Forest Stewardship Council

FSC step-by-step guide

Good practice guide to meeting FSC certification requirements for biodiversity and High Conservation Value Forests in Small and Low Intensity Managed Forests (SLIMFs)

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The Forest Stewardship Council (FSC) is an independent, non-governmental, not for profit organization established to promote the responsible management of the world's forests. It provides standard setting, trademark assurance and accreditation services for companies and organizations interested in responsible forestry.

Products carrying the FSC label are independently certified to assure consumers that they come from forests that are managed to meet the social, economic and ecological needs of present and future generations.

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FSC'S VISION

The world's forests meet the social, ecological and economic rights and needs of the present generation without compromising those of future generations.

FSC'S MISSION

The FSC shall promote environmentally appropriate, socially beneficial, and economically viable management of the world's forests.

Environmentally appropriate forest management ensures that the harvest of timber and non-timber products maintains the forest's biodiversity, productivity and ecological processes.

Socially beneficial forest management helps both local people and society at large to enjoy long term benefits and also provides strong incentives to local people to sustain the forest resources and adhere to long-term management plans.

Economically viable forest management means that forest operations are structured and managed so as to be sufficiently profitable, without generating financial profit at the expense of the forest resources, the ecosystem or affected communities. The tension between the need to generate adequate financial returns and the principles of responsible forest operations can be reduced through efforts to market forest products for their best value."

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INTRODUCTION

What is this guide about?

This is a guide to help managers and owners of small-scale and low intensity forest operations maintain or improve the management of biodiversity and High Conservation Values (HCVs) within their forests. This guide is not designed to replace management plans – but to strengthen them.

It is designed to help them meet FSC certification requirements for biodiversity and HCV conservation through the process of identification, management and monitoring. It explains some simple ways to protect and integrate forest biodiversity and HCVs into management of productive natural forests.

This guide covers two important parts of forest management:

1) Responsible Management of Biodiversity
2) Identifying, Managing and Monitoring High Conservation Value Forest

They are closely linked together

Who is this guide for?

The guidance is targeted at forest operations in natural forests, particularly in the tropics which are either:

- Small scale operations – occurring in a small area; or
- Low intensity operations – having very low extraction levels

The guide is relevant for any type of management including forests used by communities, private owners or the state.

The guidance applies to single small or low intensity operations, and to groups of operations, such as a cooperative, a forest owners association, or a group formed to obtain FSC Group Certification. Additional guidance specifically for groups of forest operations is given in section 3 of this guide.

How will it help with FSC certification requirements?

FSC certification evaluates forest management using a set of 10 Principles and associated criteria. They include economic, managerial, environmental and social requirements.

The information in this guide is designed to help small forests and low intensity operations comply with:

- The biodiversity requirements of FSC Principle 6 (Environmental Impact)
- FSC Principle 9 (Maintenance of High Conservation Value Forests).
- It will also help with carrying out good monitoring practices, which are a requirement of FSC Principle 8 (Monitoring).

For more information about FSC see the reference section at the back of this guide.

We already have a management plan, isn't that enough?

This guide is not designed to replace management plans, but to strengthen them.

Most forest operations already have a management plan. Even NTFP harvesting operations usually need a simple management plan in order to have a government permit.

Management plans usually focus on the appropriate level of harvesting – guaranteeing continuous harvesting of trees or other forest products on a regular basis, without loss of yield.

Some environmental impact management is usually included – e.g. protecting riverside vegetation, reducing erosion and runoff from forest roads, and planning directional-felling of trees to minimize damage to surrounding vegetation.

However, while they may cover some conservation issues experience has shown that management plans mainly concentrate on the productive part of the forest and usually do not address biodiversity very well. There are a number of requirements in the FSC standard about biodiversity and High Conservation Value forests which must also be included in forest management. These are described in the following two sections.

FSC and biodiversity

FSC's requirements for responsible management of biodiversity are partly contained within Principle 6 'Environmental impact'. The full text of Principle 6 and its criteria is included the Reference Section at the end of this guide.

In summary, the biodiversity requirements of Principle 6 require that forest management:

- Is protecting rare, threatened and endangered species (of birds, plants, reptiles etc.) [P6.2]
- Is protecting the areas in which these species live, feed, and breed (their habitats). [P6.2]
- Controls inappropriate hunting or collecting of animals and plants. [P6.2]
- Maintains the 'natural functions' of the forest. For example, ensuring that there is still a balance of trees of different ages, including seedlings, and that there is still a natural range of species and types of vegetation present. [P6.3]
- Takes into account the impacts of forestry on the forest. [6.1]
- Uses conservation zones and protection areas – where appropriate. [6.2]

Other references to biodiversity management are found in FSC's Principle 9 – Maintenance of High Conservation Value Forests.

FSC and High Conservation Value Forests

Maintaining "High Conservation Value Forests" is an important part of FSC certification. FSC created the concept of High Conservation Value Forest, as a way of identifying particularly important forests – those that have important social or environmental values.

The HCVF concept promotes responsible management of forests or parts of forests which are critically important or which have outstanding significance locally, nationally, regionally or even globally. See Box 2 for the different types

Bodiversity - what is it?

"Bio" means "life", and "diversity" means "variety".

The simplest definition of biodiversity is "the variety of all living things" Maintaining biodiversity = maintaining all the variability found in nature.

There are 3 main concerns:

- Diversity of species: maintaining all living species (e.g. different plants, animals, insects) and preventing species from going extinct or becoming endangered.
- Diversity within species: Maintaining the different populations, races and subtypes of individual species (e.g. maintaining healthy breeding populations in different areas).
- Diversity of ecosystems: Maintaining different types of habitats or ecosystems – meaning the range of natural areas where plants and animals live (e.g. maintaining different types of vegetation which are characteristic to an area).

of High Conservation Value Forests. The full text of Principle 9 is included the Reference Section at the end of this guide. A summary of FSC requirements about High Conservation Value Forests (Principle 9):

- You have evaluated which parts of your forest area might be considered “High Conservation Value Forest”. [P9.1]
- You have done this in consultation with other people who might have an interest in this. [P9.2]
- You have made sure that the way you use and manage the forest doesn’t negatively affect the critical values you found. [P9.3]
- You have a system to check that the values or qualities are being protected. [P9.4]

If you are working in forests which have High Conservation Values the forest manager has an extra level of responsibility, above and beyond what would be expected in responsible forest management generally, and this is what is recognized in the FSC Principle 9. You need to take special precautions to protect the value that exists there.

You may not have to change any of your management it depends on the values you have identified, and the way you use and manage the forest.

Who decides where the High Conservation Value Forests (HCVF) are?

The person responsible for managing the forest usually decides whether a forest has high conservation values. But consultation with other people is essential. Consultation should include all other users of the forest (e.g. members of local communities).

You may also consult people with specialist knowledge about the type of forest and the animal and plant populations present there, or the services it performs (such as watershed protection, or erosion control).

High Conservation Value Forests - what are they

The term High Conservation Value Forests (HCVF) refers to forests of outstanding and critical importance. FSC created the definition of High Conservation Values. Their definition is commonly presented as 6 categories of High Conservation Values.

HCV 1: Globally, regionally or nationally significant concentrations of biodiversity values (this includes: protected areas; rare or threatened species; endemic species; and seasonal concentrations of species)

HCV 2: Globally, regionally or nationally significant large landscape-level forests

HCV 3: Forest areas that are in or contain rare, threatened or endangered ecosystems

HCV 4: Forest areas that provide basic services of nature in critical situations (This includes: protection of watersheds, protection against erosion and destruc-tive fire)

HCV 5: Forest areas fundamental to meeting basic needs of local communities

HCV 6: Forest areas critical to local communities’ traditional cultural identity

To be a High Conservation Value Forest, it is only necessary for the forest to have one of the six values. It is possible that the forest may have all 6 values.

It is the forest areas that are needed to protect the values that are considered as High Conservation Value Forests. Management of those forests must aim to conserve the High Conservation Values (HCVs).

It could be that all of the forest is considered to have High Conservation Values, or it might be that only part of the forest has these values – if so, that’s the part you have to manage to protect those values.

HCVF toolkits

In some countries groups of experts have developed national-level guidance about where the HCVFs are likely to be found.

The guidance is usually presented as an “HCVF Toolkit” and is designed to inform forest managers where the HCVFs are likely to be. For example, they may identify which types of vegetation would be considered rare or endangered, and provide lists of animal species which are protected under national and international law.

For example there are Toolkits for Ecuador, Indonesia, Malaysia, Ghana, Bolivia, Papua New Guinea and Vietnam and parts of Europe and North America. If you are working in any of these countries you should get a copy of the Toolkit to help you work out whether your forest is likely to have HCVF.

Other countries, such as Brazil, Mexico and Cameroon have been developing simple “checklists” to help community forests to identify whether they have HCVF. To see an HCVF Toolkits or checklist, contact the FSC representative in your country, or contact one of the sources of information given in the Reference Section at the end of this guide.

Small and Low Intensity Forest Management

FSC requires compliance with its forest management Principles and Criteria, but how you comply with the requirements will vary greatly according to the scale of the operation. FSC emphasizes that requirements should be implemented according “to the scale and intensity of operations and the uniqueness of the affected resources.”

For each criterion, including those for biodiversity management and high conservation forest, there are simple and achievable methods of meeting the requirements.

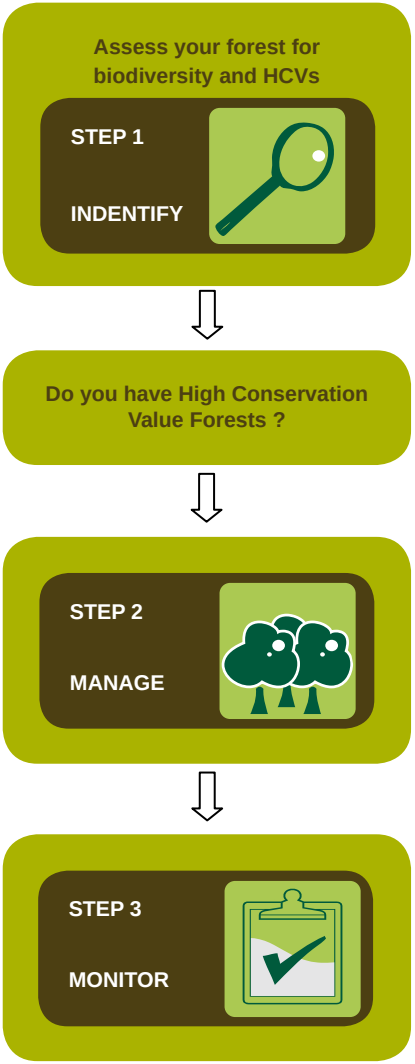
Assessments for HCVFs, for biodiversity, actions to promote conservation and monitoring activities should all be “appropriate to the scale and intensity of the forest operation”. Small or low intensity operations can reasonably be expected to devote less time and resources to such activities than large or high-impact operations would. So, **if your operation is small or low intensity – keep it simple.**

If your operation is very low intensity it is quite likely that your current activities are not affecting overall biodiversity or HCVs – but you need to confirm this by doing some simple checking to see what is happening. In some operations the management of the forest may actually be conserving it better than if there were no management – for example by adding a value to the forest that reduces a threat of clearance for alternative land uses, or helping to prevent illegal uses. In such cases you should be able to demonstrate that your activities do not substantially negatively affect the biodiversity and or High Conservation Values.

HOW TO MEET THE REQUIREMENTS FOR HCVF AND BIODIVERSITY MANAGEMENT

Biodiversity and High Conservation Values: the Basic Steps

Responsible management of biodiversity and of High Conservation Value forests share the same three basic steps: identification, management and monitoring.



Step 1 – Identify

Finding out what you have got and where it is!

Step 1 covers

What information you need to know
How to find the information
How to display and use the information

1.1 What you need to know

The first step is to be sure of what you've got in the forest and where it is – this includes working out through consultation if your forest has High Conservation Values.

We recommend 5 key actions which will help you to:

- identify biodiversity in your forest
- identify whether or not you have High Conservation Value Forest areas

If your country has an HCV Toolkit, you should use it to help you decide whether your findings are significant at the regional, national or global level.

Action 1 – Identify any rare, threatened or endangered animals and plants.

Forest managers should be aware of:

- **The presence of rare, threatened or endangered species** – and any species that are protected by national laws.
- **The presence of any endemic species.** These are species that are found in your country or region and nowhere else on earth.
- **Where they are found.** If they occur in specific areas, you should be able to describe these or show them on a map if possible.
- **What conditions they need.** The kind of vegetation and environment do they need to survive, feed and reproduce.

FSC requires that you are able to protect rare, threatened and endangered species and their habitats [P 6.2], that you maintain biodiversity [6.3 b] and that you carry out an assessment to determine the presence of High Conservation Value Forest characteristics [P 9.1]

> **If you have a large concentration of rare, threatened or endangered animals and plants (i.e. lots of different rare species, or big populations of one or a few rare species), this makes your forest very important and are considered to have a 'High Conservation Value' (HCV 1).**

Action 2 – Identify any special or unusual types of vegetation.

Forest managers should be aware of:

- **The presence of rare, threatened or endangered ecosystems.**
- **Where they are found** – show them on a map if possible. Or demonstrate awareness of their location, especially in relation to any harvesting activities.

In order to know whether you have High Conservation Value forests, you need to know whether your forest is within a rare, threatened or endangered ecosystem, or whether your forest contains areas within it that are rare, threatened or endangered ecosystems. [P9.1] Such ecosystems may be types of forest, marshes, grasslands with specific plant and animal species which are rare or absent elsewhere. You are also expected to maintain the variety of ecosystems present in your forest [P6.3 b].

If you have ecosystems that are particularly rare or unusual, these are considered to have a "High Conservation Value" (HCV 3)

Action 3 – Identify any parts of the forest area or surrounding area which are important for providing 'natural services' such as watershed protection, erosion, drinking water sources, preventing mudslides or landslides, etc.

Forest managers should be aware of:

- **The services provided, and who benefits from them.** For example, who relies on the fresh water provided by forest streams? Are any communities or roads at risk from mudslides or landslides?
- **Any specific areas which provide crucial services. Is it all the forest area, or specific parts of it which are important? Show them on a map if possible.**

This is part of the requirement that you carry out an assessment to determine the presence of high conservation value forest characteristics [p 9.1]. It is also part of the requirement to recognize and maintain the value of forest services [p 5.5]

If you have forests which provide a critical protection function, meaning that the services that they provide are not just important but essential to health and wellbeing of the people who rely on them, then these areas should be considered to have a "High Conservation Value" (HCV 4)

Action 4 – Identify how the forest is being used by local communities and if the forest is culturally or economically critical to any groups of people.

Forest managers should be aware of:

- **Who is using the forest and how they are using it** (e.g. timber, water sources, wild animals, tree bark, plants, etc and whether it's being used for food, for medicine, to sell etc).
- **Whether the use of the forest or forest products is critical to people's wellbeing.** For example, how important is the forest to their diet or income?
- **Whether the use of the forest or forest products is an important part of their culture.**For example, does the forest have an important cultural or religious significance
- **Which parts of the forest areas are used.**

FSC standards include respect for the legal or customary rights of local people to use the forest – unless they have explicitly and freely renounced these rights [p2.2]. they also require that any sites of special cultural, ecological, economic or religious interest to indigenous peoples must be recognized and protected, in cooperation with the indigenous peoples themselves [p2.3]. understanding local people's use of the forest is also part of the assessment to determine the presence of high conservation value forest characteristics [p 9.1].

Note that forest managers are also expected to control inappropriate hunting trapping fishing and collecting [6.2] – understanding who uses the forest and why, is part of this (see step 2 "manage" for more details)

If you have forests which are critical to local people for their basic needs (e.g. food, livelihoods or health), or for their cultural identity (e.g. religion and spiritual wellbeing), these should be considered to have 'High Conservation Value' (HCV 5 and HCV 6).

Action 5 – Identify whether your forest is part of a very large, nationally or globally important forest area.

Forest managers should be aware of:

- **Is the forest you manage part of a large, important forest area at the national level?**
- **Are there few settlements and agriculture, and many animals and birds in that forest? (especially large mammals that travel large areas)**

FSC requires that your forest management activities should conserve unique or fragile landscapes, and maintain or

enhance the valuable attributes of large, landscape-level forests.

This is part of the assessment to determine the presence of high conservation value forest characteristics [p 9.1], since the hcv definition includes “globally, regionally or nationally significant large landscape-level forests”.

If your forest forms a part of a very large, nationally or globally important forest where most wild animals are still abundant (for example a forest which has remained as forest for a long time and covers many thousands of hectares), this is considered to have “High Conservation Value” (HCV 2).

1.2 How to find the information you need

There are many sources of information about the biodiversity and hcvs in your forest.

a) Existing management plans, maps, and research.

Don’t reinvent the wheel: check what studies and inventories already form part of the management plan. they are likely to provide classifications of vegetation types, and maybe studies of rare wildlife and plants.

b) Consultation: your local knowledge – and that of other forest users.

Use your own knowledge and broad and inclusive consultation to ensure that you are aware of the important values. consider the following:

- Forest workers carrying out inventories, or marking trees for felling, are often able to identify the most critical forest areas.
- People who collect fruit and seeds are generally very familiar with even subtle differences in forest type, and can identify many different plant species.
- Experienced foresters, forest technicians, forest workers and local farmers, NTFP collectors and hunters will all have knowledge about biodiversity and important forest areas.
- If your forest is used by communities other than your own, you will need to involve them in discussions about use of the forest and protection of its biodiversity. You will need to consult with people to find out if they are critically dependent on the forest, and also whether their use of the forest endangers any of the biodiversity of conservation values.

c) Use national-level work on HCVF

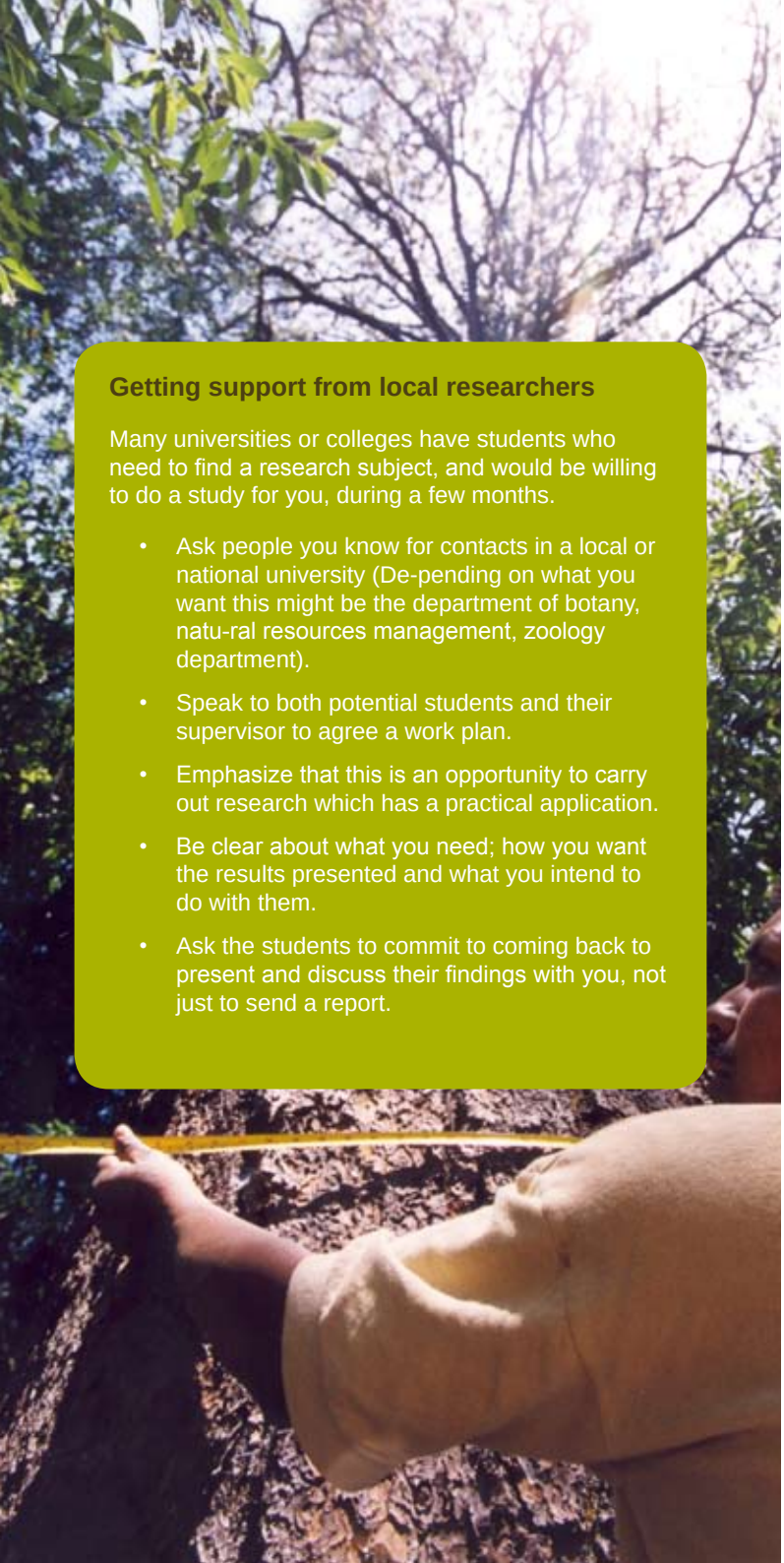
Find out whether anyone in your country has already developed an hcvf toolkit, HCVF “national interpretation”, or checklist. contact the fsc office in your country, or a certification body, or the hcv resource network. they may have made maps to show where the forests that might be hcvf are located.

d) Government sources

Most countries have a lot of official information about endangered species, rare forest types, protected animals and birds etc. it should be available in maps or reports.

e) Environmental NGOs

Contact conservation organizations that have projects or offices in your country for advice on biodiversity identification and management. local or national conservation organizations often have helpful experts who know the area well. for a list of international organizations that often produce useful maps and guidance see the reference sections at the end of this guide.



Getting support from local researchers

Many universities or colleges have students who need to find a research subject, and would be willing to do a study for you, during a few months.

- Ask people you know for contacts in a local or national university (De-pending on what you want this might be the department of botany, natu-ral resources management, zoology department).
- Speak to both potential students and their supervisor to agree a work plan.
- Emphasize that this is an opportunity to carry out research which has a practical application.
- Be clear about what you need; how you want the results presented and what you intend to do with them.
- Ask the students to commit to coming back to present and discuss their findings with you, not just to send a report.

1.3 How to display and use the information you have found

Maps

If you already use maps for management or discussion, then including the important biodiversity areas and HCVs on a map is a useful way to see how they may be affected by your management activities.

If your operation does not commonly use maps (e.g. a community operation which harvests NTFPs using a traditional management system), it should be sufficient to be able to describe the important areas (and the way they are protected).

If you use a map, consider including:

- Areas important for rare, threatened or endangered animals and plants.
- Any special or unusual types of vegetation (not just forest vegetation – there might be rare types of swamps, grasslands or rivers and streams too).
- Parts of forest area or surrounding area which are important for natural services such as drinking water sources, prevention of landslides.
- The areas used, or planned to be used for commercial harvesting of timber.
- Areas used for other commercial activities such as ecotourism, environmental services, or extraction of other products.
- The areas that are used by local communities for critically important activities (cultural or for economic reasons).
- Any area that the law says should be protected (these areas may include buffer zones to national parks, forests within a certain distance to rivers, forests on steep slopes, or certain rare forests, e.g. mountain-top forests or mangroves).

Note: The type of maps you produce will depend on the technical support you have, and the resources you have. But even the simplest map can be useful. Forest certification

auditors will take account of the scale of your operation when judging what you have done: in many cases a simple map is sufficient. In such cases verbal explanations are sufficient to demonstrate that you've identified important areas.

Above left: Land use planning map of community forest (mainly used by foresters); above right: sketch map used to map results of discussions with community members about important values and their approximate locations.

Tables/Lists

Where appropriate make a clear list of your findings so that you can account for them in your management plan. A simple example is given in Table 1.

If helpful for you and your management you could also show a list of High Conservation Values you have recorded in a table for easy reference (See Table 2 for an example, based on the values identified in Table 1). This sort of table would make it very clear to a certification body that you have thought about and identified High Conservation Value areas.

Remember...it might be that your whole forest is critically important for some things (like water supply), and that parts of your forest are critically important for other things (like protecting the habitats of rare wild animals). Your HCV areas will then be of different sizes.

See Annex 1 and 2 for examples on how to chart important aspects of biodiversity and high conservation, and an example of an HCV summary table.

Tips for community operations: identification

Consult with community members who are most familiar with the forest:

- Leaders and elders
- Collectors of nuts, fruit, resin etc.
- Healers and experts in medicinal plants
- Hunters
- Forest workers

Make a special effort to talk to groups who may be less easy to meet with, and may use the forest in ways which the community leaders are un-aware of:

- The poorest families.
- The women
- Families or persons that are not part of the formal community, but live within the village area.
- It is important to understand how they use the forest.
- Check if they depend on the forest for any use of plants or animals –for cash or subsistence use.

Everyone who uses the forest should be involved in making decisions about future use of the forest: especially if you want to introduce new rules.

Step 2 – Manage

Make a management plan!

Step 2 covers

Defining your objectives
Identifying obstacles and threats
Deciding what actions to take
Taking action!

Every operation – even a very small one – should have a simple management plan.

If it's a small forest or one managed with very low harvesting levels, this can be a very simple plan. In some cases this may even be a verbal description – if for example the managers are not able to use written documents.

Having High Conservation Value Forests doesn't mean that you have to stop harvesting or turn everything into a conservation area!

What you choose to do will depend on what you have found in the identification step, and the sort of forest management you already do.

The management plan should include how you are going to protect the biodiversity of the forest, and protect any High Conservation Values (HCVs) that are found there.

This does NOT need to be complicated nor expensive. It might be that you are already doing most of the right things.

Managing High Conservation Value areas

If you have identified the presence of 'High Conservation Value Forests' you will need to pay special attention to ensuring that the important qualities of these forests are conserved. You will need to balance production and conservation in such a way that the High Conservation Values are maintained. FSC standards require that any forest management in High Conservation Value Forests maintains or enhances the values found there [P9].

Particularly in low intensity operations and small operations it is usually still possible to continue using the forest (e.g. for harvesting trees, collecting fruits, grazing etc), but you may need to make some changes to be sure of having a low impact.

FSC expects the management plan to include specific measures to maintain or enhance the values you have found [P9.1].

Managing biodiversity generally

We recommend 4 key actions to take when thinking about managing your forest to maintain the biodiversity and the high conservation values you have identified.

4 key actions for managing biodiversity and HCVs

1.1 Define your objectives. Be clear about what you want to protect or con-serve.

1.2 Identify the main obstacles or threats to achieving your objectives. Be clear about what activities are currently taking place in the forest and how they might affect your objectives.

1.3 Decide what actions to take. Decide what changes you need to make to current activities. (you may not need to make any)

1.4 Take those actions! (and then monitor them!)

2.1 Define your objectives – be clear about what you want to protect or conserve.

Use the information you collected in Step 1 to establish what it is you need to protect or conserve e.g. the key habitats you need to conserve or the species which are particularly rare.

2.2 Identify the main obstacles or threats to achieving your objectives.

Be clear about what activities are currently taking place in the forest and how they might affect your objectives.

Forest management activities

Start by considering any timber extraction activities – these are likely to have the biggest impact. Your management plan may already have a list of possible environmental impacts of your logging. You should be aware of where the harvesting operations are being carried out, and where are they planned.

Then look at all the other major activities such as building roads, log concentration areas. For each one consider their possible impact on the biodiversity and High Conservation Values you identified in Step 1. See an example in Table 3.

Other uses of the forest

You also need to consider other uses of the forest, and how they are affecting biodiversity and conservation value areas. These include collection of forest products – resins, nuts and fruit and hunting.

They also include illegal activities such as poaching, illegal fishing, artisanal mining, and encroachment for agriculture. Make a list of all these forest activities and consider how they might affect the biodiversity and other values you identified in Step 1.

Once you have enough information about the impacts of forest based activities, you can then decide how best to reduce those impacts. See Table 3.

Note: You also need to be aware of other types of threats such as forest pest outbreaks.

2.3 Decide what actions to take. Decide what changes you need to make to current activities.

Taking into account the different uses of the forest decide how to manage your activities in order to maintain biodiversity and high conservation values within your forest area.

Decisions relating to community use of the forest should be made through discussions with the community members.

In some situations, it may be necessary to introduce new rules or ways of operating – but these should be practical and able to be implemented within your current operations.

See Annex 3 for examples.

The precautionary principle
If you are not sure, proceed with caution!

FSC asks that your management of High Conservation Value Forests includes the precautionary principle' [P 9.3].

This principle is usually used to mean that where an action might lead to se-rious or irreversible damage, and you are not sure of its impacts, then you should proceed with great caution.

In any High Conservation Value Forests, you are expected to be cautious in your actions, unless you can be sure that they are not negatively affecting the values you've found. Define your objectives. Be clear about what you want to protect or conserve.

- Depending on what you have identified, making changes to take care of biodiversity and HCVs might include the following simple actions:
- Changing the planned order of cutting, to leave an important area for animal-breeding until after the breeding season.

- Leaving a greater number of seed trees to promote more regeneration of a particular species.
- Not harvesting in certain patches of forest in order to leave “representative samples” untouched.
- Not harvesting on steep slopes.
- Making a corridor of forest along with your neighbors to allow the passage of wild animals over a bigger area.
- Not allowing tree harvesting (only extraction of fruits, resins etc.) in the rarest, most endangered part of the forest.
- Reviewing the design of roads, river crossings and log yards and the procedures to build them, in order to reduce damage (e.g. road building only in the dry season to reduce erosion).
- Finding ways to regulate the legal hunting or collecting of certain species and eliminate illegal hunting and poaching through community initiatives.

Conservation areas – do we need them?

The FSC standard mentions that conservation zones or protection areas may need to be established [P6.1].

Depending on the size of your forest area, how much of the forest you are working in and how destructive your operations are, it may be appropriate to set aside separate conservation zones and keep out of them entirely. However, generally for very small forests, or if you are only harvesting fruits, resins or seeds at a level which does not affect the forest significantly, you would not be expected to set aside separate conservation areas. Instead you should aim to show that the overall low level of interven-tion in the forest is safeguarding rare, threatened and endangered species and their habitats.

Where many individual small forests are seeking certification as part of a group it might be appropriate to agree to maintain a single, large, shared conservation area rather than individual, tiny, scattered conservation sites on each group members’ site. See Section C of this guide for more guidance on group management of biodiversity and HCVs.

2.4 Take action

Too often there is a lot of emphasis on the identification of biodiversity and important forests, but very little action taken. Don't let your plans sit in a folder. Put them into action.

To do this effectively you may need to:

- Make changes to management plans
- Explain changes in management practices to forest workers
- Carry out training for new practices
- Hold meetings with local communities or forest users to discuss changes.

Tips for community operations – management

Discuss in community meetings the results of your work and consultations to identify biodiversity and High Conservation Value Forests.

Present the results to the community and explain why this is important for the future management of the forest, and for obtaining or maintaining FSC certification.

Discuss with the community the possible changes (if any are needed) to management, and whether there are any concerns about the way community members are using the forest (e.g. Hunting, harvesting firewood)

Hold a discussion in the community about how to protect the 'values' you have found, as well as meeting their own economic needs.

It's recommended that you write down the decisions made and the reasons they were made. This will be useful to share with certifiers.

Case study 1 – Identifying threats, and management actions

In Limbe, Cameroon, five villages are contained within the 3735 ha Bimbia Bonadikombo Community Forest.

Several possible High Conservation Values were identified by discussions among community members and research by students.

As part of the discussions about how best to manage these areas, major threats to the HCVs were identified.

e.g. The presence of concentrations of Drills (baboons), Chimpanzees and Dwarf Crocodiles, all of which are threatened species at a national level (HCV 1).

Threats to these include poaching, slash and burn agricultural encroach-ment, and illegal timber harvesting

Areas of mangrove forest (HCV 3) and seasonal concentrations of threatened marine turtles (HCV1)

Threats to these values include illegal wood harvesting for firewood or charcoal, fish smoking and poaching.

They already have some actions to address some of these threats, such as working with the Ministry of Forest and Wildlife to seize chainsaws, rifles and traps from illegal harvesters and poachers, and punish those caught with them. They are now discussing management strategies to address these threats including new internal regulations, programmes of sensitization and education.

Source: Marie Mbolo and Parfait Mimbini Esono, FSC Cameroon

The special case of hunting, fishing, trapping, collecting

Hunting or capture of live animals can have a very big impact on the wildlife in forests in a very short space of time.

While it can be difficult to control, FSC expects inappropriate hunting, fishing, trapping and collecting to be controlled [P6.2], and this is also an important part of managing High Conservation Value forests which have high concentrations of rare, threatened or endangered animal species. [P 9.3]

To control hunting, fishing, trapping and collecting in your forest, you need to know:

- What animals you have (you should have found this in Step 1)
- Which types of animals are caught or killed
- The different groups of people involved in hunting. Some examples:

  > Community members hunting for their own consumption

  > Community members with rights to hunt for sale

  > Poachers, people who enter the forest illegally

  > Forest workers – in the forest legally, but not allowed to hunt

If you know that animals are being killed or caught, you need to work closely with the people who are hunting or catching them.

If their hunting is illegal you will need to concentrate your efforts on eliminating or reducing this.

If their hunting is legal, you will need to find out what impact this is having on the animal populations (by monitoring), and on how to reduce any negative impacts. Below is some guidance for some of the most common situations.

Hunting by community members

If you manage a community forest and those who hunt or catch animals are members of the community, or have a right to use it, you need to work together with community members to set 'sustainable levels of hunting'. This usually means making sure:

- That no animals that are protected under national law are killed
- That the number of animals hunted does not mean that the overall number of animals is reduced.
- That there are still always enough males and females to produce young ones each year.

Hunting by outsiders

If you have a problem with hunting by outsiders you will need to take strong measures to limit this. Can you work with them to reduce the hunting? If you can't work with them, what other ways are there to stop them entering the forest? Actions that other people have tried include:

- using ditches or gates on forest roads where people enter with vehicles.
- using forest guards to patrol the area.
- information and education about the most endangered species.
- working with government Wildlife Departments to report incidents and help ensure unlawful hunting does not occur.
- signs warning against illegal activities

Hunting by forest workers

If animals are being caught by people hired to work in the forest, ensure that you work with them to understand why they are doing so. There could be many motivations behind their actions. You will need to ensure that:

- If forest workers are hunting to supplement their food, there are feasible alternatives for them.
- If forest workers are hunting to sell the meat, skins or other parts of the animals, and make them aware of national or local laws governing this. You should

speak to their employers and devise ways to enforce the laws.

In all cases of hunting or trapping, it is important to ensure that no protected species are killed and that animal numbers are not significantly affected overall.

Case study 2 – Hunting in the La Trinidad Community Forest, Mexico

The agricultural community of La Trinidad – located at around 2000m in a pine, and pine-oak forest in S.E. Mexico also manages a forest of 805ha. The community of around 700 people has recently revised their rules for forest access and use. The rules for hunting and collecting are different for formal comuneros (official community members - usually male), their chil-dren, women, and outsiders. For example the community does not issue any sport hunting permits to outsiders (even if the federal government grants them), whereas community members are allowed to hunt deer, squirrel, and wild pig for domestic consumption, once they have obtained a permit from the community leader. Wild turkey hunting has been temporarily banned, while a local college carries out a study of the wild turkey population, and the possibility of their controlled hunting.

Dawn Robinson, ProForest and Ariel Arias Toledo, ERA/FSC Mexico

Step 3 : MONITOR

What is monitoring?

Step 3 covers

What is monitoring?
Good monitoring practice
General guidance for monitoring
Monitoring wildlife and hunting

At its simplest, monitoring means “checking to see what is happening”.

Monitoring is required as part of good forest management [P8]. The main reason for monitoring is to improve management.

Even in very small forests, or in those where you are harvesting little over a large area, some form of ‘checking what is happening’ is needed.

Monitoring does not need to be complex, or expensive.

Monitoring simply requires that you regularly check or measure certain key aspects of your operations and your forest.

FSC expects to you carry out different types of monitoring, including assessing the condition of the forest, the yield of the products you are harvesting, your management activities and their social and environmental impacts. [P8]

For responsible management of biodiversity and High Conservation Value Forests, your monitoring should help you with at least the following:

- Assessing how effective your management has been in protecting the High Conservation Value Forests you identified [P9.4]
- Being aware of whether you are safeguarding the rare, threatened and endangered species and their habitats [as required by P6.2]

Good Monitoring in Practice

Monitoring should include checking whether your actions are in practice helping to protect or conserve the biodiversity and HCVs that were identified. In other words check that your planned actions are having the intended conservation effect e.g. has the quality of the water changed?; have numbers of endangered animals increased or decreased or remained the same? etc.

Monitoring won’t work, unless you do it regularly, and unless you use the information you collect.

Having a simple monitoring plan may help. It should record:

- **What** you are going to monitor, **and why**.
- **How** you are going to do it.
- **Who** will do the monitoring, and **how often**.
- **With whom** the results will be discussed, and **how the results will be used.**

See samples in Annex 4 on how to record this information.

Who should participate in making the monitoring plan will depend on what sort of operation you have. It should usually include:

- Those who make decisions about forest management (may be a professional forester, the operation owners, the heads of households)
- (If a group certificate) – the group members and group manager
- (if a community) – relevant community leaders and/or assembly of community members, and/or the community decision-making body.
- Anyone who is being asked to take part in monitoring activities

Build the agreed monitoring activities into the regular tasks of forest management. Make time to present and discuss the results of monitoring into the same meetings you would normally have to discuss permits, harvesting, profits and planning for the coming year.

If you already have a calendar or diary with annual activities, add the monitoring jobs to this. Or make a wall-chart to remind people what needs to be done.

Some general guidance for monitoring

- Only collect information that you need.
- Keep it simple!
- Keep it relevant! Make sure you collect information that will allow you to make meaningful decisions about whether your forest is healthy, and whether the things you are trying to protect are being protected.
- Discuss the results! Don't just collect them and file them away – make a presentation to the decision makers, whether they are forest owners, community leaders, or professional foresters. Discuss what they mean.
- Use the results! Use the discussion about the monitoring information to make changes to or improve the way the forest is managed. If you don't you have wasted a lot of time (and possibly money) collecting them for nothing!
- Use the existing organizational or management structures in your operation. Whether that is a community, a private business or a state operation, monitoring is much more likely to work if you make it part of existing responsibilities, reporting and decision-making mechanisms.

Case study 3 – simple community monitoring activities

The community of Analco, Mexico has around 950 ha of forest including oak, pine, and montane cloud forest. With the help of a local NGO they identified their High Conservation Value areas including areas of high concentrations of biodiversity, and those providing critical services. Based on discussions about the use of the forest, and the HCVs identified, the community agreed a series of management actions and developed a simple monitoring plan with six things to monitor.

One of the High Conservation Values they identified is the critical role of the for-ests in water supply. They play a role in aquifer regulation within a larger water-shed which supplies important large dams, and they are critical for maintaining the quality and quantity of water supplies to the community itself – it is the only source of drinking water.

They agreed two monitoring actions related to the protection of water sources and streams:

What to monitor, and **why**.

a. The flow of water in the springs and streams in order to see seasonal varia-tions and year to year variations.
b. Visual checks to see if the no-go zones around the water sources are being respected.

How we are going to do it

a. A simple system of monitoring wells (piezometers) of the main sources, with a notebook for registering measurements.
b. Periodic visits to detect any vegetation disturbance at the water sources (springs, streams) or signs of activities such as grazing, dredging of material, or use of pollutants. Also note the presence of any tree infections.

Who will do the monitoring, and **how often**?

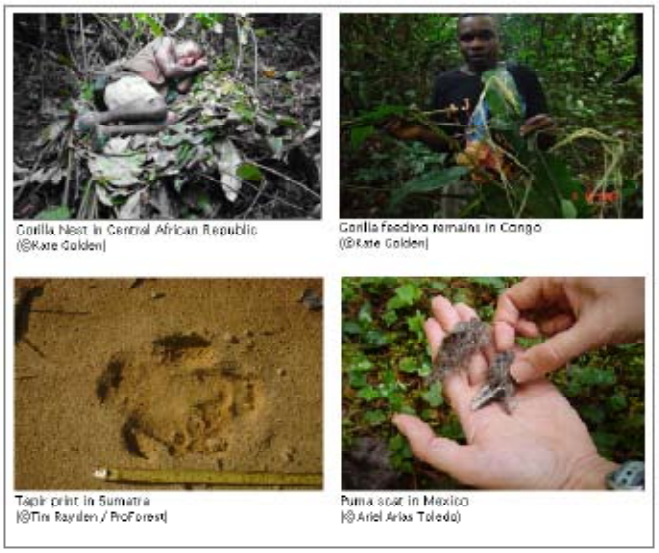
a. The community's Oversight Committee, and the head of the Drinking Water Committee, will take at least one measurement in the rainy season, and one in the dry season, every year.**...cont**

...cont
b. The Oversight committee will carry out the visits at least once a year and in-form the community, and the communal and municipal authorities of the results

With whom will the results be discussed, and how will the results be used?

For both monitoring actions (a and b) the results will be discussed among the community, with the participation of the Community authorities, oversight commit-tee, municipal leader, technical advisor and the NGOs and academics who provide technical support to the community. The results will be used to take decisions which balance the objectives of development and conservation – these could be changes to the forest management plan, or to internal community practices.

Yolanda Lara Padilla + Filemón Manzano Mendez, ERA A.C., Oaxaca, Mexico



Gorilla Nest in Central African Republic (©Kate Golden)

Gorilla feeding remains in Congo (©Kate Golden)

Tapir print in Sumatra (©Tim Rayden / ProForest)

Puma scat in Mexico (©Ariel Arias Toledo)

Monitoring wildlife and hunting

If you have identified the presence of rare or endangered species of birds or animals, you may want to monitor whether their numbers are increasing or decreasing. However, it can be complicated and expensive to count animals.

Instead of monitoring the animal itself, you might consider:

Monitoring the presence of the habitat, (vegetation, food sources, breeding areas) that the animal needs to survive.

- Using signs of the animal's presence (e.g. nests, feeding sites, prints, or excrement).
- Asking for help from universities or research cen-ters. They may have access to specialist equipment for monitoring animal populations, e.g. netting for birds and bats, camera traps for photographing wild animals etc. They often carry out studies over a wide area, and might welcome using your community as one of their sites.

Tips for community operations: monitoring

Discuss how to measure the conservation aspects of the forest during a com-munity meeting – or even better while walking through the forest.

Even if for most members of your community the concept of 'monitoring' or 'indicators' is not very familiar – many community members will have good ideas about how to find ways of measuring the health of the forest, that are simple, low cost, and fit in with their regular routines. Use these ideas.

Invite a national or international conservation group to use your forest as a site for monitoring birds' animals or vegetation. In return they could give you a short report on any changes they find.

Case study 4 – using hunting calendars for monitoring

In the state of Acre, in North-East Brazil extractivist families have traditionally relied heavily on the forest and rivers for timber, fruits, oils, and seeds, with fishing and wild-life hunting providing an important source of protein.

When some families formed a group to apply for FSC forest management certifica-tion, the certifiers identified the importance of understanding and monitoring the level of hunting in the forests. A simple 'hunting calendar' was developed.

Families use the calendar to record how many animals are hunted each month – by placing a cross near the picture of the animal they hunted. The totals of animals hunted by the community are calculated at the end of each year and presented at community meetings.

The monitoring calendar is a relatively new idea, and there are challenges associ-ated with getting all the community members to use it– especially those who are not part of the group carrying out timber extraction and applying for certification.

However as a result of the calendars community discussions have been stimulated about the impact of hunting and the relationship between the number of animals caught and the variations in sighting of these animals.

Already it is clear that through these discussions the communities are generating their own ideas about how to address these issues. Some proposals include the identification of protected areas for fauna conservation within the community, the establishment of seasons for hunting certain animals – avoiding their reproduction period -, and the prohibition of hunting with dogs.

Patricia Cota Gomes, Imaflora, Brazil

HCVF AND BIODIVERSITY MANAGEMENT BY GROUPS OF FOREST OPERATIONS

The advice in this section is applicable to groups of operations such as members of a cooperative, or a group certification scheme.

There is huge variation between the types of groups of forest operations. There is variation in, the size of their forest areas, intensity of operations, forest types, the geographical arrangement of their forest areas (e.g. shared blocks of forest vs. scattered plots in a wider landscape), in the they way they are organized and the degree to which they take collective decisions.

Due to this variation, it is appropriate for different sorts of groups to manage biodiversity and HCV forests in different ways.

It will very often prove cost-effective to collect biodiversity information as a group, but management decisions may be taken at the individual level or at the group level, depending on the group context, and organizational structure.

The group manager and group members will need to use their judgment and agree at what level they wish to handle the biodiversity and HCV aspects of their group certification, in order to implement the requirements of the FSC standard for their own particular case.

They should document that decision so that the responsibility for managing biodiversity and HCVs is clear and well understood by all.

Every group is different, but it is possible to make general recommendations for particular types of group. There are three main scenarios, which can benefit from different strategies.

In all cases, the documents presented by the group entity should show how the responsibility for the identification, management and monitoring of High Conservation Values is divided between group manager and group members.

C1. Contiguous forest properties in an FSC group

Where properties are contiguous (i.e. properties are next to one another) and collectively have ecological characteristics resembling a large single forest.

In this case it is likely to be appropriate to carry out some of the identification, management and monitoring at a landscape level. Greater responsibility for managing identified values would be expected at the group level – although individual actions are likely to be needed at the site-level.

In general the larger and more contiguous the properties – the more they collectively resemble a single large forest – the more appropriate it will be to take collective action, and the more likely it is that a conservation management plan drawn up for the whole area will be more beneficial and cost effective than many small-scale individual actions.

Example

An area of 10,000 Ha of natural evergreen forest is managed by a cooperative of several hundred small forest owners. The cooperative members' forests are con-tiguous and comprise almost 100% of the forest area. Although ownership is indi-vidual the forest ecology is that of a large single forest tract.

An HCV and biodiversity assessment could be carried out at the forest level, to identify the presence of different values, and how best they can be managed. Some important biodiversity and high conservation values may be present across the whole forest, and others may occur only in some of the owners' properties. Management and monitoring actions will therefore be needed at different levels.

For localized values (e.g. the occurrence of important concentrations of rare or-chids) specific actions may need to be taken in particular forest plots, and none in others (where no orchids are found). For widespread or generalized values **....cont**

...cont
(e.g. the fact that the whole forest is a critical watershed for the supply of drinking water to nearby communities), then all the forest owners may need to ensure that their management takes into account the conservation of the value (e.g. by minimizing soil erosion when carrying out extraction operations).

Common action on representative conservation zones may be particularly benefi-cial and economic. For example, many rare species need relatively large areas of forest with little disturbance, and can't be effectively maintained by setting aside zones of a few Ha. Therefore, in order to maintain such a species (as required by FSC) by acting individually, dozens or hundreds of forest owners might need to substantially reduce their activities to minimize disturbance. However, if the forest owners can collectively agree on a single, large set-aside area (based e.g. on ex-pert advice on the species' needs), and on a mechanism for making this work economically, then this can maintain the species and allow 'normal' operation eve-rywhere else. It will also be easier to monitor a single conservation zone than many small individual zones.

Individual group members may need to take particular monitoring actions to check for the continued presence of the value, or of the species concerned. For other values, the group could agree a monitoring plan which includes some measure-ments which are useful for the overall impact of group management (eg. sediment load in the streams downstream).

Note: even with contiguous properties, the forest managers responsible for the individual properties will need to carry out some identification, management and monitoring at the individual property-level.

C2. Small forest plots in a non-forest landscape

The group members' forests represent forest islands in a non-forest landscape (e.g. small woodlots scattered among an agrarian landscape).

In this case it is less likely that values identified will benefit from collective management, as the management actions of each member have little effect on what is going on elsewhere. It is perfectly reasonable for each plot owner to make his/her own decisions about managing the environmental values identified, so long as these are informed by adequate information and consultation. If everyone acts responsibly, in most cases, this will be sufficient to maintain the values identified.

Of course it may still be appropriate to develop some group-level identification, management or monitoring to reduce costs.

Example

A large group of small woodlots of a few Ha each in a landscape of pasture and grasslands, where the woodlots are scattered throughout the landscape. The FSC group members may or may not be responsible for management of all of the land.

The degree of similarity in biodiversity identified on the members' properties is likely to be directly related to the similarity in vegetation types and management regimes across different woodlots. It is quite unlikely that such small woodlots would contain HCVs i.e. nationally critical values, but it would still probably be economical to gather biodiversity information as a group, especially if all the woodlots are quite similar. Any significant species or HCV in this scenario would be likely to be highly localized, and therefore, the members would have a more individual duty to check their proper-ties in relation to national species lists and an HCV handbook.

In the case of individual small woodlots, there may be little sense in setting aside representative conservation areas, as the size of these areas will be too small to maintain the sorts of species and ecosystem functions that require undisturbed for-est. Species in such small forest areas are likely to be generalists which will thrive in disturbed forest so long as the structure is not too seriously damaged, and hunting is controlled. The onus will be on individual members to demonstrate that their man-agement is aimed at maintaining the structure and species balance of the forest.

C3. Small forest plots in a non-FSC forest landscape

Group members' forests form part of a large forest landscape but the group members' properties are not contiguous. Other forest properties within the forest landscape are subject to different management regimes, and do not form part of the certified group.

In this case, it is again likely to be cost-effective to gather information on the biodiversity/HCVs at the group level. In this case, the management actions of each member may have some effect on what is going on elsewhere in the forest, including neighbors and further afield, and effective management of environmental values is likely to involve both group-level and individual level management strategies.

Each plot owner should manage localized values individually, but also try and coordinate with other group members to manage widespread values collectively and influence non-group neighbors to act responsibly.

The actions (or non-actions) of those forest properties which don't form part of the group may need to be noted as 'risks' or 'threats' to the effective management of the value. The management plans should record that the group members may not be able to control these threats – however, it will usually be appropriate to develop some simple strategy to try to work with the non-group properties to manage the risk.

Example

In a tropical moist forest region individual families manage specific tracts of forest land for NTFP harvesting and limited low intensity timber extraction. The plots are contiguous, but some families have not joined the forest management group which is seeking FSC certification; they may be carrying out unsustainable practices in relation to hunting wild animals, or harvesting timber.

The group would probably benefit from gathering information at the group level to identify those values which are across the whole forest area. Some management and conservation actions should be decided at a group level – for example, it may be necessary to protect a particular stream or wetland which runs through several properties, or for all group members to adopt rules about limiting hunting of particu-lar mammal species.

The lack of participation by the non-group forest families should be noted as a risk to the values identified, and action should be taken to engage with them to try to make sure that their actions don't impact on the values. In practice this might mean working with them to control hunting, or to protect river vegetation. The certifiers are likely to look for evidence that the certified group has tried to manage this threat as best as possible – however the actual actions of their neighbors are be-yond their control and they would not expect to be penalized for this.

In this case, it is possible that many species typical in large or less-disturbed for-ests can persist in this wholly forested landscape. It is possible that several fami-lies acting together could collectively set aside an effective conservation zone, either along their common borders, or close enough together to be useful to sensi-tive species. Alternatively, the members will need to demonstrate that their activi-ties do not materially affect the biodiversity and/or HCVs.

REFERENCE SECTIONS

1. FSC forest management certification

Forest management certification involves an independent assessment of how the forest is being managed. There is more than one forest certification program, but FSC – the Forest Stewardship Council – is widely regarded as the most credible program.

FSC aims to promote and reward responsible forest management.

To earn FSC certification and the right to use the FSC label, an organization must first adapt its management and operations to conform to all applicable FSC requirements.

Certification is voluntary. A certificate is awarded to those forest operations whose management meets the requirements of the FSC's Principles and Criteria. The certificate provides reassurance that this is a responsibly managed forest.

An auditor or a team of auditors will visit the forest, study management plans, ownership documents or other paperwork and interview people such as workers and neighbors in order to decide whether the 10 principles are being met.

The 10 principles, together with some additional & more specific wording that tells the auditor exactly what to look for, are known as a 'standard'. Standards describe the requirements that need to be met in order for a forest operation to be certified. Standards are slightly different for each country, because they have been adapted to use words, and require practices which are relevant for that country, or region.

The 10 Principles of the FSC certification system

1 Compliance with laws and FSC principles
2 Tenure and use rights and responsibilities
3 Indigenous peoples' rights
4 Community relations and worker's rights
5 Benefits from the forest
6 Environmental impact
7 Management plan
8 Monitoring and assessment
9 Maintenance of high conservation value forests
10 Plantations

Below you will find the full text of Principles 6, 8 and 9. These are most closely related to the topic of this guide – the identification, management and monitoring of biodiversity and High Conservation Value Forests.

Principle 6: Environmental impact

Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and, by so doing, maintain the ecological functions and the integrity of the forest.

6.1 Assessment of environmental impacts shall be completed appropriate to the scale, intensity of forest management and the uniqueness of the affected resources and adequately integrated into management systems. Assessments shall include landscape level considerations as well as the impacts of on-site processing facilities. Environmental impacts shall be assessed prior to commencement of site-disturbing Operations.

6.2 Safeguards shall exist which protect rare, threatened and endangered species and their habitats (e.g., nesting and feeding areas). Conservation zones and protection areas shall be established, appropriate to the scale and intensity of forest management and the uniqueness of the affected resources. Inappropriate hunting, fishing, trapping and collecting shall be controlled.

6.3 Ecological functions and values shall be maintained intact, enhanced, or restored, including:

a) Forest regeneration and succession.

b) Genetic, species, and ecosystem diversity.

c) Natural cycles that affect the productivity of the forest ecosystem.

6.4 Representative samples of existing ecosystems within the landscape shall be protected in their natural state and recorded on maps, appropriate to the scale and intensity of operations and the uniqueness of the affected resources.

6.5 Written guidelines shall be prepared and implemented to: control erosion; minimize forest damage during harvesting, road construction, and all other mechanical disturbances; protect water sources.

6.6 Management systems shall promote the development and adoption fo environmentally friendly non-chemical methods of pest management and strive to avoid the use of chemical pesticides. World Health Organization Type 1A and 1B and chlorinated hydrocarbon pesticides; pesticides that are persistent, toxic or whose derivatives remain biologically active and accumulate in the food chain beyond their intended use; as well as any pesticides banned by international agreement, shall be prohibited.

If chemicals are used, proper equipment and training shall be provided to minimize health and environmental risks.

6.7 Chemicals, containers, liquid and solid non-organic wastes including fuel and oil shall be disposed of in an environmentally appropriate manner at off-site locations.

6.8 Use of biological control agents shall be documented, minimized, monitored and strictly controlled in accordance with national laws and internationally accepted scientific protocols. Use of genetically modified organisms shall be prohibited.

6.9 The use of exotic species shall be carefully controlled and actively monitored to avoid adverse ecological impacts.

6.10 Forest conversion to plantations or non-forest land uses shall not occur, except in circumstances where conversion:

a) entails a very limited portion of the forest management unit; and

b) does not occur on high conservation value forest areas; and

c) will enable clear, substantial, additional, secure, long-term conservation benefits across the forest management unit.

Principle 8 – Monitoring and assessment

Monitoring shall be conducted appropriate to the scale and intensity of forest management to assess the condition of forest, yields of forest products, chain of custody, management activities and their social and environmental impacts.

8.1 The frequency and intensity of monitoring should be determined by the scale and intensity of forest management operations as well as the relative complexity and fragility of the affected environment. Monitoring procedures should be consistent and replicable over time to allow comparison of results and assessment of change.

8.2 Forest management should include the research and data collection needed to monitor, at a minimum, the following indicators:

a) Yield of all forest products harvested.

b) Growth rates, regeneration and condition of the forest.

c) Composition and observed changes in the flora and fauna.

d) Environmental and social impacts of harvesting and other operations.

e) Costs, productivity, and efficiency of forest management.

8.3 Documentation shall be provided by the forest manager to enable monitoring and certifying organizations to trace each forest product from its origin, a process known as the “chain of custody.”

8.4 The result of monitoring shall be incorporated into the implementation and revision of the management plan.

8.5 While respecting the confidentiality of information, forest managers shall make publicly available a summary of the results of monitoring indicators, including those listed in Criterion 8.2.

Principle 9 Maintenance of high conservation value forests

Management activities in high conservation value forests shall maintain or enhance the attributes which define such forests. Decisions regarding high conservation value forests shall always be considered in the context of a precautionary approach.

9.1 Assessment to determine the presence of the attributes consistent with High Conservation Value Forests will be completed, appropriate to scale and intensity of forest management.

9.2 The consultative portion of the certification process must place emphasis on the identified conservation attributes, and options for the maintenance thereof.

9.3 The management plan shall include and implement specific measures that ensure the maintenance and/or enhancement of the applicable conservation attributes consistent with the precautionary approach. These measures shall be specifically included in the publicly available management plan summary.

9.4 Annual monitoring shall be conducted to assess the effectiveness of the measures employed to maintain or enhance the applicable conservation attributes.

2. Where to get more information

If this document is translated into other languages, and/or national versions produced, this section should have locally-relevant publications and contact information or resources available in the language used in the publication:

FSC

The 'Resource Center' of the FSC international website contains all FSC international standards, policies, and guidance, and all of the approved national FSC standards **www.fsc.org/resourcescenter.html**

FSC in nationally represented – "National Initiatives" – in more than 50 countries. See the list on the FSC Resource Centre website. Many of these have their own websites with locally-relevant information.

{National Adaptation: Replace last paragraph with name and contact details of your national initiative}\

FSC certification bodies

There are currently more than 12 organizations approved by FSC to carry out forest management certification assessments and award FSC Forest Management certificates. For a list of all FSC accredited certification bodies, go to the website of ASI (Accreditation Services International)
www.accreditation-services.com

{National Adaptation: Put here the names and contact details of CBs that operate in your country}

Organizations that support forest conservation and the HCV concept and have projects on the ground in many countries:

- WWF, www.wwf.org
- Conservation International (CI), www.conservation.org
- The Nature Conservancy, www.nature.org

{National Adaptation: Add also websites of local offices and the names and contact details of national and local organizations that are aware of HCVF concept and/or work with conservation, or with forest peoples}

Sources of guidance about High Conservation Values

High Conservation Value Resource Network. This network has been set up to promote cooperation, collaboration and consistency in the use of the HCV concept, to enable local-level approaches to implementation.

www.hcvnetwork.org

Glossary of useful terms

Term Definition

Audit : A systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled (ISO 19011:2002 (E)).

Audit criteria: A set of policies, procedures or requirements (ISO 19011:2002 (E)).

In the context of FSC it is the Forest Management Standard which is used by the auditors.

Auditor: Person with the competence to conduct an audit (ISO 19011:2002 (E)).

> In the context of FSC this usually refers to someone employed by an auditing company (e.g. certification body) to perform the initial assessment or annual audits of operations who wish to have their forest management evaluated for certification.

Biodiversity: The variability among living organisms from all sources including, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

Certification: Process of verifying that a particular standard of forest management has been met. A certificate is awarded to demonstrate compliance with the standard.

Certification bodies: Also known as 'certifiers'. The organizations that carry out the certification (using an audit, assessment or other means to evaluate the operation).

Ecosystem: A community of plants and animals and their surroundings, which are dependent on each other.

Endangered species: Any species which is in danger of extinction throughout all or a significant portion of its range.

Evaluation: A more indepth study than monitoring, taking place at a specific point in time (not ongoing).

FMU: Forest management unit

FSC: Forest Stewardship Council

FSC standard: Forest Stewardship standards are the forest management requirements that a forest operation must meet to become FSC certified. FSC has a set of international Principles and Criteria. Certification evaluations are usually carried out using a more detailed set of Principles, Criteria and Indicators which have been developed nationally. The certification bodies use this to evaluate the performance of a forest operation.

Group certification : Group certification is a way for more than one forest operation to be certified under a single FSC certificate. The certificate is held by one organization or person on behalf of a group of forest owners or managers who agree to participate in the group.

Groups of SLIMFs: A group of forest operations that all qualify as either 'small' or 'low intensity'. Groups of SLIMFs may qualify for special streamlined certification procedures.

Habitat: The environment in which an animal or plant lives, generally defined in terms of vegetation and physical features. (WCMC definition)

High Conservation Values: Attributes of the forest which are special or critical. The High Conservation Values are:

HCV 1: Globally, regionally or nationally significant concentrations of biodiversity values (this includes: protected areas; rare or threatened species; endemic species; and seasonal concentrations of species)

HCV 2: Globally, regionally or nationally significant large landscape–level forests

HCV 3: Forest areas that are in or contain rare, threatened or endangered ecosystems

HCV 4: Forest areas that provide basic services of nature in critical situations (This includes: protection of watersheds, protection against erosion and destructive fire)

HCV 5: Forest areas fundamental to meeting basic needs of local communities

HCV 6: Forest areas critical to local communities' traditional cultural identity

[note that these have the same content as the FSC glossary definition – it is just a different way of presenting them]

High Conservation Value Forests (HCV)

FSC Glossary Definition High Conservation Value Forests are those that possess one or more of the following attributes:

> a) forest areas containing globally, regionally or nationally significant: concentrations of biodiversity values (e.g. endemism, endangered species, refugia); and/or large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance
>
> b) forest areas that are in or contain rare, threatened or endangered ecosystems
>
> c) forest areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control)
>
> d) forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health) and/or critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).

[note that this has the same content as the 6 HCV values commonly used by FSC national initiatives. – it is simply a different presentation of the same idea]

Landscape: A geographical mosaic composed of interacting ecosystems resulting from the influence of geological, topographical, soil, climatic, biotic and human interactions in a given area.

Monitoring: A process of collecting information routinely and systematically against a plan, to answer questions about what is happening, and what the impacts of a particular project or intervention are.

SLIMFs: Small Forest management units may be classed as SLIMF "small" when they are 100 ha or smaller in area.

[Forest Management Units of up to 1000 ha. in area may be classed as SLIMF units when this is formally proposed by the FSC approved national initiative for the country concerned, or in countries in which there is no FSC approved national initiative when this has the demonstrated broad support of national stakeholders in the country concerned]

SLIMF, "Small and Low Intensity Managed Forests": A category of operations which, under the FSC system, may be subject to special streamlined certification requirements.

SLIMFs: Low intensity Forest management units may be classed as low intensity when:

a) the rate of harvesting is less than 20% of the mean annual increment (MAI) within the total production forest area of the unit, AND

b) EITHER the annual harvest from the total production fo rest area is less than 5000 cubic metres,

c) OR the average annual harvest from the total production forest is less than 5000 m3 / year during the period of validity of the certificate as verified by harvest reports and surveillance audits.

A forest management unit consisting of natural forest in which only NTFPs are harvested.

Threatened species: Any species which is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

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Annex 1: A table showing important aspects of biodiversity and high conservation

What important values were found in the forest?	Notes on current status	Where? (put this on map)
Action 1: Rare, endangered, endemic or protected species		
Plants Rare Gaharu tree is found in very low numbers. Many orchid species, known only from this mountain range.	Trees are being cut by timber poachers for resin. Orchid species not identified. Large flowered orchids becoming rare due to over-collection	In the lower hill slopes. Restricted to steep cliffs
Birds Two nationally rare hornbill species (white-crowned and wrinkled-pouch hornbills.) Endemic mountain peacock-pheasant, globally only found in this area.	Very occasionally nest in very large trees. Rarely seen in the last 5 years. Occasional large flocks seen, not hunted for cultural reasons.	Tall forest on the lower slopes. Throughout forest.
Mammals Malaysian tapir. White handed Gibbon.	Tracks seen but no individuals spotted in recent years. Gibbon song frequently heard, at least one resident pair in managed forest.	Tracks along mountain streams. Range unknown. Ranges throughout forest
Action 2: Rare or fragile ecosystems		
7 small areas (< 15Ha each) of very stunted montane forests.	Inaccessible and undisturbed. Few valuable products found in these areas.	Narrow ridge-tops on highest hills.
Action 3: Natural services from forests		
Watershed protection Erosion prevention	Water from forest streams very important to local communities. Protection of roads from landslides particularly important	Whole forest provides this service. All steep slopes (> 25^{o}) provide this service
Action 4: community forest use		
Products gathered from the forest Wild fruit and nuts Firewood and timber Forest herbs Game (hunting)	Some families harvest fruits, nuts, firewood etc., for domestic consumption and sale on local markets. These products tend to form a low proportion of household income/food consumption. Local hunters formed an association to manage hunting. Game forms a low proportion of household food consumption.	Throughout forest, but mainly within 1 hour's walk from villages. In designated zones, varies from year to year.
Cultural uses of the forest Two sacred caves, well known to all villagers	Local people go to venerate their ancestors and pray for good harvests	In Bukit Mata Air
Action 5: Large, landscape-scale forests		
All forests in this landscape are smaller than 15,000 Ha & fragmented by roads and settlements, no landscape-level forests remain.	None	None

Annex 2: A An example of an HCV summary table

HCV	Description	Finding		
		Yes (present)	Maybe (present)	No (absent/ not likely)
1	**Concentrations of rare, threatened or endemic species**	Yes		
	Large numbers of rare, endemic peacock-pheasants, and many endemic orchid species are the main reason to decide this HCV is present.			
2	**Large, landscape level forests**			No
	All remaining forests in this landscape are < 15,000 Ha and fragmented by roads and settlements, no landscape–level forests remain.			
3	**Rare, threatened or endangered ecosystems**		Maybe	
	Small areas of stunted ridge-top forest. These forests are rare in the region and may be rare nationally; further advice from a suitable expert is needed to decide if they are HCV.			
4.1	**Areas critical to water catchments**	Yes		
	The whole forest area protects critical water supplies to neighboring communities			
4.2	**Areas critical to erosion control**	Yes		
	Forests on steep slopes protect key access roads from landslides			
4.3	**Areas providing critical barriers to destructive fire**			No
	No fires are recorded in intact forests in this area, where rainfall is very high.			
5	**Basic needs of local communities**		Maybe	
	Although many families use the forests there is little evidence so far that communities are critically reliant on forests for food or other resources. (the main activity is coffee farming) However, some families may be more heavily dependent on forest products.			
6	**Areas critical to cultural identity**	Yes		
	Two sacred caves are found in Bukit Mata Air, where local people go to venerate their ancestors and pray for good harvests.			

Annex 3: Forest based activities, threats to biodiversity, and actions to reduce threats, (example of a community forest)

Who uses the forest and what for?	Where?	In what way might this affect biodiversity/ HCV?	What, if anything do we need to do to make sure there are no harmful impacts?
Forestry activities and timber harvesting			
Road construction and maintenance	All roads – especially new roads.	1 Damage to areas of rare vegetation identified in Step 1 2 Erosion silting up the river (could affect drinking water quality downstream)	1. Plan roads in advance and avoid as far as possible putting roads through fragile/rare vegetation areas. 2. Plan roads to follow ridge tops and contours. Dig drains where necessary and put silt traps near rivers
Felling of trees	All logging areas (especially rare or fragile forest types identified in Step 1)	1. Damage to nearby trees, e.g. if pulled down by lianas 2. Damage to rare vegetation types identified in Step 1. 3. loss of nests of some species if felled in nesting season (especially serious if these are nesting trees of rare birds identified in Step 1)	1. Cut lianas before felling. Use directional felling techniques to minimize damage. 2. Reduce or stop felling in fragile areas. 3. Mark nesting trees and avoid felling them during nesting season. Keep some suitable trees for nesting.
Extraction of trees	All logging areas (especially rare or fragile forest types identified in Step 1)	1. Compaction of soils through skidding of logs. 2. Increased erosion on slopes and effects on water quality 3. damage to rare species, or rare vegetation types identified in Step 1	1. Skidding to take place during dry periods when soils are hard. 2. plan skid trails as far as possible to avoid crossing streams. 3. Plan skid trails

Table 3 cont…

Who uses the forest and what for?	Where?	In what way might this affect biodiversity/ HCV?	What, if anything do we need to do to make sure there are no harmful impacts?
Other forest-based activities			
Conversion of individual forest plots for agroforestry, agriculture or livestock rearing, by individual families in the community.	See map of forest plots cut down for agriculture	1. Loss of vegetation cover (particularly damaging in areas of rare or fragile vegetation identified in Step 1.) 2. Major loss of wildlife habitat and high risk that the rare species identified in Step 1 will decrease. 3. Increased erosion and silting of rivers where vegetation is cleared around streams. Effects on drinking water quality.	Discuss land-use planning at the level of the community forest administrative council. Agree zones of forest reserve and zones of possible conversion to agriculture or agroforestry. Ensure that High Conservation Value forest forms part of the forest reserve.
Hunting of various monkey species by men from nearby town, to sell meat.	East of the River, entering from the East on the main road. (see map)	The men do not have permission from the forest owners to hunt. High risk that the total population of monkeys will decrease. Monkeys are a threatened species and are protected by law.	Hold meeting to consider ways to prevent or reduce this hunting. Contact wildlife department for help. Put ditches on old access tracks to prevent vehicle entry.
Bush Mango (Fruit and seed) and cola nut collection by villagers	Whole forest	Volumes are low. Traditionally they leave a quantity of fruit on the forest floor. May be having some effect on the regrowth of these species from seed?	Not enough information available: need to find out if the fruit and nut trees are regenerating sufficiently.
Firewood and construction timber collection by most village families	About 1km either side of main road between villages	Pressure on certain preferred tree species is leading to local disappearance.	Increase diversity of species used. Seek alternatives and ensure regeneration (e.g. encourage villagers to plant seedlings of preferred species).

Annex 4: Shows an example of how to record this information.

Actions to be taken	What to monitor	How will it be monitored? Who will be responsible? When will they do this?	How the responsible people will report on what they find.
Protect HCV forest structure (suitable habitat for HCV birds) by low impact logging	**A.** Check that low impact logging is actually taking place, according to the management plan.	The forest manager will inspect the harvest area at the end of each week of harvest to ensure that low impact logging has been used, and that damage to surrounding vegetation is minimal.	If low impact logging is not being practiced, the loggers will be warned that they are in breach of contract and asked to implement the practices. They will report on their findings and any action in the end of year reporting meeting. If necessary changes will be made to the management plan, and re-training may be offered.
Ensure key HCV bird species are not negatively affected by low impact logging	**B.** Check that the populations of these animals are being maintained or increased by the management measures taken	The forest manager will set up an annual monitoring program of 4 key species with the ecology department of the local university, for students to measure the population of these birds and animals in the forest over a 4 year period.	The forest manager will report to the forest owner annually with a summary of the results. They will be used to decide if the low-impact logging is helping to maintain species populations.