Updating the ITTO Biodiversity Guidelines

ITTO and IUCN collaborate to produce new guidelines for conserving biodiversity in production forests

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Needs protecting: The splendid leaf frog (*Cruziohyla calcarifer*), like other tropical amphibians, is endangered by loss of habitat, environmental change and disease. *Photo: Fotonatura*

THE INTERNATIONAL Tropical Timber Council adopted its current *Guidelines on the Conservation of Biological Diversity in Tropical Production Forests* in 1993. This was at a time when tropical forest biodiversity was just emerging as an issue of global concern. The Guidelines were produced just after the Earth Summit at Rio de Janeiro in 1992 when the Convention for the Conservation of Biological Diversity (CBD) was adopted.

But a great deal has happened since 1993. The CBD has continued to give emphasis to conservation of biodiversity in managed tropical forests and in 2000 adopted its 12 principles for the ecosystem approach to biodiversity conservation (*Ecosystem Approach Principles*). These set biodiversity conservation in the context of local developmental needs and stress the importance of maintaining ecosystem functions, achieving sustainable economic benefits, exploiting local and traditional knowledge and looking at landscape-scale issues in managing natural systems. More recently the CBD has adopted the *Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity*. These are consistent with the principles of Sustainable Forest Management (SFM) as defined by the UNFF and ITTO and in the various criteria and indicators (C&I) for SFM formulated by ITTO and others.

The emergence and ongoing debate on forest certification has had major significance for biodiversity in production forests. There are now a number of global, regional and national certification initiatives and all of them give attention to the need to conserve biodiversity in any forests that are to be recognized as being sustainably managed.

Revision process

IUCN and ITTO collaborated throughout the process of the revision of the Guidelines. The starting point was that they complement other ITTO Guidelines covering different aspects of the management of tropical forests. These existing ITTO Guidelines aim to promote the overall improvement of the management of natural tropical forests, plantations, restored and rehabilitated forests and fire prone forests and they all address issues of importance for biodiversity conservation. However, they do not specifically focus on biodiversity. The Biodiversity Guidelines are therefore intended to bring together in one place those specific actions that are needed to improve biodiversity conservation in tropical production forests.

The revision process aimed to involve as many as possible of the other organizations that have expertise in forest biodiversity and share the conservation goals of ITTO and IUCN. A technical panel was convened including representatives of the CBD, FAO, UNESCO, WWF and ITTO member countries. A revised set of Guidelines were drafted by the panel. These were then translated into French, Portuguese and Indonesian and, following a decision taken by the ITTC, were subjected to field testing in Guyana, Cameroon, Brazil and Indonesia. Field testing involved collaboration with harvesting companies in their field operations to find out just how realistic and practical the Guidelines were. Economic studies helped to establish how much implementation would cost and examined options for incentives to encourage companies to implement the

Guidelines. National workshops were held in the four test countries.

An expert panel was then convened to further revise the Guidelines and incorporate all the learning from the field testing. The revised Guidelines were then presented to the Council and further revisions proposed by members have now been incorporated. The Guidelines will be submitted for final approval by the Council at its November 2008 session. Plans are now being laid for a major effort to promote implementation of the Guidelines in member countries over the coming years.

Changes from earlier Guidelines

The widespread recognition that there is no single best way of managing forests is a significant change that has occurred since 1993. The main message of the CBD's *Ecosystem Approach Principles* was that all situations are different and that there are multiple ways of managing forests that can be considered sustainable and all of which have impacts on biodiversity. The CBD *Ecosystem Approach Principles* themselves take as their starting point the notions that biodiversity conservation approaches have to be a matter of societal choice and that decisions should be decentralized to local stakeholders to the extent that this is possible.

The new Guidelines emphasize the need for forest managers to acquire the skills needed to make good decisions about how and when to take measures in favor of biodiversity. There is no point in making large increases in costs to conserve biodiversity that is of little interest or has limited value. Investments have to be appropriate to the scale of the problem. Thus protecting gorillas in harvested forests in Central Africa is a good investment. Some of the forests where testing took place in Indonesia had limited special biodiversity value and simply observing existing regulations and good logging practices was found to be sufficient.

The new Guidelines emphasize the need for forest managers to work more closely with conservation organizations —these organizations are sources of knowledge and also strategic partners in gaining broader public acceptance of the biodiversity values of well managed forests. The Guidelines also stress the need for larger scale landscape approaches—looking at managed forests in the broad context of protected areas and non-forest areas. The Guidelines also stress the importance of planted forests for biodiversity. Examples are given of large scale plantations that have been managed in ways that contribute to biodiversity conservation.

Production forests for biodiversity

Tropical forests contain more species than any other biome and a high proportion of these species are threatened. However, less than 10% of tropical forests are in effectively managed protected areas; 90% are subject to some form of extractive use or are destined for conversion to non-forest uses. A significant proportion of this 90% is, or is likely to be, subject to timber harvesting or to conversion to tree plantations. These managed production forests offer huge potential for biodiversity conservation. A recent IUCN Global Species Assessment states that "… for many species the habitat degradation that accompanies selective resource exploitation, or that occurs in habitats next to cleared areas, can have serious negative consequences". However, there is abundant evidence that logged forests can continue to make important contributions to biodiversity conservation objectives. A recent paper in the journal *Nature* entitled *A logged forest is better than no forest at all* argued strongly for the role of logged forests in biodiversity conservation. Various categories of managed production forest are essential for the survival of many species of fauna and flora.

The goal of the Guidelines is to help foresters respond both to the gravity of the potential threats to biodiversity from forestry activities and also to the opportunities that forests provide to make positive contributions to biodiversity conservation. Bad forest management may be one of the world's greatest threats to biodiversity, but good forest management can provide a major contribution to conserving this biodiversity. The Guidelines attempt to set out how positive outcomes for biodiversity can be achieved in the management of tropical production forests, through a planning process as illustrated in *Figure 1*.

Objectives of the Guidelines

The overall objective of the Guidelines is to promote the conservation of native animal and plant species in tropical production forests. It is also to ensure that those elements of biodiversity that are important in the functioning of forest ecosystems and in the livelihoods of local communities are maintained. The Guidelines seek to promote understanding of how a healthy balance of these elements can be achieved at the level of nations, regions, landscapes and forest management units. The specific objectives are therefore to achieve:

1. an enhanced role for tropical production forests as components of multi-functional landscapes that contribute to native biodiversity conservation at different spatial scales;
2. equitable distribution of the costs and benefits of biodiversity conservation in tropical production forests;
3. improved understanding of the impacts of forest management on biodiversity;
4. adaptation of forest management practices at all spatial scales to favor the conservation of native biodiversity;
5. improved ecological processes in tropical production forests provided by the presence of locally adapted native biodiversity; and
6. improved practical forest management at all spatial scales aimed at retaining native biodiversity.

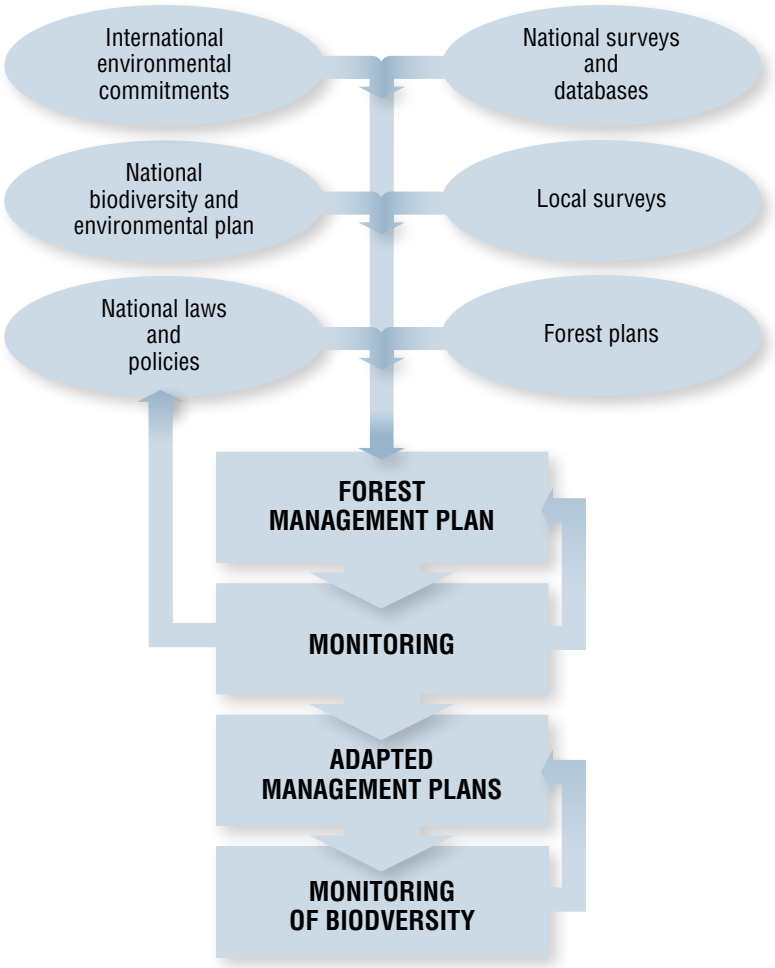
The Guidelines should not be viewed simply as a list of 'boxes to be ticked' by forest managers but rather a source of understanding and as a mechanism for disseminating the experiences that have been gained in recent years. The aim of the Guidelines is to motivate and not to regulate.

What to conserve and how to conserve it

Biodiversity is defined by ITTO as the *variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes*

Planning for diversity

Figure 1: Actions to achieve forest biodiversity conservation in production areas



diversity within species, between species and of ecosystems. Most tropical forests contain so much biodiversity that it is impossible to explicitly monitor and manage everything; choices are necessary. Crucial questions are what aspects are priorities for protection within logged forest, then how this might be achieved, and how to monitor whether this is happening in particular cases.

Some believe that all biodiversity should be maintained. Others argue that, as long as forests continue to provide required goods and services, some loss of biodiversity is tolerable. Global conservation interests emphasize threatened species, charismatic species and the biodiversity with actual or potential utility (such as wild crop relatives). Local people, and regional populations, have needs and priorities of their own.

Many people depend on forest landscapes for a significant proportion of their needs. For many of these people, biodiversity is about eating, staying healthy, and finding shelter. Depleting the resources on which these people depend (or making them inaccessible) can add to their hardship. Priority setting must recognize and engage with the views and needs of these people: especially the marginalized poor and vulnerable.

All these differing perspectives should be heard. Ultimately what to conserve at what cost is a decision for society as a whole. Different societies with different cultural values and at different stages of economic and social development will inevitably make different choices on their biodiversity conservation strategies and priorities.

Timber harvesting inevitably leads to changes in biodiversity; ideally these changes should be recognized and accepted before harvesting commences. Trade-offs between costs and profit on the one hand and biodiversity gains and losses on the other should be recognized explicitly and the selection of alternative strategies and scenarios negotiated between stakeholders. Planning and negotiation should seek achievable conservation outcomes with acceptable costs.

Foresters have long recognized that any comprehensive effort to address the concept of 'sustainability' needs to consider numerous ecological interactions such as the pollination, seed dispersal and symbiotic relationships on which the productive forest depends. Many timber species, particularly in the tropics, depend on animals for pollination and dispersal. In these cases knowledge is often limited; for example, we remain uncertain which animal species are responsible for pollinating many timber species.

Just because a species remains present after timber extraction does not guarantee its long-term viability. For example, trees may live for many centuries despite not being able to regenerate. Seen in this light a decline in any species becomes a potential cause for concern.

Research in all tropical regions has suggested various ways in which the biodiversity impacts of forest management might be mitigated. Any measures reducing forest damage are likely to be beneficial. Many such measures are already incorporated in various aspects of sustainable forest management and good practice such as reduced impact logging, but more can often be done. Biodiversity-beneficial measures include recognizing and protecting important habitat structures (such as large trees, hollow trees, dead stems and fruiting species) and locations (special habitats such as pools, wallows, salt-licks, edible clays, caves, and river-side habitats offering nesting habitats). Reducing timber extraction rates and lengthening recovery periods will reduce the overall impact of harvesting on the forest. While some options are costly others can reduce costs such as when measures such as climber cutting, understory clearing, or elimination of specific species are limited to situations where they are demonstrably needed. Roads have numerous direct and indirect impacts that can be reduced through good planning, engineering, maintenance and enforcement.

Principles for biodiversity conservation in tropical production forests

The revised Guidelines follow a different format from the previous version, emphasizing the need for an integrated approach. They recognize that it is not enough just to improve management in the forest. A whole set of concepts, laws, knowledge and public and political support for biodiversity in managed forests needs to be put into place. Simply persuading people of just how important production forests are for biodiversity is a major challenge. The Guidelines therefore deliberately target all of the people whose actions will impact forest biodiversity. They are grouped under the following principles:

Principle 1: Sovereignty and societal choice

Rights and responsibilities for biodiversity lie primarily with the states and societies within whose territories the biodiversity is located. Therefore biodiversity use and conservation are a matter of societal choice and should reflect national and local goals.

Principle 2: International commitments

Many countries have entered into legal and non-legally binding intergovernmental commitments to conserve biodiversity and these have impacts on arrangements for managing production forest landscapes within their territories. The presence of populations, species and assemblages of species that are subject to global or international conservation agreements within or adjacent to tropical production forests should be subject to surveys and special management measures.

Principle 3: Political commitment, policies and laws

Strong commitment from decision makers and adequate national policies, laws and regulations are needed to ensure that biodiversity interests are adequately addressed in forest management at all scales from the management unit to the landscape and national levels.

Principle 4: Land use and spatial planning

Achieving biodiversity objectives in production forests requires that land allocation to different sectors and spatial planning within and outside the forest sector take account of biodiversity objectives. This requires collaboration between sectoral institutions at the larger scale and negotiation amongst local land users at the landscape scale.

Principle 5: Decentralization, forest tenure and natural resource access rights

Achieving biodiversity conservation goals in production forests may be favored by decentralized management, improved institutional arrangements and governance both at the level of large scale land allocation and at the level of local peoples' resource access and land tenure rights.

Principle 6: Incentives

Society at large benefits from biodiversity conservation measures whereas the costs of conservation fall mainly on local forest managers. Incentives will often be required to make it attractive for forest managers to take special measures to favor biodiversity.

Principle 7: Knowledge, learning, technology transfer and capacity building

Learning, experimentation, dissemination of information and transfer of technology should be expanded to support biodiversity conservation in tropical production forests.

Principle 8: Managing production forests at a landscape scale

Production forests and other components of landscapes have complementary but differing roles in contributing to biodiversity conservation objectives.

Principle 9: Biodiversity considerations in planning at the management unit level

The forest management planning process, in which economic, social and environmental objectives and priorities should be balanced, is an essential means for ensuring that biodiversity conservations goals are clearly established.

Principle 10: Biodiversity conservation in planted forests

Planted forests should be managed in ways that benefit biodiversity, both within the planted forest area and in areas of natural forest that are retained within the planted forest matrix.

Principle 11: Maintaining functioning forest ecosystems

A fundamental goal of sustainable tropical forest management is to maintain ecosystem functions at both the stand and landscape scales. Biodiversity plays an important role in ecosystem functions and its conservation contributes to sustaining yields of timber and other products.

Message to biodiversity partners

The key message from the revised Guidelines is that forest harvesting should no longer be seen as a major problem for biodiversity. Instead, it should be seen as a major part of the solution. Tropical production forests are home to vast numbers of species whose conservation cannot be assured in protected areas alone. Sustainable forest management can make a major contribution to achieving the goals of the CBD and to maintaining the biodiversity values that are of such great importance to the people who live in and around the forests. The Guidelines demonstrate that in many situations a dollar spent on better management of a production forest will achieve more for biodiversity conservation than a dollar spent on another protected area.

Moving forward, ITTO and IUCN have to ensure that in the future biodiversity is seen as an important benefit of forest management. The foresters of the future will not just be producing timber, they will also be the stewards of much of the world's forest biodiversity. Together ITTO and IUCN will roll out these Guidelines in the forests of member countries and continue to learn and promote better forest management practices throughout the tropics.

Acknowledgements

The core team that worked on the revision process over the past three years consisted of Emmanuel Ze Meka and (in 2008) Eduardo Mansur from ITTO; Jeff Sayer, Stewart Maginnis and Intu Boedhihartono of IUCN; Petrus Gunarso of CIFOR and TROPENBOS; Zacharie N'Zooh and Chairul Saleh of WWF; David Singh and Dana Gobin of IWOKRAMA; and Claudia Azevedo Ramos and Ana Euler of Brazil. John Parrotta of the USFS, Romain Pirard of CIRAD and Douglas Sheil of CIFOR all made major contributions.

The revised Guidelines will be available online (www.itto.or.jp) or from the ITTO Secretariat (address on p.2) following approval by the ITTC in November 2008.