds. Air pollution, an important factor in forest degradation, has been addressed over the last two decades through legislation and subsequent regulation of motor vehicles, power generation plants, and release of chemicals into the atmosphere. A significant reduction in air pollution within the US has been achieved, although more work is needed.

Maintaining forest cover to meet future needs – Numerous state and Federal laws address the need to protect forest cover, protect biodiversity, maintain the cultural values of forests and combat desertification. Since the 1920s, the forest area in the United States has increased. However, recent regional forest assessments have sounded the alarm that the fragmentation and regional loss of forest cover should be a concern. The extent to which the country needs to address the fragmentation issue is unclear. Fragmentation, therefore, will be monitored as an important element of forest sustainability. Trend data will provide information on the seriousness of the problem.

Economic aspects of forests, including trade – The strategic plan's priorities do not address the economics of forest management except in one respect: reducing the cost of implementing the Federal government's forest management activities. While this is desirable, reducing the cost of administration, as well as the cost of conducting complicated environmental assessments and appeal procedures has been difficult. Other actions by the US government address the trade-related issues, led by the US Trade Representative, in

close cooperation with the Department of State.

Issues surrounding implementation of the PfAs – The United States has experienced similar problems that many other countries have experienced in implementing the Proposals for Action. These issues were well documented in the *1999 Practitioner's Guide to the Implementation of the IPF Proposals for Action*. These include:

- The Proposals do not identify the key issues that need to be addressed.
- The proposals provide little guidance on which of the 280 proposals should be given priority.
- Countries forest administrators are not organized in a way that can easily deal with the Proposals.
- The complexity and size of the implementation task.

Changes to data systems developed to provide information on national progress to SFM for domestic use – The source of national data on forests in the US has traditionally been the *National Forest Inventory and Assessment (FIA)*. This is a plot-based system that covers the entire United States. Each plot is measured at least once in every ten years. This program has been in place and producing data suitable for historic comparison since the 1930s. Over the years, the program has incorporated more data elements to address new questions regarding the condition of the nation's forests. In the last decade, demand for more refined ecological and forest data resulted in development of a complementary forest health inventory program. This program is being phased in, working in concert with the FIA. Success of these programs has been rewarded with recent budget increases.

The demand for more complete data on the ecological, social and institutional aspects of forest management is beyond the ability of the nation's public forest management agencies to collect and manage alone. For this reason, renewed efforts are being made to involve other agencies such as the Bureau of the Census and the Environmental Protection Agency to take responsibility for reporting some data related to forest management. A Federal interagency agreement is now in effect to guide this interagency collaboration.

Interim results of assessment for UNFF III themes

Economic Aspect of forests (interim results)

This section focuses on US progress on the implementation of the IPF/IFF Proposals for Action dealing with the economic aspects of forests. This is not limited to the actions of the Federal (central) government, but includes work by state, tribal and local governments, non-governmental organizations, and the private sector that contribute in many important ways to the conservation and sustainable management of US forests.

Proposals for Action addressed

	Proposals from:	
	IPF	IFF
<i>Full Cost Internalization and Life Cycle Analysis of Forest Products</i>		
Full Cost Internalization	134a 134b	41c 64h 122e
Life Cycle Analysis of Forest Products		41d 122f
<i>Economic and policy instruments to facilitate sustainable forest management</i>		
Financial and Technical Support for Capacity-Building and Participation in SFM by Local Communities, Indigenous Peoples and NIPFs	77f	64f
Innovative Financial Mechanisms to Support SFM	70b 71c	30e 115a 115b
Role of the Private Sector		41e 122b
Reinvestment of Forest Revenues into SFM	69b 69c	30c 122d
Promotion of the Sustainable Use of Economically Viable Lesser Used Forest Species	132a 132b	
<i>International trade and market access for forest products - Proposals for Action Related to Forest Certification</i>		
System Comparisons and Mutual Recognition	133f 133d(iii) 133g	41b
Application of specific concepts to certification	133c	
Studies on Aspects of Certification	133d	
<i>Data and information on markets and prices</i>		
Forest Sector Financial Flows		30d
Forest Resource Inventories, and Supply and Demand for Forest Products	28a	121a
Price Data		121d
Studies on Wood vs. Non-wood Substitutes	131a	

Background

The economic values associated with forests play a major role in determining whether they will be protected and sustainably managed, or whether they are exploited, abandoned, or converted to other more profitable land uses. In the US, forests are a major economic resource. In recent years, softwood lumber production alone was valued at more than US\$250 billion annually, with exports valued at more than US\$17 billion. Management of

these highly productive, mostly temperate forests continues to be an important source of income, employment, and tax revenues in communities throughout the US.

Collectively, US forests are of perhaps even greater value for the array of other goods and services they provide, such as watershed protection, habitat protection and recreation. Although these non-market values are often difficult to quantify in monetary terms, their consideration is critically important to ensure the conservation and sustainable use of forests, and the equitable distribution of their benefits.

Most of the economic and policy instruments developed to facilitate sustainable forest management in the US developed during just the past century. Federal forest reserves established at the start of the 20th century now account for approximately two-fifths of the nation's forests, and are managed for a wide diversity of goods and services that benefit local communities and the nation as a whole. Of the remaining three-fifths of US forests that are in private ownership, some are managed for commercial wood production, some for a variety of other purposes, and some hardly managed at all. Regulation of forest practices on private lands varies widely from one state to another, and various government and private programs exist to provide technical and financial assistance to improve sustainable forest management on these private lands. Forest certification programs have lately been added to the nongovernmental efforts to improve forest management, but thus far these programs reach only a small portion of private landowners, and are applicable to public forest lands only on an experimental basis.

Private forest lands in many regions of the US are coming under increasing development pressure, particularly in the Southeast. There are numerous Federal, state, private and NGO programs aimed at reducing management and land-holding costs, and increasing financial returns on private lands, in hopes of stemming conversion of private forest lands to development or other non-forest land uses. The loss of these private forest lands entails the loss of an array of important public values as well.

Progress on implementation of the IPF/IFF Proposals for Action

A. Full Cost Internalization and Life Cycle Analysis of Forest Products

Sustainable forest management requires an accurate valuation of the full range of goods, services and public values that flow from well-managed forests.

Economic and policy instruments in the US have largely addressed the negative externalities associated with commercial wood production, and who should pay for that mitigation. They have yet to determine how to maintain and compensate owners for many of the environmental values associated with maintaining forest cover. Federal policies, in combination with coordinated public policies at the state and local levels, have been largely successful in requiring both private and public forest managers to internalize the costs of mitigating the effects of timber harvesting on water quality, air quality, wildlife habitat and other public values. By definition, this internalization of the negative externalities associated with timber harvesting has increased the cost of wood, particularly in relation to the cost of wood from countries that do not yet have such policies.

The US is beginning to experience the costly diminishment of our forest's public benefits because of the loss of forest land. Forest valuation and full-cost accounting will become more important in the US with greater recognition of the negative externalities associated with losing existing forest lands. Current public debate suggests that existing mechanisms are not adequate to meet future needs to protect forests. As the price of wood products increases relative to non-wood substitutes, such as for building products, these shifts will bring with them the added social, economic and environmental costs of higher energy inputs in manufacturing, the long-term effects from mining and processing nonrenewable resources in place of renewable resources.

B. Economic and policy instruments to facilitate sustainable forest management

Economic instruments

In recent years, new economic and policy instruments have been developed to recognize the positive environmental values associated with private forests, and to provide a means for forest owners to capture those values in ways that enhance the financial viability of continuing to hold and sustainably manage these lands as forest. Local governments in many jurisdictions maintain a lower level of annual property taxation for forest land, recognizing that forests contribute to community well-being in ways that developed land does not. Hundreds of nonprofit land trusts have come into being to purchase or accept donations of conservation easements or development rights that reduce the value of forest land thus lowering annual property taxation. Federal and state governments are considering special provisions for estate and inheritance taxation to avoid forcing families to convert or prematurely harvest their forest lands simply to meet tax liabilities following the death of the previous owner. The Federal government provides funding for participating state governments to purchase environmentally important forest lands threatened by development or conversion. The Federal government is also considering granting tax-free status on income from special conservation bonds, purchased to provide nonprofit land trusts with the capital necessary to purchase forest lands threatened with development.

These economic and policy instruments all provide mechanisms to share or transfer the costs associated with owning forest land and sustainably managing forests, thus increasing the likelihood that they will remain forested. Public and private institutions in the US are currently exploring additional ways important public values from private forests can be captured as sources of financial income to forest owners. Prices developed for non-market forest values such as watershed protection, recreation or wildlife habitat conservation have not proven very useful in practical applications. However, retention of forests for their environmental services, rather than paying to mitigate the loss of these services through technological means, has proven successful. New York City's protection of 2,000 square miles of forested watershed through purchases of development rights and other incentives to private forest owners is an example. This forest land conservation program, which cost approximately \$1.5 billion, meant there was no need for new city water treatment plants that would have cost an estimated \$7-8 billion.

Policy instruments

Almost from the beginning of America's development of its institutional, legal and policy framework for forest conservation and management, public support and local capacity-building have been important parts of its implementation.

Local economic development based solely on wood production from Federal forests reached its highest point in the late 20th century, and is now based on the sustainable management and use of a greater diversity of forest resources. Communities heavily dependent on high levels of wood production from Federal forests have suffered from large fluctuations caused by swings in markets for wood and by changes in public policy. In addition, public concern over the protection of habitat for endangered species brought about rapid reductions in Federal timber harvests during the early 1990s, accompanied by significant economic and social dislocations. This internalization of costs resulted in public participation laws for forest land management decision making processes. These include the National Environmental Policy Act (NEPA), the National Forest Management Act (NFMA) and the Federal Land Policy and Management Act (FLPMA).

Indigenous people in the US are also gradually exerting their rights to influence, govern and manage large areas of forest land guaranteed to tribal governments in treaties that date back to the mid-1800s. In many instances, these forest lands are being managed by tribal governments subject to widely accepted norms of sustainable forest management, and several have sought independent, third-party certification. In some cases, but not all, forest management by tribal governments has become an important engine of economic growth and capacity-building for indigenous communities, providing income and employment in woods work and in wood processing.

There are few direct opportunities for involvement by the public per se in the management of private forest lands in the US. Nevertheless, management of these lands and compliance with soil and water protection regulations are scrutinized carefully by the public, and most forest products companies and other major private forest landowners have been sensitive and responsive to public criticism. The Sustainable Forestry Initiative (SFI), a program of the American Forest & Paper Association, is largely an outgrowth of public concern over the management of industrial timberlands, and is intended to provide independent assurance that these forests are now being well managed.

C. International trade and market access for forest products – Proposals for Action Related to Forest Certification

Forest certification in the US remains a private, voluntary program for independent, third-party evaluation of forest management practices and eco-labeling of products from certified forest management operations. Certification is a tool designed to protect the non-market values of forests. The major certification programs in the US are those of the Forest Stewardship Council (FSC) and the American Forest and Paper Association's Sustainable Forestry Initiative (SFI). The large majority of forestry enterprises that have become certified are on private lands, but in recent years several state and tribal governments have experimented with certification. The Federal government has not endorsed any particular certification system, preferring that the market place determine which scheme or program is best. In the Federal sector, only forest lands managed by the military have been certified. The relationship between forest management plans endorsed by legislation on public lands and third party approval creates difficult practical and political questions to be addressed before certification is likely to extend to US National Forests.

One of the indirect values of the development of private, voluntary forest certification

programs in the US is that it has facilitated a more positive, constructive stance by environmental NGOs regarding forest management. Rather than simply being critical of existing forest practices, environmental NGOs involved with certification have taken an active role in developing a comprehensive set of forest management standards that, to them, define sustainable forest management. Such a clear description of forest management practices that are regarded as ecologically sound, economically viable and socially responsible has given the forestry community a well-defined objective. This applies to the management of natural forests for multiple resource values and to intensively managed plantations.

Forest certification has been an overall positive force moving the US closer toward a working consensus on forestry management practices that are broadly acceptable, and in demonstrating the value of independent, third-party evaluation to provide public assurance that agreed upon forest management practices are being implemented effectively.

Data and information on markets and prices

One of the first and most basic elements in forest management is a current and accurate *forest resources inventory*. An initial systematic forest inventory is needed to establish original or baseline characteristics and conditions. Regular, consistent, and systematic inventories provide the basis for assessments of change in those characteristics and conditions. Changes and trends in forest area, growth, yield, and mortality, along with periodic assessments of resource supplies relative to demand, provide essential information for policymakers to assure the sustainable management and use of a nation's forest resources. This also becomes important for private sector investment decisions. Periodic collection of data on *prices, production, trade and supply* in forest products and resources also provides critical information for both public policymakers and private-sector investors for an awareness of how market trends are affecting forest resources, regional economies and future markets. *Forest sector financial flows* both affect, and are affected by, all of this information, with important implications for inter-regional and international movements of capital.

In the United States, the systematic gathering of data on forest resources and financial flows has become almost entirely a function of the Federal government, with important cooperative relationships with other units of government and with the private sector. The first comprehensive inventories of the forest resources of the United States were conducted in the late 19th century, at a time when the US was making the transition from a developing country to a modern developed nation. At first, these inventories were focused on the large expanses of Federal forest land in the western US, but eventually they came to encompass the entire 747 million acres (302 million ha) of forest land held by the national government (33 percent), state and tribal governments (9 percent), forest industry (9 percent), and small private owners (48 percent) (1997 figures). A network of "continuous forest inventory" plots was established on public and private lands and have been periodically re-measured providing data now stretching over several decades. Detailed forest resource reports are developed for each forested state approximately every ten years on a rolling basis, and a national-level "snapshot" of the forest resources of the United States is published approximately every five years. This data is made widely available to the public in both printed and electronic form. Recently, the United States has adopted the Montreal Process Criteria & Indicators (C&I) as the framework for presenting national-level forest resource

data.

In recent years, several “eco-region assessments” have been developed for regions of the United States where important forest ecological, economic and social issues must be resolved in national-level policy. For example, concerns in the Pacific Northwest over the decline of endangered animal and fish species, and an associated sharp decrease in Federal timber harvesting on Federal lands to the regional economy, prompted an eco-regional assessment as the basis for policy decisions. Partly as a result of the shift in US timber harvests from Federal lands in the Pacific Northwest to private forest lands in the Southeast, urbanization and endangered species a southeastern assessment was developed.

Data collection on forest resources harvesting, prices and trade is less systematic. Federal agencies maintain current information on timber harvesting from the lands directly under their management. Timber production data from private lands is more difficult to obtain, and is largely derived indirectly through periodic assessments of change in forest inventory. Data on the manufacturing of wood products is gathered by several commerce-related Federal agencies, in cooperation with economic development agencies in state governments and with forest industry trade associations. Similarly, data on income and employment in the forest sector is compiled by labor-related Federal agencies, in cooperation with their counterpart agencies in state governments.

Less institutionalized is data collection on financial flows in the forest sector. Capital flows from forestry operations to corporate headquarters and to investors, and financial reinvestment back into local forestry operations, are internal and proprietary, making it difficult to collect this kind of data. Monitoring capital flows is further complicated by consolidation of the forest products industry in the United States and globally. US forest products companies have been acquired and consolidated by larger US, European and South African companies. General trends in financial flows in the private forestry sector are monitored by industry analysts, such as Price Waterhouse Coopers and reported annually in their Global Forest and Paper Industry Survey (www.pwcglobal.com), and by Federal trade- and commerce-related agencies.

Federal, state and private institutions in the US are examining changes in supply, demand, and markets for wood products, the affected markets for wood substitutes and the feasibility of substituted recycled materials for virgin fiber and wood product. They are also examining the extent to which increasing prices for wood products are increasing the demand for wood substitutes that can result in a net negative impact on the environment.

Forest Health and productivity

At the time the IPF/IFF proposals were being developed, there was a focus on air pollution effects on forest health. The proposals reflect this. The US has made substantial progress in implementing these proposals, but has also devoted significant resources to addressing other forest health issues such as forest fuel accumulation (wildfires), insect and disease infestations, and invasive species that are major challenges for forest health and productivity in the US.

Proposals for Action addressed

	IPF	IFF
<i>Forest Health and Air Pollution</i>	27c 50a 50c 50d	
<i>Other National-level Forest Health Programs</i>	N/A	

Background

Maintaining the productive capacity of forests, and the integrity of their ecological functioning, is fundamental to sustainable forest management. In the United States, once the widespread exploitation and abusive management of forests during the 19th century had been reduced, attention turned to the protection of forests from forest fires, insect infestations and outbreaks of disease. In 1910, a particularly devastating series of large wildfires swept through the western United States, resulting in significant loss of life and property as well as the destruction of millions of hectares of valuable timber and forested watersheds. A single complex of wildfires in Idaho and Montana burned more than 1.2 million hectares and killed 85 people. Preventing such catastrophes became a focus of forest policy, science and practice in the US. With leadership at the Federal level from the US Forest Service, major research programs were undertaken to develop and implement advanced fire suppression techniques. This action was highly effective; the area of US forest land consumed by wildfire dropped sharply from 21.6 million hectares in 1930 to 1.4 million hectares by 1959.

Research programs and aggressive management action also produced remarkable successes in reducing some impacts of widespread insect infestations and disease outbreaks. Early in the 20th century, large areas of US forests were damaged by bark beetles (*Dendroctonus* spp.; *Ips* spp.), Douglas-fir tussock moth (*Orgyia pseudtsugata*), pine looper (*Phaeoura mexicanaria*), gypsy moth (*Lymantria dispar*), and spruce budworm (*Choristoneura* spp.). Following the near-total destruction of American chestnut, a key economic and ecological component of hardwood forests throughout the entire eastern US, by chestnut blight (*Endothia parasitica*), research programs were developed to combat other major forest diseases such as white pine blister rust (*Cronartium ribicola*), dwarf mistletoe (*Arceuthobium* spp.), needle cast (*Lophodermium* spp.), Dutch elm disease (*Ceratostyis ulmi*), fusiform rust (*Cronartium fusiforme*.) and schleroderris canker (*Schleroderris lagerbergii*) with partial success. New alien species such as the Asian longhorned beetle (*Anoplophora glabripennis*) bring new challenges for research and suppression.

US forest policy at this time was strongly supportive of these actions, as reflected in the statutory authority and financial resources granted to the US Forest Service and the Animal and Plant Health Inspection Service (APHIS). In addition to combating wildfire, insects and disease on Federal forest lands, legislation and Federal assistance programs were also developed to support cooperation among Federal and state forestry agencies, forest industry, and small private forest owners. Cooperative forestry programs funded through Federal agencies like the US Forest Service and administered by state forestry agencies, provided for technical assistance in fire prevention and insect and disease control on private forest lands. In some instances, cost-sharing and other financial incentives were provided to encourage private forest owners to take prompt action to control forest health

problems that could potentially threaten surrounding forests.

Implementation of IPF/IFF Proposals for Action

Air pollution effects on forests

Air pollution effects on forests are a major concern as forests in North America have exhibited declining health and increased mortality from air pollution, mostly in the form of acid rain. This was particularly serious in higher elevations in the eastern United States, where prevailing winds carries air pollution from the heavily industrialized areas of the American Midwest and Lake States. This air pollution also was carried across the border into forest areas in eastern Canada, creating a serious trans-boundary air pollution issue for the two countries.

The US has made substantial progress in addressing air pollution. The US first established a forest health monitoring program to continuously assess changes in the health of forest ecosystems, especially in the eastern US, and to conduct research on the specific causes and how they negatively impacted forest health. This program has compiled a substantial body of data that will be of value in detecting further changes in forest health, identifying forest damage from air pollution at early stages, and prompting policy and forest management changes to mitigate these impacts.

To address the problem, the Clean Air Act amendments of 1990 established an innovative system for reducing sulfur dioxide emissions through a “cap and trade” mechanism. Pollution reduction goals are set by the Federal government, but market mechanisms rather than direct regulation are used to achieve the goals. Under the Clean Air Act, the US Environmental Protection Agency issued permits to utilities for a certain level of SO₂, and the right to trade these permits with other utilities. It was more expensive for older technology power plants to achieve the required reductions than it was for newer, more efficient power plants. This stimulated an active trading of SO₂ credits from new plants to old, but it also prompted the new plants to become even more efficient, so as to have more unused permits to sell. Ten years later, the market in SO₂ permits had grown to \$3 billion, overall SO₂ emissions by the utility industry are significantly *lower* than EPA targets, and at about a tenth of the predicted cost.

The trans-boundary air pollution issues affecting Canadian forests have resulted in new international collaborative actions. A joint Canadian-US commission was established through the Canada-US Air Quality Agreement of 1991 to monitor and report on the two countries’ progress in reducing emissions of SO₂ and NO_x. In 1994, the North American Free Trade Agreement (NAFTA) incorporated a North American Agreement on Environmental Cooperation that established a framework for regional cooperation on transboundary environmental issues, including air pollution.

Although air pollution is still a significant issue affecting forest health in the US, particularly in the central Appalachian Mountains, its impacts have been significantly reduced by these efforts, which directly address the IPF/IFF Proposals for Action.

Emerging issues in forest health and productivity

During the past decade, forest health and productivity concerns in the United States have returned to issues involving wildfires, insect infestations and disease outbreaks. Recent disease outbreaks have had a major impact on the yellow-cedar forests of Alaska. Infestations of mountain pine beetle (*Dendroctonus ponderosae*), have killed thousands of hectares of pine forest in the Rocky Mountain region of the western US. New exotic diseases are again threatening the extinction of forest species. Also, large-scale wildfires are occurring once again. In recent years, more than 100,000 wildfires have occurred annually, typically burning more than 1.6 million hectares. In 2002, Federal agencies spent a record US\$1.6 billion fighting wildfires. Just as the 1910 fires so galvanized forest policy and management in the early 20th century, the severity of today's wildfires—and the large area of US forest that remain at significant risk for wildfire—have made fire management once again a major focus of US forest policy.

Ironically, the physical and biological circumstances that are now the basis for fire issues in forest health are largely the result of earlier forest management efforts, especially fire suppression. The successful prevention and prompt extinguishing of all fires over a period of several decades, especially in fire-dependent ecosystems like the pine forests of the Rocky Mountain region and the southeastern US, have produced highly unnatural conditions that make them prone to insect infestations, disease and wildfires. Now that human communities have expanded into many of these fire-prone forests, forest health issues in the US are concerned at least as much with preventing loss of life and property as they are with conserving the commercial and ecological values of the forests themselves. This has introduced conflicts. At the national policy level, actions are being taken to reduce fire risks in forest areas adjacent to communities. There is also a renewed emphasis on developing the ecological science needed to provide forest managers with a clearer understanding of how best to manage both fire-dependent and fire-sensitive forests to maintain their health and productivity, and at the same time protect lives and property.

Invasive species are having major impacts on native biological diversity and are receiving renewed attention from forest scientists and forest managers. Introduced insect and disease organisms increasingly find their way to US forests through growth in international trade. Government agencies such as APHIS and the Forest Service are struggling to meet the challenge of protecting native forests from foreign biotic agents. Of equal concern is the continuing introduction of exotic plants and animals that adapt quickly to the environment in the US, crowding out native species.

Governmental responses have included eradication efforts and research on species-specific predators or diseases that might be used against invasive exotic species. However, experience has made scientists wary that impacts from such efforts may be as negative as those from the exotics they are attempting to eradicate. Biodiversity inventory and monitoring programs have been established by Federal and state governments, often in cooperation with NGOs, to assess the spread of invasive exotic species and set priorities for efforts to halt this spread. Finally, government agencies, the private sector, and NGOs are working together to identify and map remaining large, contiguous areas of high value for protecting native biodiversity, and take steps to minimize roads, trails, and other intrusions that could serve as vectors for aggressive invasive species.

Although forest fires, insects, diseases and invasive species were not specifically addressed in the IPF/IFF Proposals for Action, these factors are major obstacles to sustaining the health and productivity of US forests. Moreover, many of these very same issues are challenges in other nations throughout the world. Actions by the US to improve science, policy and management techniques to address these issues are essential to improving sustainable forest management in the US, and elsewhere.

Maintaining forest cover to meet present and future needs

The IPF/IFF Proposals for Action call for nations to maintain forest cover to meet present and future needs. Many of the individual proposals address the development of national assessments of long-term trends in supply and demand of various forest goods and services, and the development of national strategies for their sustainable management. To monitor forest condition and cover, the United States has been developing forest assessments focused on timber supply and demand for several decades, but more recently has expanded these assessments to consider a wider array of market and non-market goods, services, and public values.

Proposals for Action addressed

	IPF	IFF
<i>Meeting Demand Through Sustainable Means</i>	28a	122a
<i>Wood Energy Technologies and Fuelwood Use</i>		121c 122c

Background

Concern over maintaining forest cover to meet present and future needs first emerged in the United States in the late 19th century as a wave of exploitative logging and deforestation kept pace with rapid economic development of frontier areas in the United States in the 1800s. Fears about a near-term “timber famine” and a potential long-term loss of forests in the western US gave rise to the creation of Federal and state forest reserves, the basis for the present-day National Forest System. Today, the National Forests comprise more than 60 million hectares of forests that are managed for an increasing diversity of goods, services and important public values. Additional areas of public forest land are protected by other Federal agencies, such as the National Park Service and Bureau of Land Management (100 million ha), and by state and local governments (45 million ha). Many states such as Pennsylvania, New York and Michigan have extensive forest reserves.

The remaining 58 percent (174 million ha) of US forest lands are privately owned, and managed for many objectives, some conservation related. Forest industry lands (27 million ha) generally are intensively managed for wood production. Indian tribal lands and other non-industry private forests (147 million ha) generally are managed for wood production and a mix of other uses including wildlife habitat and recreation. To date, additions to the forest area on private lands (mostly from forest regeneration on pasture lands) more than compensates for the overall loss of forest area on private lands (mostly from development). However, there are increasing concerns regarding forest cover losses on private lands with

important public values such as watershed protection, habitat conservation, and biological diversity. The problem is exacerbated by the movement of capital out of forest industry lands in the U.S., resulting in large-scale selling of these lands. Some of this has already resulted in conversion of lands to non-forest uses (see Section 1, Economic Aspects of Forests).

Implementation of the IPF/IFF Proposals for Action

In the US, national assessments of long-term trends in forest goods and services have gradually evolved to reflect the importance of forests for both wood and non-wood forest products, and also for a variety of environmental services and social benefits. Forest resources data for both public and private forests is gathered on a regular basis (usually each decade) through a cooperative effort between the US Forest Service and the state forestry agencies. Changes in forest inventory (through growth, removals and mortality) have become the basis for periodic national assessments of long-term trends in supply and harvest of wood in the US; published at least every decade by the Federal government as the *Analysis of the Timber Situation in the United States*. This information is also utilized by a variety of private-sector analysts who have developed additional proprietary economic models for projecting demand, production and prices for wood products in the US and among our international trading partners.

Since passage of the Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA), the US Forest Service has conducted a broader and more diverse assessment of the long-term supply and demand of the goods, services, and public values derived from US forests. These include water resources, minerals, wildlife and fish, livestock forage, recreation and wilderness. The approach in the RPA Assessments to date has been to project supply and demand from current situation into the future based on certain assumptions about the driving forces influencing the forest sector. These models have become increasingly complex, incorporating macroeconomic factors influencing timber harvest levels, changes in population demographics influencing recreational use of forests, and trends in biodiversity conservation that may affect the area of forests available for wood production and other commodity uses. The Assessment uses a 50-year outlook, recognizing that the reliability of projections past the next decade are increasingly speculative.

The RPA also requires that every five years a program be developed, on the basis of the information in the Assessment, and approved by Congress, to outline the strategy deemed most likely to meet current and future national needs for the array of forest goods and services. Although this may be the closest US counterpart to what the IPF/IFF Proposals for Action refer to as a “national forest program,” it should be noted that the RPA Program serves primarily to describe an overall strategy for the management of the National Forests, administered by the US Forest Service, and the research to guide that agency’s cooperative efforts in working with states, local governments and through them, the private sector. It does not provide direct guidance for the management of other Federal or state lands, nor for forest lands managed by forest industry, tribal authorities or small private owners.

In 1995, a partnership of public and private forestry and conservation organizations convened the Seventh American Forest Congress to take a different approach to establishing something akin to the “national forest program” described by the IPF/IFF

process. The Seventh American Forest Congress brought together several thousand individuals, from both inside and outside the forest sector, to collectively articulate a vision for the future of US forests, and goals aimed at achieving that vision, rather than simply projecting the current situation forward. Given the level of contentiousness that has characterized the public debate over management of US forests during the past several decades, the Seventh American Forest Congress produced a remarkable breadth of consensus on the major elements of US forest policy. While the result of the Seventh American Forest Congress had no direct link into the national policy process, it continues to frame the debate and guide decision makers in developing additional components of US forest policy.

In recent years, assessments of forest cover in the US, and long-term projections of supply and demand for forest goods, services and values, have been expanded to include a broader spectrum of ecological, economic and social considerations. Comprehensive, science-based assessments at the national and regional scale have been developed not only by Federal government agencies, but by NGOs, the private sector, and state government agencies, often working in partnership. The 2000 RPA Assessment was the first to be developed using the Montreal Process Criteria and Indicators as its framework for reporting on conditions and trends in US forests. Its expanded emphasis on the conservation of biological diversity represents a continuing effort to achieve greater complementarity between a traditional “national forestry program” and a national strategy for biodiversity conservation.

To the extent that the US can be said to have a national strategy for biodiversity conservation, it began 100 years ago in Sebastian, Florida on Pelican Island, the first National Wildlife Refuge, created by President Theodore Roosevelt on March 14, 1903. The U.S. Fish and Wildlife Service is the principal Federal agency responsible for conserving, protecting and enhancing fish, wildlife and plants and their habitats. The Service manages the 38.4-million-hectare National Wildlife Refuge System, which encompasses more than 540 national wildlife refuges, thousands of small wetlands and other special management areas.

The next milestone was passage of the Endangered Species Act in 1973 (ESA). ESA established a process whereby the Federal government could be petitioned on behalf of a dwindling species for official listing as “threatened” or “endangered.” Once federally listed, a species is protected from hunting or any other “taking.” Under the terms of ESA, destruction of critical habitat for a threatened or endangered species is tantamount to a direct taking and is thus prohibited. Efforts to harmonize biodiversity conservation with forest management have proven difficult in the US, particularly given the style of multiple-use forest management practiced on most public and private forest land. The legal prohibition against any action that would diminish habitat for a federally-listed threatened or endangered species precludes many other types of management activities, leading many to conclude that the two purposes are largely conflicting rather than complementary. Efforts to reconcile these two purposes in the context of the National Forest Management Act actually raised the level of protection for threatened or endangered species beyond that guaranteed by ESA, requiring not only that critical habitat be protected, but that the US Forest Service adopt a forest management regime that would provide reasonable assurance of the continued viability of the species itself throughout its range. Practical implementation of this provision has been extremely challenging, both scientifically and

politically, and the policy is now under reconsideration.

Because so large a proportion of US forest land is in private ownership, biodiversity conservation strategy and implementation are driven as much by the private and NGO sectors as by government. After ESA, an NGO, The Nature Conservancy, developed a “natural heritage” data base, an inventory of rare species and their habitats conducted on a state-by-state basis. In most instances, the state governments later assumed responsibility for the continuation of these efforts. The Nature Conservancy and World Wildlife Fund have continued to map, propose priorities and purchase areas of regional, national, and global significance for biodiversity as a basis for land conservation and habitat protection efforts. Numerous NGOs have joined to identify and locate High Conservation Value Forests (HCVFs) and work for their protection. Forest industry has undertaken a similar effort, in cooperation with The Nature Conservancy, to identify and map Forests of Exceptional Conservation Value on their own lands.

Taken together, this information and action is a substantial effort to conserve areas of high biodiversity value, and especially critical habitat for threatened or endangered species, on both public and private forest lands in the US. On public forest lands, regular periodic analysis and planning, such as the land and resource management plans developed for each National Forest at least every 15 years, now explicitly consider biodiversity conservation as a high-priority objective, along with the sustainable management of these forests for a variety of other goods and services.

For private forest lands, a range of different measures are used to protect important habitat. Literally hundreds of national, regional and local “land trusts” have been established to purchase or accept the donation of development rights on important tracts of private land. These “conservation easements” become a permanent restriction on the deed of ownership for the land so that, even if the land should change ownership in the future, all rights to develop the land and remove it from forest land use remain with the land trust. Conservation easements of this kind can be focused on only a specific area of critical habitat, or on the entire tract. A few large NGOs have come to own large areas of private nature preserves, which are managed solely for the protection of biodiversity values. The Nature Conservancy alone owns and manages more than 2 million ha of private preserves in the US. Finally, there are several large NGOs in the US whose primary purpose is to identify tracts of privately-owned forests with high conservation values, acquire these tracts with private funds, and then sell or donate these lands to Federal or state agencies to ensure their permanent protection as public lands.

Another major and growing consideration in maintaining forest cover in the US is ensuring adequate water supply for municipal, agricultural and industrial uses. Forested watersheds are the source of most freshwater supplies, in both the eastern and western United States. The US Forest Service estimates that, excluding Alaska, almost 70 percent of water runoff in the US comes from forested areas. National Forests alone contribute 14 percent of the total runoff. The value of water flowing from National Forests is estimated at more than \$3.7 billion annually.

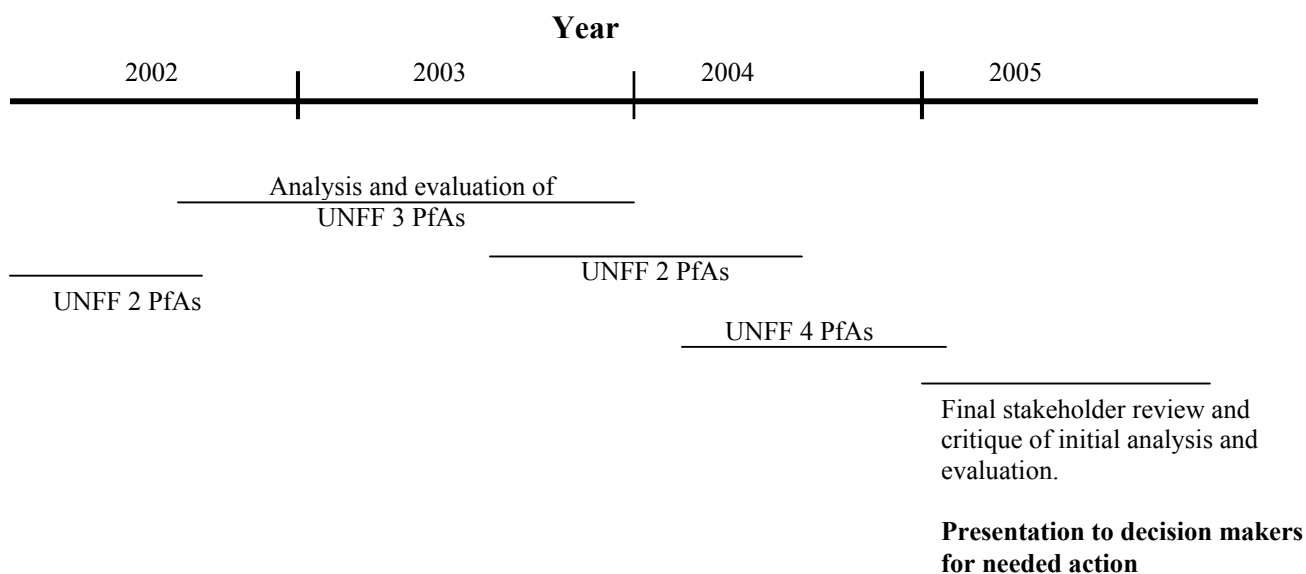
Projections of long-term supply and demand for freshwater, assuming even modest increases in US population are prompting expanded conservation efforts for both public and private forests. On public forests, forest management decisions are being increasingly

determined by what will maximize the effective capture, storage, and measured release of water for human consumption and in-stream habitat for sensitive species. In the eastern US, where forests are predominantly privately-owned, concerns over water quality and future water supply are prompting the protection of forested watersheds through direct public acquisition of forest lands in municipal watersheds, and through purchase of development rights that prevent conversion to non-forest land uses, but allow private forest owners to continue managing for goods and services that do not negatively affect water quality.

US implementation of the IPF/IFF Proposals for Action to maintain forest cover to meet present and future needs is well-developed and comprehensive. Current approaches to assessing long-term supply and demand for a variety of goods and services, including overarching values such as conservation of existing biological diversity, reflect more than a century of gradual development of ecosystem science and institutional capacity. This institutional capacity now extends well beyond the role of the central government to encompass the capabilities of state authorities, a vital and active private sector, and NGOs. The success of this approach will enable the US to better protect its forests and the diversity of values they represent, and also to serve as a source of technical assistance to other nations in earlier stages of development.

III Next Steps

The sequence of work for further analysis, evaluation and implementation of the PfAs is planned, according to the following timeline.



Analysis consists of:

- Review of Laws, programs/policies (Federal, other government, private and NGO)
- Link Proposals for Action to Montreal Process criteria and indicators (C&I)
- Gap analysis – adequacy of current implementation and need for action

Evaluation consists of :

- Technical advisory committee consisting of Pinchot Institute, government agency, university and NGO experts
- Interagency (Federal and state) review and input
- Public review and input

Appendix A Matrix Assessment of the Proposals for Action

The assessment of the Proposals for Action will be presented in three forms. The first will be a detailed narrative for each PfA. This will list the laws and programs in place that “implement” the proposal. In addition, a subjective call will be made in collaboration with stakeholders of the adequacy of current and past actions and the need for further action.

Accompanying the detailed assessment will be a summary assessment similar to that presented above. Please visit www.Pinchof.org/pic/UNFF/assessment.html for the latest versions of these assessments.

A matrix will also be constructed that further summarizes the assessment for use as an Executive summary tool and for public presentations and captures all of the information, by Proposal for Action, in a few bullets. The matrix will look as follows.

United States Assessment of the IPF/IFF Proposals for Action

No.	Summarized IPF/IFF Proposal	IPF Proposal number	IFF Proposal number	Domestic Programs/ institutions	Adequacy of current	Need for further action	Comment/ Rationale
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Appendix B – Arraying the Proposals for Action by “Common Themes.”

The United States believes that it will be useful to array assessment of the PfAs by a set of common themes derived from the criteria for sustainable forest management. The purpose of such a display is to identify possible synergies for groups working with the implementation of criteria and indicators for sustainable forest management and those working on the Proposals for Action.

This matrix will look as follows:

Proposals for Action by UNFF Theme and Common Thematic Areas

UNFF Themes	Common Thematic Areas			
Theme #1	Thematic Area #1	Thematic Area #2		
	<i>Public Actions</i>			
	<i>Private Actions</i>			
Theme #2				
Theme #3				
Etc.				