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The editors and authors are responsible for their own articles. Their opinions do not necessarily always express the views of WWF or IUCN.

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Carbon sequestration and forest conservation: do they relate?

As a result of the Kyoto Protocol agreed at the 1997 Climate Change Convention conference, large sums of money may become available from industry and governments for tree planting and forest conservation, with the intention of sequestering carbon and reducing the impacts of climate change, through joint implementation (JI) projects in developed countries and the Clean Development Mechanism (CDM) for projects in developing countries. In theory, this money could help sponsor conservation. However, there are several potential or actual problems:

- it may not work - there is no conclusive proof that this kind of carbon sequestration will significantly reduce climate change;
- it could do more harm than good - for example if natural forests are replaced by plantations or if sustainable forest projects are undercut by "carbon subsidies";
- it is used as an excuse for business as usual - planting trees in far-away countries is easier - but less effective - than reducing pollution at source.



Nonetheless, the money is desperately needed for forest conservation. The Kyoto Protocol will, whether we like it or not, have a major influence on the shape of future forest policies, at least for a few years. Many corporations are starting to plant trees, and seeking partnerships with conservation organisations. At the very least, strong environmental and social guidelines for sequestration or sinks projects are urgently needed, to avoid money being diverted into useless or harmful projects.

WWF and IUCN have been carrying out consultation exercises to draw up an effective strategy towards such projects - with options ranging from refusing any involvement in

carbon sequestration projects to actively seeking such partnerships. The question of the types of projects that might be worth supporting, and the caveats and safeguards that are required, have received particular attention. Amongst others, WWF has been working in cooperation with the Carbon Storage Trust, an independent organisation based in the UK, which is committed to adhering to strict environmental criteria in project development.

The rapid rate of development of sinks projects means that we have to act fast if we are to influence decision-making. We would therefore welcome any feedback from readers regarding the theory and practice of carbon sequestration and forest conservation.

The next issue of the newsletter will be produced in November 1998.

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Greece in flames

A series of fires are threatening forests of international importance in Greece, with over 100,000 hectares reported as having burnt. In the Peloponnese peninsula, the Taygetos forest - one of a hundred WWF European forest hotspots selected for their high conservation value - burnt for several days. Taygetos is Greece's richest forest in terms of biodiversity, representing the most southern distribution of black pine and fir forests in Europe. It has over 160 endemic plant species (of which 21 are exclusive to the forest itself) and 36 rare or endangered species of animals. Aristotelis Papageorgiou, WWF Greece forest officer, put the blame squarely on "arsonists, wanting to clear land for settlement and development", indicating another worrying link between organised crime and forest destruction.

Contact: a.papageorgiou@wwf.gr

Mining and logging in the Venezuelan Amazon

Research suggests that most of the potential financial revenues from the fragile Guayana region of Venezuela are being lost to the country, according to Marta Miranda of the World Resources Institute. Around 30,000 small-scale gold miners operate in the area, mainly illegally, producing \$50-100 million worth of gold each year yet paying no taxes. There are also at least 38 large foreign mining companies active in the country. Reclamation standards are poor. Royalties on logs, mainly extracted by domestic companies, capture only 3 per cent of the total value of the wood cut. The area under logging concessions has increased considerably, but lack of capacity and infighting amongst government ministries means that environmental and social costs of the timber industry are likely to be higher than predicted. According to WRI, the area is one of the five most important tropical forests left in the world. The study includes detailed proposals for changes needed to reduce the level of damage and concludes that the country has a "significant opportunity to protect" its forests if steps are taken now to improve planning and controls.

Source: *All that Glitters is not Gold* by Marta Miranda and others, World Resources Institute, Washington DC



BP plans gas pipeline through PNG rainforest

The Papua New Guinea government is looking favourably at a proposed US\$4 billion gas pipeline through intact rainforest and the Sepik River watershed. The project, at pre-feasibility stage, is proposed by BP Exploration, Esso Highlands and OilSearch, to link a Southern Highlands gasfield 400 km to the north coast - the biggest such project ever undertaken in PNG. A pipeline already exists from the Southern Highlands to the Gulf of Papua, and environmentalists argue that it would be less damaging to follow this route. At risk are some of the most diverse habitats on Earth, ranging from lowland Sago swamp to sub-alpine forest, and the unique indigenous cultures of the Sepik River basin. The pipeline would cross unroaded territory into the heart of the Hunstein Range; 1.5 million ha with low human population. Already Sepik foothill communities report that BP has cleared 20 helipads along the route. Local families are currently happy with the compensation received for lost trees but far greater changes will come if the pipe is laid. Apart from forest clearance along the pipeline, roads will bring in migrants, including a likely influx of Highlanders. Once the pipeline is built, jobs will be scarce and competition amongst newcomers and the community for resource company hand outs could become a problem, as it has elsewhere in Papua New Guinea. BP is confident the project will receive government approval and hopes to begin laying the pipe in 2001.



Forests and culture: following ancient tradition, villagers in Derbyshire, England, annually decorate their village wells with pictures made from flower petals. Most designs are on Christian themes, although environmental concerns are also sometimes depicted.

Photo: Brian Dudley

Tropical fire problem spreads to Mexico, Central America and Florida

Conservation officials reported that fires which raged throughout Mexico - especially in Tabasco, Chiapas and Oaxaca states - were even more ecologically damaging than those seen earlier in Indonesia and Brazil. Mexico's worst drought in 70 years and the effects of El Nino have combined to turn traditional peasant slash and burn operations into uncontrolled conflagrations that have already destroyed hundreds of thousands of hectares of forest, especially in the south-east. Mexican officials are also blaming some of the fires on drug traffickers, clearing land for marijuana crops. The fires have sent a 1100 km

haze of smoke across the southern United States and resulted in authorities issuing unprecedented health warnings, and the US government offering \$10 million to help control the fires. Over 10,000 separate blazes have been recorded. Fragile ecosystems were severely damaged, including the Chimalapas National Park and surrounding forest in southern Oaxaca state where WWF recorded over 200 fires. **Guillermo Castilleja** of WWF reported that the fires had affected cloud forests, home to internationally endangered orchid species and rare birds like the horned wuan and the quetzal. Further south, fires swept through 5000 ha of Nicaragua's Bosawas Biosphere Reserve and burned two national preserves in the Guatemalan section of the Maya Forest, the largest stretch of unbroken rainforest in Central America. And Florida is also experiencing unusually high levels of fire, including very intensive ground fires that cause total forest loss.

Multiple sources: Information compiled by Sabri Zain of WWF Malaysia.

News in brief

Illegal logging involved government officials in Thailand and the army in Cambodia

A Thai government report named 42 interior, military, customs, police and forestry officials after 13,000 logs, supposedly imported from Myanmar, were found to have been logged in the Salween National Park. In Cambodia, the government claimed it was unable to prevent heavily armed soldiers from logging in the Bokor and Kiri Rom national parks. The UK-based Global Witness group meanwhile claims that the government has authorized \$50 million-worth of illegal timber exports to neighbouring Thailand and Laos.

Sources: *Bangkok Post* 18-3-98, *South China Morning Post*, 20-6-98 and Global Witness.

US opinions

Almost 70 per cent of US biologists believe a "mass extinction" of plants and animals is underway and more than 600 natural scientists have urged Congress to pass legislation banning clearcutting in national forests.

Source: *Washington Post* 21-4-98

Changes in Canada

"Canadians continue to value the country's forests more for their environmental and ecological benefits than for their economic contribution...", with the greatest threats being seen over-cutting and mismanagement by 60 per cent of those polled in a recent survey. Meanwhile, following years of protests, Canadian timber company MacMillan Bloedel announced that it will phase out clearcutting within five years, to be replaced by variable retention logging. The move follows rejection of BC timber by a range of buyers, including major retailers in the UK and Germany. Together with two other companies, Interfor and Western Forest Products, it has also committed to developing certification which meets FSC, ISO and Canadian Standards Association standards.

Sources: Greenwire, May 1998 and Canadian Attitudes Towards Natural Resources Issues, 1997, *Globe and Mail* 13-6-98, Natural Resources Canada, WWF International.

Forest loss creates Italian mudslides

Deforestation, illegal urban sprawl and the Naples mafia are being blamed for the mudslides that swept through southern Italian towns in May, killing around 300 people. Large areas of forest had been cleared for housing, much of which is said to have been built illegally by ignoring or bribing planners.

Source: *The Times*, 8-5-98.

Over 60 per cent of Swedish paper recycled

In 1997, 1.3 million tonnes of paper were collected and recycled, and a further 15 per cent was used to generate electricity. There is currently a debate about whether more should be used for incineration.

Source: Skogsindustrierna press briefing, 20-4-98.

Indonesia: Local people burn oil palm plantation's base camp:

A land dispute between farmers and the company PT Cemerlang Abdi erupted into violence in May, when villagers ordered staff to leave and burned down their base camp. Several people were injured and almost fifty arrested.

Source: *Down to Earth*, 37, May 1998.

Diversity in Canadian forest insects

Researchers collected over a million insects from traps set in five old-growth Sitka spruce trees in Vancouver Island. First results suggest that over 15,000 species were caught, including at least 300 new discoveries. Scientists argue that although attention has focused on large animals, the greatest diversity exists in insects and these are likely to suffer most acutely from old-growth forest loss.

Source: Environmental News Network, 16-6-98.

Protected forest area to triple in Brazilian Amazon

The Brazilian government has committed itself to establishing 25 million hectares of new forest protected areas by the year 2000, tripling the area under protection and bringing about 10 per cent of the Amazon into a protected area network.



The government was responding to the joint WWF/World Bank alliance initiative which aims to establish at least 50 million hectares of new forest protected areas and 200 million hectares of independently certified forest by the year 2005. To mark the agreement, **President Cardoso** signed decrees for two new protected areas in the Amazon, and two more in the critically threatened Atlantic forest, together totalling almost 600,000 hectares. The protection will be expensive; the total amount needed will be defined during a six month project announced as part of the launch ceremony, but it is estimated that the scheme will cost between US\$48 million

and US\$156.6 million. It comes in a year when Brazil lost a million hectares of forest in the Amazonian state of Roraima due to uncontrolled fires. An area of the Amazon the size of France has already disappeared over the last few years. Brazil's Atlantic coast forest is disappearing even faster, according to a new study by Brazil's National Institute for Space Research. The forest once covered 1.3 million square kilometres along the coast, but is now only 7 per cent of its original size.

The new protected areas, set aside on 29 April 1998, are Virua National Park (Roraima, 227,011 ha), Serra da Mocidade National Park (350,960 ha), Jurubatiba National Park (Rio de Janeiro, 14,680 ha) and Fazenda Uniao Biological Reserve (Rio de Janeiro, 3,120 ha).

Photo: Three toed sloth eating the fruits of an Acai palm
Edward Parker/WWF

Protected areas news in brief

Protests in Australia

Thousands of Australian environmentalists and Aborigines marched in Sydney in May to protest against the planned construction of a Aus\$12 billion uranium mine in the immediate vicinity of the World Heritage listed Kakadu National Park, saying the project could destroy the park's fragile ecosystems. The issue raises the question of rights of traditional aboriginal owners to say "no" to mining.

Sources: *Hong Kong Standard*, 6-4-98 and WWF Australia.

Fire used in US restoration programme

Government ecologists propose setting fires in several wilderness areas to restore a pre-European settlement habitat. Controlled fires in No Return Wilderness in Idaho could prevent fire-resistant ponderosa pines from being replaced by douglas and grand firs, and fires in the Upland Island Wilderness in Texas could help long-leaf pines from being crowded out by shortleaf and loblolly pines.

Natura 2000 Network behind schedule

The European Union's plans for a European ecological network are running late because Member States have not met commitments made six years ago in the Habitat and Species Directive. 1998 and 1999 will be crucial years for identifying and agreeing sites, with a final list approved by December 1999.

Source: *Spotlight on Natural 2000* 7, WWF.

Ecuador's Yasuni National Park again threatened by oil drilling

French and Argentinean oil companies are already drilling in the 900,000 ha UNESCO biosphere reserve. There are now plans to exploit new areas in the centre of the park, threatening both wildlife and the Huaorani, an indigenous group now reduced to an estimated 3000 people.

Source: *WRM Bulletin* number 12, May 1998

Alberta wilderness in Canada may open to commercial uses

The Whaleback area of the Rocky Mountains could be opened to mining, logging and oil and gas drilling, following recommendations from a 15-member local committee charged with deciding the region's future. Environmentalists say "the stage is being set for ugly confrontations."

Source: *Toronto Globe & Mail*, 20-5-98

Suriname creates major new reserve

A 4 million acre reserve, covering around 12 per cent of the country, has been declared by the government of Suriname. The protected area combines three existing reserves and two other areas which had been marked for logging by Asian timber companies. The US-based Conservation International has raised US\$1 million for long-term management.

Source: *San Francisco Chronicle* 18-6-98.

Reserves become national parks in Madagascar

Three natural reserves - Andringitra, Marojejy and Zombitse-Vohibasia - are becoming full National parks, with full implementation of management plans, thanks to a decision taken by the government in late 1997.

International initiatives update

Convention on Biological Diversity - gains and losses in Bratislava:

Political intrigue undermined much of the progress on forests that could have been made at the CBD. Andréa Finger gives an overview.

The fourth Conference of Parties of the Convention on Biological Diversity met from May 4-15 in Bratislava. WWF and IUCN hoped for three main outputs: greater cooperation between the CBD and the Intergovernmental Forum on Forests, a forest work programme, and improved funding for forest biodiversity through the Global Environmental Facility, GEF (see *arborvitæ* 8). None of these aims received unequivocal support from COP IV. Although the forest work programme was approved in principle, under pressure from the Canadian government the implementation was left to the CBD's scientific committee (SBSTTA) rather than through setting up a thematic panel as generally supported by NGOs - thus in effect delaying the whole programme by up to two years. The commitment for the GEF to give a high priority to forest biodiversity was achieved, but this is linked to the forest work programme and if the latter is weak it could also affect GEF's support for forests. Although there was much emphasis on cooperation with the IFF processes, this was only explicit in respect to forest protected areas. So although progress has been made in principle - particularly with regard to a work programme - it remains unclear as to what may happen in practice.

G-8 Ministers approve Forest Action Plan:

In May, G-8 foreign ministers meeting in London, UK, approved the G-8 Action Programme on Forests, writes Carole Saint Laurent.

This Action Programme was first announced at the Denver G7+1 summit last year, but few details had been provided. Prior to the London meeting the Action Programme was popularly rumoured to be destined for oblivion as NGO pressure focused the attention of the G-8 on climate change. At the last minute, however, agreement was reached to announce the content of the Action Programme. It is aimed at the conservation and sustainable management of forests in the G-8 countries and in their partner countries (through bilateral and multilateral arrangements) and focuses on assessment of G-8 member forests, development and implementation of national forest conservation programmes and protected forest networks, elimination of illegal logging and trade, and harnessing the resources of the private sector. Significantly, the plan also calls for provision of forest-monitoring groups and organisations with greater access to data-gathering technology.

Comment: Lisbon meeting disappoints

The Third Ministerial Conference on the Protection of Forests in Europe, held in Lisbon June 2-4 1998, failed to agree clear and concrete action for forest protection and biodiversity enhancement, reports Stefan Leiner.

Ministers or representatives from 41 European countries adopted a General Declaration, a Resolution on "People, Forests and Forestry" and a Resolution on "Criteria, Indicators and Operational Level Guidelines for Sustainable Forest Management (PEOLG)". A work programme will be developed, and a programme on the enhancement of biodiversity and landscape was adopted (although this only covers analysis and research). The meeting also adopted the criteria and endorsed the indicators for Sustainable Forest Management. In their speeches, most representatives described the "successes" achieved in their country. Many called for a "European framework for certification systems". WWF had urged Ministers to overcome complacency and lack of political will to improve their biodiversity, by making clear commitments, adopting substantial policy goals, providing adequate policy instruments (including necessary funds!) and taking immediate action. One example was to set up a network of protected areas covering the most valuable 10 per cent of all European forests. WWF also argued for a substantial improvement to the criteria and especially the indicators of SFM. Contact: sleiner@wwfnet.org.

Research in Brief

The debate about sustainable forest management and protected areas continues, with Conservation International arguing against the usefulness of the WWF/World Bank target of 200 m ha of certified forests by 2005 (*Science* **280**, 1899-1900). Meanwhile, increasing efforts are being put into biodiversity conservation in production forests. Research in Belgium assessed different strategies for increasing biodiversity and natural ecological processes in homogenous Scots pine stands (*Biodiversity and Conservation* **7**, 249-260). An ITTO project in the Philippines is monitoring biodiversity in forests managed primarily for timber (*Tropical Forest Update* **8**(1), 8-9). The opportunities for non-wood goods and services in temperate and boreal countries are examined in a recent paper from the UN (*Geneva Timber and Forest Study Papers number 15*) and experience of managing NTFPs continues to increase, for example through rapid assessment of fungal diversity (*Biodiversity and Conservation* **6** (5), 669-680). Conflicts between renewable energy and forest conservation are highlighted in a paper discussing the role of biomass energy in Sweden (*Environment* **40**). A study in 20 central European states used woodpecker diversity to test the hypothesis that forest biodiversity is inversely related to urban-economic development. Species depending on naturally dynamic temperate forests are particularly sensitive to change. (*Conservation Biology* **12**, 200-208).

How well are European forests doing?



WWF has published a detailed set of forest scorecards for Europe, rating how fifteen countries manage their forests. The new edition of the scorecards aims to give a clear picture of the status,

problems and opportunities in European forests, and shows where action is needed to improve quality. [Erik Sollander](#) and [Martin Hiller](#) report.

In 1993, forest ministers from 34 countries met in Helsinki to kick-start the "Pan-European" process on forest policy, which laid down four resolutions on forests, including a definition of so-called "sustainable forest management". Six criteria, with roughly 100 indicators, were established to measure status and trends in European forest condition.

The fundamental flaw of this process was that the targets were so vague that it was impossible to understand what they actually mean. To address this issue, WWF created the European Forest Scorecards, as an analytical tool that

measures progress towards ecological, social and economic sustainability in Europe's forests. The scorecards are based on the Helsinki resolutions, the forest principles of UNCED and WWF's own forest targets. In the future, they will be further developed in cooperation with all stakeholders, to develop common, clear objectives for forestry in Europe.

This year, countries were assessed by national correspondents using a detailed questionnaire, which measured forests from the outlook of forestry (from production, environment and social/cultural perspectives, protected areas and pollution.)

The goals set for the scorecards are not utopian; many of them already exist within the forest policies of individual European countries. On almost all the elements, at least one country scores relatively high, showing that the aims are not unrealistic. The final scores are outlined below (in percentages, with 100 per cent being the maximum score).

| | |
|-------------|----|
| Switzerland | 61 |
| Finland | 60 |
| Austria | 57 |
| Greece | 54 |
| Sweden | 54 |
| Turkey | 53 |
| France | 52 |
| Norway | 51 |
| Germany | 49 |
| Italy | 47 |
| Netherlands | 45 |
| UK | 43 |
| Spain | 41 |
| Belgium | 36 |
| Denmark | 32 |

The report can be downloaded from the internet:

<http://www.panda.org/europe/forests/scorecards>

Erik Sollander is the scorecards coordinator and Martin Hiller is the Communication Officer with the WWF European Policy Office. Contact: mhiller@wwfnet.org

News in brief

People

The head of the WWF-US forest programme (and link with the World Bank) has changed from **Don Henry**, who returns to his native Australia to head the Australian Conservation Foundation, to **Bruce Cabarle**, formerly with the World Resources Institute (bruce.cabarle@wwfus.org; tel: +1-202-822-3450). **Francis Sullivan** has left the Forest for Life campaign for another campaign job based at WWF Netherlands, and his place will be taken in September by **Chris Elliott** (chris.elliott@wwfnet.org), who many people will know from his former job of head of forest policy at International. **Naig Cozanet** of WWF France is now spending much of her time working with the Cameroon office on issues relating to the French timber trade.

DGIS Portfolio

The DGIS portfolio of forest projects (see *arborvitæ* number 8) now has a newsletter. Contact Carol.Hurlimann@wwfnet.org for a copy of other information.

Carbon sequestration

WWF is researching into the gains and losses likely from projects initiated through joint implementation and clean development mechanisms under the Framework Convention on Climate Change, where money is paid to "offset" global warming through forest restoration. The aim is to develop guidelines that allow funds to be used for positive forest restoration projects and that avoid either forest management problems (such as the possibility of replacing old-growth forests with plantations) or letting governments use sequestration as an excuse for not reducing carbon emissions at source. A discussion paper will be published shortly. Contact: Mike Read, piano@globalnet.co.uk

Correction

The article on the WWF NTFP workshop in *arborvitæ* 8 was written by Yorgos Moussouris, not Alan Pierce. Apologies.

Biological corridor in Central America

The IUCN Mesoamerican office is part of a team working to create a unique, seven country Central American biological corridor. [Alberto Salas](#) reports.

The scheme links a variety of protected areas with other forms of low-impact management, such as organic farming, sustainable forestry and ecotourism, to create a large, coherent network. The key to the project's success is the support of local communities, who have to be persuaded of the potential benefits. To date, 108 non-governmental organisations are already involved in the scheme. Actions range from large, national initiatives to smaller community projects. For example, Panama recently approved a seven-year, US\$8.3 million programme to preserve its Atlantic coast habitat, through reforestation, ecotourism and working with indigenous people. In Honduras, a radio programme has begun to develop a dialogue with small farmers on land use and species preservation. The US government has committed US\$25 million to help build long-term project capacity. Meanwhile, in late June the World Bank approved an US\$8.4 million Global Environment Facility grant to help fund the Panama portion of the corridor.

IUCN to work on World Bank forest policy review

The World Bank has approached IUCN seeking assistance in implementing its Forest Policy Implementation Review and Strategy.

The Review aims to create a cross-sectoral framework for the Bank's assistance in the forest sector and in other sectors which affect forests. IUCN will be inputting directly to the Review through expert advice from staff, members and commissions, and will also be facilitating a process for involving stakeholders in the review. IUCN's role will include working on a series of global and country-specific papers on issues relevant to the framework and coordinating an advisory group. The process will begin in August 1998 and be completed by December 1999.

Contact: WJJ@hq.iucn.org

IUCN News in brief

7

IUCN is working with WWF and GTZ to launch a major project on forest restoration in Southeast Asia, with a workshop planned in early 1999. A global project on the underlying causes of forest fires, in cooperation with WWF and UNEP, is also just starting up. **Don Gilmour** is currently involved in the preparation of a paper for the Australian government, looking at options for forest conservation and protected areas; the study is being led by Professor **Peter Kanowski** and will be presented at the IFF. And the *Forest Innovations* project, funded for three years by BMZ, will soon have its own Web page.

New Publications

The Congo Basin: le bassin du Congo

Edited by Cas Besselink and Peter Sips, 214 pages with photos and maps, price US\$25 from the Netherlands Committee for IUCN, Plantage Middenlaan 2B, 1018 DD Amsterdam. This important new book contains articles in English and French on the biogeography, people, threats and initiatives regarding forests in the Congo basin and draws on specialist writers from around the world. It gives a particular focus to the Brazzaville Process. An edited section of one chapter follows on page 9.

Discussion paper on biodiversity impact assessment

A new paper is available from Andrea Bagri and others, and can be viewed on the internet at <http://economics.iucn.org/assessment.htm>.
Contact: akb@hq.iucn.org

arborvitæ

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Central American process

International forest policy initiatives seem to be stalled by disagreements and lack of political will. Yet, outside the global spotlight, some regions are starting to tackle the difficult transition to sustainable forest management. In the first of a double feature, [Alberto Salas](#) of IUCN's Mesoamerican programme describes the process in Central America.

The Central American Commission for Environment and Development and the Central American Council for Forests and Protected Areas are working with IUCN on an integrated approach to conservation, under the environment commitment of the Central American Alliance for Sustainable Development (ALIDES). Stuck between two continents, Central America contains three major biomes and 22 ecoregions, along with 30 million human inhabitants, half of which live in extreme poverty. It is also an area which has, over the past half century, undergone rapid deforestation.

Over the past decade, there has been an increase in environmental awareness within the region, reflected by a growth in protected areas. ALIDES stimulates governments to work together in addressing remaining problems through legislation, introduction of protected areas and sustainable forest management, use of environmental impact assessments, research and education. Between 1994 and 1997 a regional structure has been developed, with enhanced capacity for the coordinating organisations, along with introduction of a more participatory approach. The Central American Biological Corridor (see article on page 7) is a notable feature of this process.

Many challenges remain for the future, including the development of clear mechanisms for participation and representativity in planning conservation, greater decentralisation, new approaches to equity and the need to implement international, regional and national agreements.

Lessons learned

Quite apart from conservation, the region is undergoing a development process of its own, in which different "agendas" abound; it is important to learn how to work with these in order to maximise the impact of conservation. The deadlines and rhythms of different actors also have to be respected, which means using flexible work programmes that enhance capacity and do not get tied down by bureaucracy.

The region has demonstrated that policies transcend the arena of government. Organisations arising from civil society also have political agendas; the challenge is to find the fora and the mechanisms which allow both to reach consensus. Regional political fora, on the other hand, are "neutral" and can be used to help influence national political agendas.

Communication is proving to be an essential tool in this process. Starting the dialogue between local, national and regional levels is best tackled by starting with "innocuous" issues - that is those which do not touch on particularly sensitive issues. Experience so far has shown that the decision-making process can be influenced, but that in order to secure local needs within national and regional decisions, careful vertical integration of policy is needed.

An emphasis on local management of resources is central to the process. Decentralisation opens up many new opportunities for local participation and for a diversity of learning experiences, but does not guarantee that these will be taken up; real progress depends on the organisational capacity of many people and is not created automatically by sympathetic legislation. Municipalities have been found to have a greater capacity for managing natural resources than national governments, although this ability is not always used effectively. The overall impact of decentralisation on natural resource management remains uncertain, with both positive and negative examples from the region.

ALIDES has created a powerful and consensual vision of forests in the region. By 2025 it hopes that the region will have 25-30 per cent of the land in various protected categories, 10-15 per cent being managed as semi-natural forest and 5-10 per cent under plantations. A regional structure and cooperation scheme is already working to this end. Whilst much remains to be done, experience suggests that cooperation on the scale of a region is both possible and beneficial.

Contact: alberto.salas@orma.iucn.org



The Brazzaville Process

Interest in the conservation and sustainable use of Central African forests has been increasing. A range of intergovernmental, industry and NGO initiatives have promoted regional cooperation on these issues. One of the most comprehensive attempts is the “Brazzaville Process”, started as a result of frustration with the failure of global mechanisms aimed at halting deforestation and forest degradation. [Guido Broekhoven](#), [Pascal Nzokou](#) and [Owele Alphonse](#) explain the process.

In the Central African region, the government of Congo (Brazzaville), in collaboration with IUCN, took the initiative to fill a void in national and regional approaches to forest conservation. In May 1996, they organised the first regional conference on moist tropical forests in Central Africa, with representatives of nine states participating, including Burundi, Cameroon, Central African Republic, Zaire (now DR Congo), Congo (Brazzaville), Equatorial Guinea, Gabon, Rwanda and Sao Tomé y Príncipe. The governments were represented by their line ministers, along with parliamentarians and civil servants. Representatives of national and international NGOs also participated.

During the conference, participants adopted the Brazzaville declaration, in which they reiterated their commitment to regional collaboration for forest conservation. They also decided:

- to institutionalise the conference into a permanent, biennial event
- to develop a work plan for the two years in between the conferences

Objectives and activities

The overall objective of the so-called Brazzaville Process is to strengthen regional collaboration amongst the Central African countries for the conservation and sustainable use of the moist forest ecosystems in the region, through:

- improved management of common and cross-border ecosystems and resources
- exchange of information and experiences pooling and sharing human and financial resources
- improved coordination and preparation of the region vis a vis external and global factors impacting on the region

The themes identified for analysis and action include development of a strategic action plan for forest biodiversity conservation in the subregion, including:

- evaluation of critical sites for biodiversity conservation
- promotion of regional cooperation in policy development and implementation of a strategy and action plan
- poaching and illegal trade in wildlife
- management of common and cross-boundary forest resources
- developing appropriate financing mechanisms for forest conservation and management, including donor aid, innovative mechanisms



- resource management in conflict zones
- promotion of stakeholder participation and testing various mechanisms to improve stakeholder participation
- enhancing capacity building

Characteristics and structure

The Conference will be organised every two years, each time in a different country in the region. All stakeholder groups participate in the Conference and decisions are taken by consensus. The line minister for forests in the host country of the last conference will be president of the Conference and will coordinate activities during the intercessional period. Other forest ministers will be focal points and national correspondents are ministry officers in charge of day to day management of the affairs of the Conference in their respective countries. IUCN's Regional Office for Central Africa (Yaoundé, Cameroon) hosts the interim secretariat of the conference.

The Brazzaville Process is a home-grown initiative which is dealing with a resource of immense importance for the region and the world at large.

In May 1998, the second meeting took place in Bata, Equatorial Guinea. Over 130 people attended. The discussions were thought to be useful, but there was a reluctance to come to substantive decisions. There was also some debate and confusion about the structure of the process and the role of IUCN in the secretariat, although none of these are thought to be insurmountable obstacles to progress.

Much of the preceding article has been taken from *The Congo Basin*, a new book from the Netherlands Committee for IUCN, edited by Cas Besselink and Peter Sips, see page 7 for details.

meetings and courses

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Forest quality workshop

THE JURA MOUNTAINS: Initial testing of a rapid forest quality assessment method are taking place this summer in the Swiss Jura mountains.

A joint project between IUCN, WWF and the Polytechnic of Lausanne (EPFL) is developing landscape-scale forest quality assessment methods for European forests. An expert group met in April to discuss criteria, indicators and the particular challenges involved in assessment on a landscape scale.

The emphasis on a landscape approach was judged to be critical to the success of the project. Landscape size will vary with geographical, social and political conditions, but the project will be drawing up criteria for the definition of "landscape". The forest quality system will be developed as a practical toolkit for landscape management rather than as a theoretical or academic exercise, with indicators measuring forest quality itself rather than quality of forest management. Many possible indicators were added to an existing list drawn up by WWF some time ago, and more generally a series of process indicators were added to the existing benefits and costs indicators. It was recognised that not all indicators would be suitable or measurable in every circumstance, but that during development of an assessment a list of indicators should be selected that reflects all the key areas of importance.

Use of the toolkit will vary with conditions and requirements - for example it could be an assessment system, planning tool or sometimes even used in advocacy work. Forest quality assessment cannot be completed by outside consultants or individuals alone, but requires analysis involving a full range of stakeholders. Preliminary discussions suggested that stakeholders should be involved in at least three stages in the process - decisions about indicators, measurement of indicators and assessment of the results. Degree of stakeholder involvement may change with circumstances, for example varying from methods of rapid rural appraisal through to full participatory rural appraisal, perhaps at different stages of the assessment.

A rapid assessment method has been developed and will be field tested in several countries.

For information and copies of working papers, contact: Nigel Dudley: equilibrium@compuserve.com

Meeting in Vietnam discusses the timber trade

WWF's Expert Panel on Trade and Sustainable Development held its fourth meeting in Hanoi, on April 6-8 1998, and made significant progress in terms of both policy formulation and implementing the resulting policies. The meeting was attended by members of the Panel, along with the UNCTAD Secretary General and Vietnamese Vice Minister of the Environment. The timber trade is one of three main focus areas for the Panel.

Contact: Aimee Gonzales: agonzales@wwfnet.org

International meetings, seminars and conferences

Floodplain Forest Ecosystems in Europe 28 September - 1 October 1998, European Forest Institute and others

Contact: Emil Klimo, University of Agriculture and Forestry, Faculty of Forestry and Wood Technology, Zemedelsk 3, 61300 Brno, Czech Republic
Tel: +420-5-4513-4038
Fax: +420-5-4521-1422

The Taiga Rescue Network Fourth International Conference on Boreal Forests: Integrating Cultural Values in Local and Global Forest Protection 7-10 October 1998, Tartu, Estonia

Contact: Taima Puura, Conference Coordinator, Estonian Green Movement, PO Box 318, Tartu, EE2400, Estonia
Tel: +372-7-422-598
Fax: +372-7-422-084
E-mail: for-est@erl.tartu.ee

Courses

Cultivating Forests: Alternative Forest Management Practices and Technologies for Community Forestry 23-25 September 1998 RECOFTC, Kasertart University, PO Box 1111, Bangkok 10903, Thailand

Tel: +662-940-5700
Fax: +662-561-4880
E-mail: ftcss@nontri.ku.ac.th

Local people and protected areas

Are protected areas enemies of development? Are they a cause of poverty among rural populations? Are they against people or for people? Gustavo Suarez de Freitas reports from Peru.

An intense debate has arisen about the relation between protected areas and local people. This has important implications for sustainable development in the tropical countries, which possess a large part of the planet's biodiversity, while their human populations exist in insupportable conditions of poverty.

The needs of rural populations is a fundamental element of the analysis. The poorest sectors have least access to the state's services and are most dependant on the direct use of natural resources (often available in nearby protected areas which do not appear to take account of local people's interests). But nor can this analysis fail to consider the excessive pressure placed upon these resources. Deforestation, desertification and species extinction are real, demonstrable facts - symptoms of a development which is not sustainable.

The concept of giving special treatment to natural zones containing special values is very ancient. Modern protected areas are recognized by the Convention on Biological Diversity as the most important way of conserving biodiversity *in situ*, along with maintaining functions and processes such as the regulation of water supplies and genetic flow. Protected areas also serve for scientific investigation, monitoring, education and tourism. They therefore constitute a necessary part of any sustainable development strategy.

However, the vision which many developed countries have of protected areas, as places fundamentally dedicated to recreation and tourism and subject at most to indirect use by their inhabitants, coincides with neither the vision nor the reality in developing countries. For us, protected areas exist both for biodiversity conservation and for other purposes which have more to do with the use of resources than with recreation and tourism. Nor do they involve the exclusion of human populations.

"Protected" therefore does not mean "not to be touched" but rather the provision of security which limits uses to those compatible with the protected area objectives (which range from strict protection to managed resource use). Protected areas do not contradict efforts to attain improved levels of development. On the contrary, it is precisely in developing countries that the careful management of resources, especially the biological diversity which

constitutes one of their greatest riches, is most required. This has been well understood, and the efforts of tropical countries to enlarge their protected area systems and improve their management have been extremely significant during the past decade.

While the modern concept of protected areas arose in countries now considered to be "developed", it has been taken up and adapted by practically all countries. However an analysis based on the mistaken premise that conditions in all countries are similar leads to the incorrect conclusion that there is a permanent and unavoidable conflict between protected areas and local people, and that protected areas cause poverty and backwardness in indigenous communities.

Of course, many local people living in or around protected areas, whether traditional indigenous groups or not, exist in poverty. Many have problems related to land tenancy or access to resources. But this does not justify the simplistic conclusion that protected areas shouldn't exist. Poverty among rural populations in developing countries is, lamentably, very common and widespread, and its structural causes have little or nothing to do with protected areas. On the contrary, populations living in or near protected areas, especially when these are well protected against illegal commercial exploitation, often have access to relatively abundant natural resources, frequently reflected in a higher consumption of animal proteins. The existence of a well-managed protected area can provide direct benefits to local people and also serve to conserve places of special cultural or religious significance.

It is true that where attempts have been made in tropical countries to implant a vision of protected areas corresponding to the "developed country model", conflicts have arisen and local people have sometimes been unjustly treated. However, the problem does not lie in the concept of protected areas, but rather in its application in a certain socio-economic or ecological reality, using a model derived from a different reality. The increasing use of Categories V (protected landscapes) and VI (managed resource areas) - the latter included among the IUCN categories as a result of proposals from Southern countries - and the use of participatory planning processes and collaborative management practices, are all indicators of a more positive relationship between rural populations and protected areas.

Many examples exist of the application of these ideas in the tropics, principally by NGOs working through Integrated Conservation and Development Projects. However, governments and international agencies have been slow to give the political and economic support required for application on a larger scale. The path exists; it is now up to society to commit itself to following it.

Gustavo Suarez de Freitas is Executive Director of Pro Naturaleza - the Peruvian Foundation for the Conservation of Nature, and Vice Chair for South America of the World Commission on Protected Areas. This article is adopted from a paper prepared for the Total Diversity Forum in Canada. 1996.

The Russian Far East

Since the collapse of the Soviet Union, forest management has changed dramatically. In some areas, the industry has almost collapsed, but on the other hand legal and illegal logging has spiralled out of control in parts of the Russian Far East, feeding the considerable appetites of its Asian neighbours for hardwood. Denise Meredith reports on a new WWF initiative.

In Primorskiy Krai alone, 360 logging interests are operating. Primorskiy Krai lies in the far south of the Russian Federation, bordered by Khabarovsk to the north and China to the west. The area covers 165,900 km² of which 80 per cent is forest, with many endemic species. In the north and at higher elevations Ayan fir, silver fir and Daurian larch predominate. Further south and in river valleys, northern and sub-tropical tree species mix to create unique Ussuri Taiga forests where over 20 tree species live per hectare, including rare oaks and the valuable Korean pine. Despite being legally protected, the latter is still logged for the lucrative markets in South Korea and Japan.

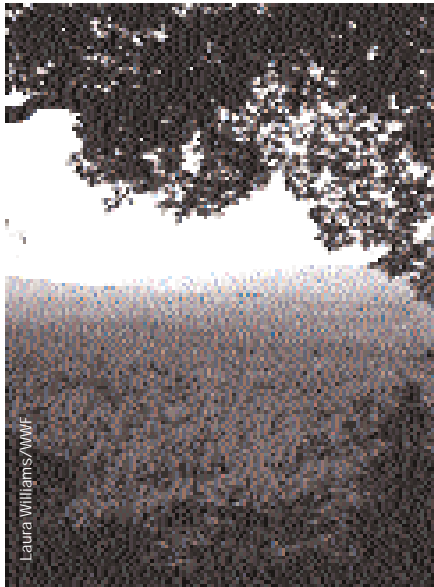
The forests support a host of rare and endangered species, the most celebrated being the Amur tiger. Nearly all of the world's remaining 450 Amur tigers live in Primorskiy Krai. They need large areas of uninterrupted forest to hunt, and as the forests disappear, so inevitably will the big cats.

In winter, temperatures can drop as low as -45°C in the mountains and although relatively warmer on the coastline (-25°C) the icy winds ensure harsh working conditions for the booming logging industry. Despite this, business has never been better and the money (for the few locals who see it) is highly prized in a country where even Vladivostok's citizens don't always have running water or heating. Most of the money from logging, however, doesn't go into the region's economy and those local companies who do make hard cash are receiving only a fifth of what the timber is worth on the open market.

New logging concessions were handed out by the region's local administration to foreign companies in December 1997, including one to the Korean timber giant, Hyundai. One of these allows the felling of 200,000 cubic metres of wood a year for the next 48 years in the beautiful Bikin Valley, but as the area leased to produce this timber cannot deliver what has been promised, nearby forests will inevitably be exploited. Reports suggest that the preferred method for logging in this area will be large-scale clear-cutting.

The main logging methods used in the Krai are selective logging (about 70 per cent) and small-scale clear-cutting, but both are often carried out in a very destructive way with the best trees being removed and everything else simply left to rot on the road sides. Soil erosion and flooding has now become a major problem in the Krai during the spring and summer months, with virgin forest being replaced by scrub and bog.

Additional problems for the forests include over-hunting, unsustainable collecting of berries, lianas and ferns (the latter encouraged by setting fire to the forests), gold mining and the existence of gold reserves which discourage local authorities in creating any more protected areas. Development of hydro-electric reservoirs may also pose a serious problem in the future - one existing dam already resulted in water over-flowing and flooding 2,500 km² of forest. Plans currently exist for building another major electric power station on the Amur river - presumably to supply power to China as there is little need for additional power locally in such a sparsely populated area.



The work of WWF

As part of a five year strategy to tackle some of these problems, WWF is now considering using its successful anti-poaching brigades to collect accurate data on logging activities in the area, with a view to acting as an independent force which can "police" logging activity in the same way as it is dealing with illegal animal poaching. This front-line technique should be very

effective as the five brigades already have a network of contacts with close connections in the logging industry - legal or otherwise. By collecting accurate data on the type, numbers and whereabouts of trees being removed, WWF will be able to make a clear case for better forest protection.

WWF also is lobbying local and regional administrations to set up a network of ecologically representative protected areas. This would create a "tiger corridor" ensuring their safe passage through suitably large swathes of virgin forest with sufficient prey resources to ensure long-term survival.

WWF has recently set up a small-scale, model project in neighbouring Khabarovsk Krai which will produce sustainably managed timber without impacting on the wildlife (see *arborvitæ* 7). If this project is successful, a further one could be established in Primorsky Krai. As demand for "sustainably managed" timber increases, this initiative could pave the way for halting and eventually reversing this destruction.

certification



WWF Forests for Life target reached

In 1995, WWF set an ambitious target of ensuring that at least 10 million hectares of forests were independently certified as being well managed, under the auspices of the Forest Stewardship Council (FSC), by the end of 1998. By June, the target had been reached ahead of schedule.

[Alison Lucas](#) reports.

Over 10 million ha of forest have now been certified as “well managed” according to FSC standards, involving over 115 forests in 25 countries. These forests, in countries spanning every continent, range from small-scale community forests in the Solomon Islands to much larger government-owned forests in the USA. More than 2000 products made from certified wood are now available to consumers around the world. **Tim Synott**, director of the FSC, pointed out that area of certified forest had more than doubled in the first half of 1998, suggesting a growing role for certification in the future.

The largest area of forest certified under the FSC is in Sweden and is owned by AssiDomn (one of the world's largest private forest owners), which has just completed certifying 3.3 million ha of forests - an area equivalent to the size of Belgium. “When the FSC principles were established, it was an excellent opportunity for us to communicate to our customers that we strive for environmentally sound forestry,” said **Lennart Ahlgren**, President and CEO of AssiDomn. The company has also announced a partnership with WWF over the next three years, to work together in persuading timber producers throughout Europe (and beyond) to produce more FSC certified timber and adopt less damaging, more sustainable, forest management.

For more information contact: alucas@wwfnet.org.

Consensus on Norwegian standards for SFM

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The Living Forests project agreed a consensus on 25 standards for SFM, in a consensus between 13 stakeholders, including WWF. These are now being developed into certification standards, which is currently seeking ways to organise group certification in Norway. The Committee is also considering whether ISO, FSC or a combination of the two are used. Source: *News from The Living Forests*, Norway 2/98

“We have the opportunity and know-how to cultivate a new relationship with the world's forests, one that will reverse their decline, improve people's quality of life, and ensure that future generations inherit healthy forests. Whether this relationship develops fast enough will depend on who wins the fierce competition now under way - between, the powerful forces of the status quo racing to harvest the remaining forests before someone else does and the growing ranks of environmentalists, scientists, local people, and business and government leaders pressing for a viable alternative. Whether or not the bystanders to this competition recognise its urgency and throw their support to a new relationship with the forests in time will determine the outcome.”

From: *Taking a Stand: Cultivating a new relationship with the world's forests*, by Janet Abramovitz, Worldwatch Paper number 140, April 1998. Available from the Worldwatch Institute, 1776 Massachusetts Avenue NW, Washington DC 20036-1904, \$5.00 plus \$8.00 shipping (\$4.00 in North America). E-mail: wwpub@worldwatch.org

news

from the forest floor

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Community-based forest management in Sumatra, Indonesia

Sustainable forest management doesn't inevitably rely on aid programmes or well-paid consultants. Damar garden management in Pesisir Krui, Sumatra, is an example of a community's ability to manage forest sustainably under a long-term agroforestry system, without any support from external parties. [Tri Nugroho](#) and [Iis Sileuw](#) report.

Damar (*Shorea robusta*) has been domesticated, regenerated and used for commercial resin production for at least a hundred years in extensive forest "gardens". These also contain about 30 other commercial species including durian (*Durio zibethinus*), duku (*Lansium domesticum*), coconut, rattan, melinjo (*Gnetum gnemon*) and cinnamon. Damar and fruit trees are established within young coffee or pepper stands after one season of rainfed rice cultivation. Fruit is harvested while waiting 15-20 years for the damar to mature, whereupon the trees can be tapped regularly for 30-50 years. This system resembles the *taungya* agroforestry system, except that here farmers, rather than the forestry services, own the trees, choose the species and benefit from the harvest. Damar gardens also provide timber products, although the only trees harvested are naturally fallen trees, unproductive fruit trees, old and unproductive damar trees and some key timber species.

The owners of damar gardens have the right to decide whether they will harvest timber or not. There has been a very low level of damage in felling operations because directional felling is applied, and timber is usually processed into planks and beams on the spot. Timber can produce cash income for farmers, although there are sometimes problems in selling timber such as meranti and other Dipterocarps, due to the heavy bureaucracy involved.

At least 70 per cent of the local population are highly dependent on damar gardens. Viewed from a social perspective, the most significant problem facing the system is land tenure. Damar gardens have the same vegetation structure as natural forests and fulfil the ecological functions of natural forests including maintaining hydrological functions, soil fertility and biodiversity.

(They also function as a stable buffer in supporting conservation of Bukit Barisan Selatan National Park, forming a sort of greenbelt bordering the Park and villages.) Paradoxically, this means that satellite images and aerial surveys do not distinguish between damar gardens and natural forests. As a result, according to government thinking the traditional owners have no right over the resources because they are "natural" forests. The government can assign the land as a production forest and change the function to, for example, an oil palm plantation. Other problems include lack of access to global markets to trade the gardens' produce. This is especially true in the resin trade, where in addition to facing price fluctuation, farmers also often receive less profit than other actors involved in the product trading as a consequence of the lack of access to market information. Even if resin is exported to Singapore, profits remain low.

The two most important challenges at present are therefore (i) how to shorten the chain of trade so that more benefits go to local people and (ii) how to ensure that the government recognises the status of gardens owned by local people so that they feel secure with respect to land tenure. This may become easier in the future. The success of the damar gardens is now attracting help from development agencies both inside Indonesia and internationally, in an attempt to ensure that the system succeeds within a global market. ORSTOM (a French-based research institute) has carried out research since the early 1980s, focusing on ecological, silvicultural and socio-economic aspects of the gardens. LATIN, a Java-based NGO, has worked on community organisation, community mapping and community-based forest management since 1992, including trying to facilitate export of resin to Japan. WATALA, a Lampung-based NGO, is working with LATIN, and as a local NGO has more knowledge of the area and a good relationship with the local authority. CIFOR, the Center for International Forestry Research, began work in 1994 and at the same time a partnership of NGOs and researchers was established to coordinate activities, known as Tim Krui (Krui Team). The Ford Foundation has become an important funding source since 1995, channelling funds through ICRAF.

Tree species under threat

Almost 9000 tree species are threatened around the world, according to new research coordinated by Sara Oldfield for the World Conservation Monitoring Centre in Cambridge, UK. Nigel Dudley reports on a major contribution to our knowledge of forest resources.

The World Conservation Monitoring Centre and Species Survival Commission have spent three years laboriously compiling data about the threatened trees of the world, a task only made possible by generous funding from the government of the Netherlands. The result, which draws on contribution from over 300 experts around the world, is the most comprehensive status report on trees ever produced. It summarises information on the status of and threats to literally thousands of species around the world, along with over a thousand data sources.

The World List of Threatened Trees makes depressing reading. At least 77 species have already become extinct and over a hundred times that number - a staggering 8753 species - are judged to be under threat by WCMC or its consultants. Of these, almost a thousand (976) are classified as critically endangered and a further 1319 are endangered. Trees in these categories include many species that are known to be useful for timber, fuel, medicines, food and other materials such as oils.

Trees growing in tropical forests are, not surprisingly, under greatest threat, because both levels of speciation and current rates of deforestation are highest in these areas.

However, risks are not confined to tropical rain forests, nor are they necessarily worst in the poorer countries. In Japan, 202 species are ranked as globally threatened, as are 141 in Australia, over half of which are species and subspecies of *Eucalyptus*.

WCMC has made a first attempt to evaluate threats, where these are known. "Felling" is rated the greatest threat overall, listed in 1290 cases, although it is a pity that the category is so broad and there is no way of knowing the reasons for extraction; much work is still required to evaluate the direct threats from the timber trade for example. Agriculture is next in level of threat, followed by expansion of settlement and, in descending order of

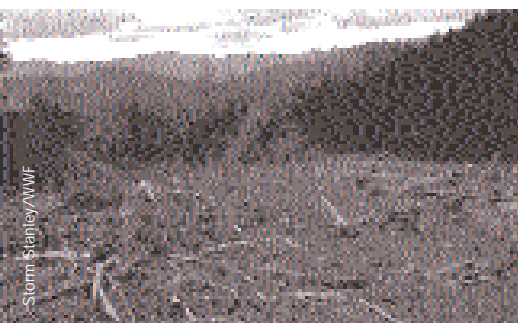
importance, grazing, burning, invasive plants, forest management, mining and tourism, although data are very incomplete.

The species descriptions, necessarily prosaic in themselves, together conjure up a vivid picture of the fragile hold that many tree species have on existence (and incidentally also shows the depth of our own ignorance about many species). "Only two individuals have been located"; "found only once in a site south-east of Malka Mari"; "little represented in protected areas"; "confined to a few remaining patches of lowland coastal forest"; "rare within a rapidly declining habitat"; "it may now be extinct"...it is hard not to think that many other species are destined to go the way of those lost already.

It is planned to also produce the data on compact disc, and to update the information on a regular basis.



Citation: Oldfield, S, Lusty, C and MacKinven, A (1998). *The World List of Threatened Trees*. 650 pp. World Conservation Press, Cambridge, UK. ISBN: 1 899628 10 X



Changing perspectives on Forest Policy: Pakistan

Javed Ahmed and Fawad Mahmood
International Institute for Environment and Development
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The first in a series of books subtitled *Policy that works for people and forests*. The authors, including the Head of the Natural Resources Group in IUCN Pakistan, tackle the complex issues of forestry in Pakistan - a country with low forest cover, high demands on timber resources and serious over-cutting. They start with an analysis of the current situation, identifying potential new approaches which focus on greater participation by stakeholders and the role for sustainable development strategies. However, they also analyze past failures in current problems, including entrenched attitudes amongst professionals and lack of money, accountability and information. This is a valuable contribution to the literature about practical forest management in development countries, and heralds what appears likely to be an important series. We will be reviewing future volumes in *arborvitæ*.

– Nigel Dudley

Chile's Native Forests - A conservation legacy

Ken Wilcox
Ancient Forest Int'l & NorthWest Wild books in association with North Atlantic Books, 1996,
ISBN 1-55643-234-8 and 0-9617879-2-9, 148 pp.

Biologically speaking, Chile's native forests are the richest ecosystems of the temperate world. This copiously illustrated yet concise book gives a description of these forests and the threats they face. It concludes that more than half of the original forests have disappeared and that half of the remaining forests are seriously degraded, with more than 200 plant and animal species listed as rare, vulnerable or endangered. 1.4 out of 15 million hectares are now in protected areas but these are not representative of most of the 54 different forest types present. The main threats include uncontrolled chipping, burning of lenga forests for cattle raising in the South, and a mining law that allows mineral prospecting and exploitation inside national parks and other protected areas. In addition, a host of aggressive non-native species wreak havoc on native species by out-competing or consuming them. Quote: "Chilean forestry is approaching a Monterey pine (*Pinus radiata*) monoculture. The future of Chilean forestry would be more secure if Monterey pine were part of a balanced and diverse forestry programme which had more flexibility to respond to changing ecologic and economic conditions."

– Simon Rietbergen

In brief

The Manual of Dipterocarps for Foresters, edited by M F Newman, P F Burgess and T C Whitmore, Royal Botanic Garden, Edinburgh and the Center for International Forestry Research (Royal Botanic Garden, 20A Inverleith Row, Edinburgh EH3 5LR, UK)
Now complete in seven volumes, with new volumes on *Java to New Guinea* (10), *Borneo Island Medium and Heavy Hardwoods* (20) and *Sumatra Medium and Heavy Hardwoods* (15).

Good Practice Guidelines: Short Rotation Coppice for Energy Production, multiple authors, available from British Biogen, 3 Hayne Street, London EC1A 9HH.
Fax: +44-171-726-0801, E-mail info@britishbiogen.co.uk
Comprehensive attempt to consult, plan, plant and manage energy crops, aimed at a UK audience. An issue likely to become increasingly important in the future.

Stewards of Vietnam's Upland Forests, edited by Mark Poffenberger, Asia Forest Network, report number 10, Center for Southeast Asia Studies, University of California, Berkeley, 2223 Fulton Street #617, Berkeley, CA 94720, USA. Tel: +1-510-642-3609.
Fax: +1-510-643-7062.
Another in an excellent series. Includes a background to the issues, policy reforms, case studies and a more detailed study of the Ba Vi National Park.

The Politics of Extinction: The Orangutan Crisis, the Destruction of Indonesia's Forests, Juliette Williams and others, Environmental Investigation Agency, 69 Old Street, London EC1V 9HX. Fax: +44-171-490-0436.
E-mail: eiauk@gn.apc.org.
Important new report on the politics behind logging, palm oil plantations and fires in Indonesia, and the impacts on wildlife.

Internet publications

The Convention on Biological Diversity now has a forest biodiversity homepage at <http://www.biodiv.org/forest.html>