eco
ecosystem certification organisation

nfs
natural forest standard

Guidance for NFS Standard Requirements

Version 1.2

Published: April 2013

TABLE OF CONTENTS

i. Introduction

The Natural Forest Standard is a global Standard for the quantification of carbon and associated ecosystem benefits resulting from the conservation and restoration of natural forests. It is aimed at certifying the carbon benefits, and biodiversity impacts of medium to large-scale projects, within the context of appropriate social safeguards and economic development.

This Guidance document is designed as a guide for developing a Natural Forest Standard project and is provided to assist project developers in meeting the normative requirements of the Standard and for validators and verifiers to assess the conformity of projects to the Natural Forest Standard.

The guidance is divided into the following sections:

1. Project Eligibility
2. Governance, Social and Biodiversity Impacts
3. Project Management and Monitoring
4. Methodologies for Quantification of Natural Capital Credits
5. Biodiversity Assessment

The guidance should be interpreted in a pragmatic, professional and balanced manner to address aspects of project design and management that are important for achieving effective forest conservation and restoration in ways that benefit local and indigenous people.

This Guidance document will be reviewed as part of an on-going process to reflect any clarifications made to the Standard, incorporating lessons learned and good practice developed by NFS projects, and to reflect developments in good practice used by other forest conservation and restoration initiatives.

There are further guidance tools within the templates section of the NFS website. These template documents are designed to assist project developers in completing the documentation for presentation within the NFS process.

ii. Definitions

All relevant definitions, acronyms and terms are set out in the NFS Glossary of Terms V1.1.

iii. Project Process

Stage 1 – Project Idea Note

The initial stage of registering a project with the Natural Forest Standard is to submit a Project Idea Note (PIN). This is a short document that provides a brief summary of the intended project and identifies and determines the main features and objectives of the project, the parties involved and the proposed

project activities. The purpose of submitting a PIN is to confirm that the project is suitable for the Natural Forest Standard, that it meets the eligibility criteria of the Standard and that the aims and activities of the project are feasible. A PIN template is available on the NFS website.

PIN documents should be submitted to the NFS secretariat, who will review the PIN and give feedback on whether the project is likely to be a successful Natural Forest Standard project. Once accepted, a PIN will be listed in the Project Index section of the NFS website.

Stage 2 – Project Design Document

The next stage is the submission of a Project Design Document (PDD). A PDD is a detailed description of the proposed project, including a management plan and methods for quantifying the proposed project and shall include all appropriate, relevant and required documentation and materials necessary for the validation of the proposed project against the Natural Forest Standard requirements. A PDD template is available on the NFS website.

A fully completed PDD should be submitted to the Secretariat, for public comment at least 30 days prior to the completion of validation.

Stage 3 – Validation

Projects shall be validated as conforming to the Natural Forest Standard requirements by a third-party validation organisation. The validation shall be carried out to a standard of limited assurance according to the ISO 14064-3 by an organisation accredited by a national accreditation body to validate projects under ISO 14064-3.

Stage 4 – Registration

Upon the finalised validation report being submitted, the project shall be registered as active by the NFS secretariat on the NFS project index.

Stage 5 – Verification

Active NFS projects shall produce annual reports quantifying carbon benefits, biodiversity rating, social impacts and general progress. The assertion of carbon benefits of the project shall be verified by a third-party verification organisation to a reasonable level of assurance, according to ISO 14064-3 prior to credit issuance. Verification shall be by an organisation accredited by a national accreditation body to verify projects under ISO 14064-3.

Verification shall involve a field visit to the project area at no less than five year intervals. Major discrepancies identified by the verifier shall be addressed prior to credit issuance. Minor discrepancies identified by the verifier shall be addressed within a timescale agreed with the verifier. Verifiers shall

have discretion to raise minor discrepancies to the status of major discrepancies if they are not adequately addressed within the agreed time-frame.

Stage 6 – Risk Rating

Projects shall be risk rated by the NFS Risk Panel, with relevant expert input, to determine the level of Natural Capital Credits required from the project as a buffer against the risk of non-permanence. This will be established prior to credit issuance. The buffer shall be maintained in the project buffer account on the NFS approved registry.

Stage 7 – Credit Issuance

Natural Capital Credits shall be issued by the NFS secretariat to the project's account on the NFS approved registry within 30 days of completion of verification.

Disclosure of Project Stage

The Natural Forest Standard will clearly indicate the stage each project has reached within the Project Index on the Natural Forest Standard website.

GUIDANCE FOR NATURAL FOREST STANDARD REQUIREMENTS

1. PROJECT ELIGIBILITY

1.1 Defining the Project

Prior to developing a project under the Natural Forest Standard (NFS) the project proponent should understand the requirements of the Standard and ensure the project meets the eligibility criteria.

To assess whether a project is eligible under the NFS requirements, the project should first define the specific project area and scope of activities. It is recommended that the project area is mapped, and if appropriate for management purposes, divided into zones or strata. The project objectives, carbon rights ownership and management structures should be clearly described.

The project map-set should include:

- Project area and boundaries
- Vegetation types
- Where relevant to the objectives of the project, land use should be included
- Nearby population centres and settlements in and near the project
- Roads, tracks and rivers
- Ownership and tenure (including customary and relevant land use rights).

1.2 Project Activities

1.2.1 Does the Project Conserve or Restore Natural Forest?

The first aspect of eligibility to assess is whether the forest designated by the project to be protected or restored is natural forest, as defined by the NFS (see box 1 below; definition taken from the NFS Glossary of Terms).

DEFINITION: NATURAL FOREST

"Natural forest is forest which has reproduced naturally, consisting of naturally immigrant or indigenous tree species and strains.

Natural forests can be more or less influenced by culture, e.g. by logging or regeneration techniques, but the forests must not have been subject to regeneration by sowing or planting. Natural forest originates from the original forest cover, i.e. a forest reproduced naturally. Natural forest is thus a forest which has spontaneously generated itself on the location and which consists of naturally immigrant and indigenous tree species and strains.

Natural forest might be managed to some degree, or be entirely unmanaged (untouched, non-intervention forest, or a strict forest reserve).

Every piece of forest is directly or indirectly influenced by human activity; either from forestry operations, cutting, planting and drainage, or indirectly by manipulation of the grazing regime, air pollution, hindering the immigration and spreading of natural species and influencing the kind and amount of dominant species in the landscape. As such, to be considered a natural forest, a forest need not be free from human influence.

After an adequate amount of time without intervention, a previously managed or degraded forest can develop some of the basic structures of a virgin forest and be considered a natural forest."

The project should provide evidence in the form of maps and vegetation surveys or descriptions to demonstrate that the project area conforms to the NFS definition of natural forest.

1.2.2 Restoration Activities

Project areas to be subject to restoration activities should be identified. Guidance on restoration should be obtained from organisations or individuals with relevant expertise, and restoration activities should be designed with the objective of restoring the original forest structure, which should be still present in other areas of the forest or local region.

1.2.3 Minimum Project Area

The minimum total project area of 20,000 hectares has been adopted by the NFS to allow a statistically valid risk assessment. This minimum requirement will be reviewed periodically by the Technical Committee.

1.2.4 Commercial Timber Extraction

While commercial timber extraction is not permitted within the NFS project areas, this should not prevent the sustainable use of forest resources by local communities. Timber extraction is considered commercial when it exhibits any of the following characteristics:

- Conducted by a commercial business.
- Use of heavy machinery for extraction and transport.
- Use of contracted/hired labour.
- Construction of skid-tracks, extraction roads and landings.
- Logs taken to an industrial sawmill.

1.3 Legal Status

1.3.1 Does the Project have a Legal Basis?

The project proponents should be able to demonstrate they have the necessary rights to carbon and land-use to implement the project, and transact Natural Capital Credits. Documents regarding the project area should be reviewed by legal advisors and a summary statement of this review should be presented in the Project Design Document.

The project proponents should hold the necessary legal rights to perform the project activities for the entire crediting period.

The directors of the project should warrant that the project and/or organisation is not in violation of any applicable laws, regulations and relevant environmental treaties and agreements. As such, it will be important for the project operators to demonstrate an understanding of the national and local regulatory requirements relevant and applicable to the project.

1.3.2 Carbon Ownership

The Standard requires project developers to hold evidence of necessary use rights to the project area, this includes the carbon rights and/or ownership of land for the project area.

Carbon rights holders are: individuals, institutions, groups or communities that have rights to the benefits (and liabilities) associated with carbon sequestration within a defined area. Where the ownership of carbon benefits is not legally defined, contractual mechanisms apportioning benefits shall be acceptable. This can be established without a formal legal framework, although a formal legal framework defining rights is preferable. All activities should be informed by the principles of FPIC (see section 2.1 for FPIC guidance).

This will involve project developers determining who owns the carbon rights and if necessary determining the correct process for obtaining the carbon rights. Figure 1 is indicative of a process that a project might go through to determine how carbon rights might be allocated in the project area. In the first instance projects should determine if the host country has a nationally approved mechanism for the allocation of carbon rights.

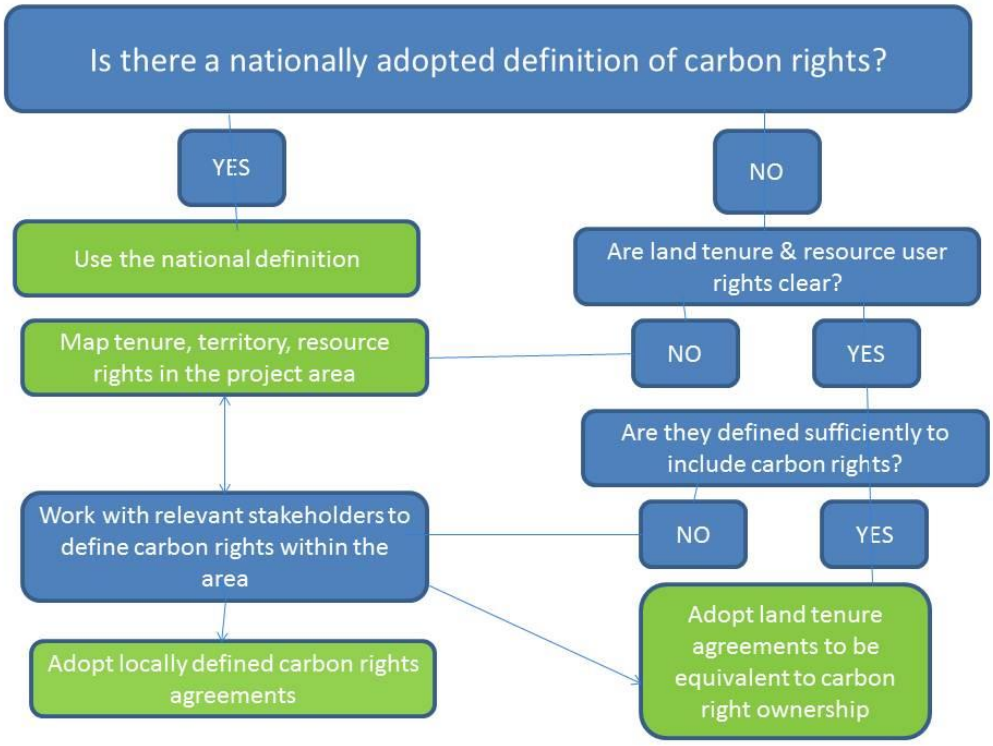

Figure 1: Example of how the process for determining carbon rights within a project area might work; carbon rights should be reviewed at intervals throughout the life of the project

Where the law does not explicitly allocate carbon rights, applicable laws for the host country should be assessed to determine if the rights can belong to the person or government that holds the rights to land and forests in the project area. If this is not provided within the legal framework (including customary law) of the host country then private contractual agreements between the claimants can improve legal certainty. In this instance if tree or land ownership is not clear within the project area then the project will need to work with communities, using participatory processes, to establish clear maps of tenure, territory and resource use rights, and from this work with relevant stakeholders to define carbon rights within the area.

To address the possibility of multiple claims for carbon rights to be made within any area, projects should obtain explicit contractual agreements with all potential claimants. Paths to different

understandings of carbon rights for the project, through full and effective participation of those impacted by the project, are illustrated in USAID Working Paper on Carbon-Rights Framework pg. 6[1]. Further guidance on land tenure and carbon rights is provided in the section 2.

1.4 Additionality

1.4.1 Can the Project Demonstrate Additionality?

Projects activities should be considered additional if they are taking place as a consequence of the existence of the NFS standard or the possibility of obtaining carbon finance, and would not have taken place in its absence.

DEFINITION: ADDITIONALITY

Additionality describes the extent to which activities, and resulting outcomes, occur as a consequence of an intervention, such as the resource flows generated from carbon certificates, made possible by the existence of a standard and a market for certificates.

A proposed activity is additional if the activity occurs as a consequence of the application of the NFS[2]. The activity must be taking place as a result of the NFS, and would not have taken place in the baseline situation – defined as the absence of the Standard.

The definition of additionality often seen in other standards – 'would the activities have taken place in the absence of the project?' – is not sufficient; the activities of a project are indistinguishable from the existence of the project, so framing the question in this way produces a meaningless answer[3].

In cases where forest is not legally protected the following indicators in Figure 2 may be used to demonstrate additionality, and the corresponding evidence should be provided to support each indicator.

[1]United States Agency for International Development, 2011.*REDD + and Carbon Rights: Lessons from the field*. Property Rights and Resource Governance Project (PRRGP) Working Paper. Available at: http://usaidlandtenure.net/events/usaid-events/redd-presentation/carbon-rights-framework-final.pdf/at_download/file

[2]Gillenwater, 2012. What is additionality? Part 1: A Long Standing Problem: Greenhouse Gas Management Institute, Silver Spring, MD. Available at: http://ghginstitute.org/wp-content/uploads/content/GHGMI/AdditionalityPaper_Part-1(ver3)FINAL.pdf

[3]See footnote 2. Available at: http://ghginstitute.org/wp-content/uploads/content/GHGMI/AdditionalityPaper_Part-1(ver3)FINAL.pdf

INDICATORS OF ADDITIONALITY	EVIDENCE TO SUPPORT INDICATORS
Land of similar type and situation within the state or local area is subject to deforestation & degradation	Maps/images of historic land use change
Social and economic pressures on forest are high and/or increasing	Data on population growth Market data on agriculture & forest products
Area is accessible and has extractable resources and/or is cultivable	Survey data or maps indicating extractable resources and suitability for agriculture/livestock

Figure 2: Indicators of Additionality and Evidence to Support Indicators for non-legally protected forests

In cases where forests are officially protected or subject to protective regulations, additionality may be demonstrated by showing that forests are inadequately protected and at risk of deforestation and/or degradation.

In cases where legal protections on forests exist, the following indicators and evidence in Figure 3 may be used to demonstrate that the existing protection measures are not sufficient to address the threats to forests, in addition to those included in Figure 2.

INDICATORS OF ADDITIONALITY	EVIDENCE TO SUPPORT INDICATORS
Land of similar legal status subject to deforestation/degradation	History of land use change in relation to protection status
Limited enforcement of legal protection	Data showing few successful legal interventions, low risk of prosecution
Under-resourced enforcement relative to threat	Number of protection officers in relation to forest area, accessibility and capabilities

Figure 3: Indicators of Additionality and Evidence to Support Indicators for officially protected forests

In addition to demonstrating current and future threats to forests, the project proponent should explain how the planned intervention of the project will mitigate the identified threats to the project area.

1.4.2 Forest Restoration

In the case of forest restoration activities, the project developer and verifier should confirm that these are not being undertaken to fulfil a legal requirement.

Verifiers should be satisfied that the project developer has not manipulated local agents or institutions to increase the level of threat to any forest area in order to make a case for additionality.

1.5 Timescale

The Standard requires that projects shall have a minimum duration of 20 years. There is no upper limit on the duration of projects; and projects should be designed to be consistent with permanent conservation and carbon storage.

2. GOVERNANCE, SOCIAL AND BIODIVERSITY IMPACTS

2.1 Overview

The NFS aims to conserve and restore natural forests through actions of projects that benefit both local communities and indigenous people while maintaining the biodiversity present in the project area.

The social and governance guidelines of the NFS draw upon the reporting requirements of the UN REDD Draft Guidance on Rights Holder Engagement, REDD+ Social & Environmental Standards[4], the draft UN-REDD Programme Guidelines on Free, Prior and Informed Consent[5], UN Declaration on the Rights of Indigenous Peoples[6], alongside practices and experiences of other carbon standards. Although not all of these documents are designed for projects at an equivalent scale to the NFS projects, the way issues applicable to NFS projects are framed within these documents is relevant.

The NFS is designed for use by projects in publicly owned areas of natural forest ranging from municipalities to state-owned concessions. There is a high chance that these areas will be inhabited by

[4]REDD+ Social & Environmental Standards Version 2. Available at: http://www.redd-standards.org/

[5]United Nations, 2011. UN-REDD Programme Guidelines on Free, Prior and Informed Consent. Available at: http://www.unredd.net/index.php?option=com_docman&task=cat_view&gid=1333&Itemid=53

[6]United Nations, 2008. UN Declaration on the Rights of Indigenous Peoples. Available at: http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf

local communities, including indigenous groups, as the majority of the world's remaining natural forests in developing countries are located in ancestral and customary lands[7]. To ensure that projects do not have negative impacts on people living within project areas or on those that have land use rights, and that the needs, rights and interest of these people are recognised by the project developments, projects should apply to the principle of Free Prior and Informed Consent, and have an effective benefit distribution mechanism.

The project design document (PDD) and management plan should describe how the following social safeguards and benefit mechanisms will be put into practice.

2.2 Free Prior and Informed Consent

To fulfil the NFS requirement for FPIC of carbon rights holders, project developers and verifiers should consider how the definition of carbon rights holders and FPIC apply within the project area. (see section 1.2.2 for further guidance on carbon ownership).

DEFINITION: CARBON RIGHTS HOLDERS

Rights holders to carbon are individuals, institutions, groups or communities that have rights to the benefits (and liabilities) associated with carbon sequestration within a defined area. Where the ownership of carbon benefits is not legally defined, contractual mechanisms apportioning benefits shall be acceptable. This can be established without a formal legal framework, although a formal legal framework defining rights is preferable.

FPIC should be considered as a process rather than a one-time decision and projects should consider appropriate timeframes throughout the duration of the project for the review of any decisions or agreements to take account of any appropriate changes.

[7]United Nations, 2012. UN REDD Programme SEPC: Supporting Document. Available at: http://www.google.co.uk/#hl=en&sa=X&ei=MHvfT_LPBK6o0AWs3djiCg&ved=0CAYQvwUoAQ&q=UN-REDD+Programme+SPEC%3A+Supporting+Documents&spell=1&bav=on.2,or.r_gc.r_pw.r_qf.,cf.osb&fp=b244e88b8bc79e49&biw=942&bih=917

DEFINITION: FREE, PRIOR AND INFORMED CONSENT

FPIC is the right of indigenous peoples and communities to give or withhold their consent to developments that affect part of their territory. It describes the establishment of conditions under which indigenous people and communities can exercise their fundamental rights to "negotiate the terms of externally imposed policies, programs, and activities that directly affect their livelihoods or wellbeing, and to give or withhold their consent to them.[8]"

Consent should be obtained prior to the commencement of project activities. In adhering to the principles of FPIC, project developers should consider the relevant social, cultural and environmental factors in the proposed project area.

Relevant factors should include identification of, and communication with, communities and indigenous groups affected by the proposed project or its activities; identification and understanding of decision making institutions used by these groups, land tenure, resource users and associated off-take. Consideration of any constraints that proposed project activities may have on such resource use should be made.

The project should assess the ability and capacity of rights holders to engage effectively in the negotiation of project development and benefit sharing activities. If the assessment finds that rights holders have insufficient capacity to engage effectively in the negotiation of project development and benefits sharing activities, the project should consider how to assist rights holders to develop this capacity.

2.2.1 Adhering to the principles of FPIC

The following points provide guidance on how projects can adhere to the principles of FPIC during the stages of project development:

(i) Preparation of negotiations with the carbon rights holders and affected communities:

- Ensure that projects are developed in consultation with communities from the earliest planning stages and encourage community participation in project design and implementation.
- Communicate transparently with local communities, making clear the steps in the process of project development at which community involvement and consent will be sought.

[8] RECOFTC & GIZ, 2011.Free, Prior, and Informed Consent in REDD+: Principles and Approaches for Policy and Project Development. RECOFTC, Bangkok. Page 15. Avaiable at: http://www.recoftc.org/site/uploads/content/pdf/FPICinREDDManual_127.pdf

- Ensure that any proposed changes in land use or management as a result of the project are clearly explained to the community/communities, including potential benefits and costs for forgoing existing or potential benefits from alternative management and use.
- Seek to establish a climate of mutual respect, openness and trust in order to ensure that the process of seeking and obtaining consent is understood by all parties.
- Ensure that relevant government agencies are informed about the project design phase and given details of how communities are involved.

(ii) The completion of negotiations:

- Be sensitive of the right of indigenous people to use their own decision-making institutions and processes.
- Ensure that consent is free from coercion and manipulation.
- Work alongside communities, providing the skills necessary to engage effectively with the project, and assist them in make informed decisions about project activities.
- Be alert to potential problems such as internal community divisions, the capture of resources by local elites or gatekeepers and unintentional negative consequences of access to new resources and technology.

(iii) The delivery of agreed terms:

- Ensure that there is a sufficient time period incorporated into negotiations and agreements for consideration and "cooling-off".
- Ensure that there is a mechanism in place for dispute resolution.
- Ensure that adequate timeframes are imposed.

2.3 Benefit Distribution Mechanism

The Standard requires projects to establish a mechanism that benefits local communities and that contributes to the sustainable management of ecosystems within the project area. The benefit mechanism should be designed in consultation with local communities and relevant organisations, including as appropriate, government bodies.

The Standard recognises that the design, implementation and governance of this mechanism will be specific to projects, and will reflect the eligibility of stakeholders within the project area to make claims regarding the scale, timing and type of benefits accrued. The Standard is flexible in allowing for different approaches that projects may take to a benefit mechanism.

The development of a mechanism should be guided by the principles of FPIC. It should also be transparently and effectively administered to ensure that outputs are delivered on time and in appropriate quality; details of which shall be outlined in the project management plan.

The benefit mechanism should be subject to periodic review and evaluation to assess the following[9]:

- **RELEVANCE -** does it provide resources or inputs that are relevant to local needs and compatible with the conservation and restoration objectives of the project?
- **EFFECTIVENESS -** did the deliverables arrive, were they satisfactory, did the benefits materialise?
- **EFFICIENCY -** is the benefit mechanism operating efficiently?

An example process of developing a benefit mechanism may involve negotiation and agreement between the municipality, project stakeholders and the project developer, carried out to set the appropriate and proportional levels for the following criteria:

- Portion of funds for developing a mechanism and proportion of funds going to create "benefit".
- Type of "mechanism" e.g. fund or funds, projects or programs.
- Type of "benefits" e.g. cash, resources in kind, social infrastructure, training.
- Ties to project activities e.g. activities that help the project to meet project objectives e.g. REDD.
- National scale agreements on REDD and processes or systems adopted within the host country or local area.
- Structures for the management, development and distribution of benefits, including actors involved and rules regulating benefit mechanisms, monitoring and evaluation systems and processes and processes for complaints and disputes.

2.4 Communication

Good communication is important to help avoid minor issues escalating into serious problems. The project should consider how to establish and maintain appropriate communication channels and methods to ensure that project stakeholders are made aware of, and have access to the project process. The communication channels should include appropriate mechanisms allowing for the exchange of project information and data, incorporate reporting on project progress, monitoring updates, and meetings to discuss satisfaction and hear grievances.

[9]Organisation for Economic Co-operation and Development. DAC Evaluation Quality Standards. Available at: http://www.oecd.org/dataoecd/51/7/38686953.pdf

2.5 Dispute Resolution

2.5.1 Process for Complaints and Disputes

To assist compliance with the NFS requirements on disputes, projects should establish a mechanism that ensures that issues are aired openly and transparently and that there is a go-to procedure, before communication becomes difficult or breaks down.

The mechanism, developed by the project, should seek to address concerns or complaints in a timely and transparent manner. Project level grievance mechanisms offer an alternative to dispute resolution processes but should include the possibility of independent arbitration, and recourse to legal or administrative remedies if negotiations do break down.

The project should ensure that stakeholders are made aware of, and have access to the process. The process should consider including grievance tracking and response systems, incorporating reporting on project progress at monitoring meetings to discuss satisfaction and hear grievances. If necessary the project should consider ensuring communities are informed about government adjudication channels and processes, and access to justice (provision of legal aid), if a situation arises and grievances cannot be resolved by the two parties without outside assistance.

Projects may draw upon already existing project level grievance processes. For example, the Forest Stewardship Council (FSC) Dispute Resolution System[10] gives a well-structured example of an established grievance mechanism including process for appeal, formal and informal dispute recourse. The example below highlights some of the principles projects may wish to consider when designing a grievance mechanism.

Five Principles in Designing a Grievance Mechanism[11]

- **PROPORTIONALITY** - scaled to risk and adverse impact on affected communities.
- **CULTURAL APPROPRIATENESS** - designed taking into account culturally appropriate ways of handling community concerns.
- **ACCESSIBILITY** - clear and understandable mechanism that is accessible to all segments of the affected communities at no cost.
- **TRANSPARENCY and ACCOUNTABILITY** - for all stakeholders.

[10]Forest Stewardship Council, 2009.*FSC Dispute Resolution System*. Available at: http://www.fsc.org/resources.10.htm

[11]International Finance Corporation, 2009. *Good Practice Note Addressing Grievances from Project-Affected Communities: Guidance for projects and companies on designing grievance mechanisms*. Available at: http://www1.ifc.org/wps/wcm/connect/cbe7b18048855348ae6cfe6a6515bb18/IFC%2BGrievance%2BMechanisms.pdf?MOD=AJPERES&CACHEID=cbe7b18048855348ae6cfe6a6515bb18

- **APPROPRIATE PROTECTION** - a mechanism that prevents retribution and does not impede access to other remedies.

2.6 Reporting

The standard requires the project to publish clear and accessible annual reports. These reports should describe the progress of the project, social performance indicators, any conflict resolution occurrence and outcomes, carbon stock monitoring activities, biodiversity monitoring activities, monitoring reports, resources deployed into the project and the number of Natural Capital Credits issued and sold. A recommended annual report template is available on the NFS website.

2.7 Biodiversity Impacts

The Natural Forest Standard is designed to be used in large areas of natural forest which are at risk from deforestation. Because these forests are likely to have high ecological significance, the biodiversity management element of the project is vital in ensuring the project has a positive impact.

The biodiversity section of the management plan should be consistent with good practice for the project region and project developers should consider the applicability of guidance issued by the Convention on Biological Diversity[12] and the Global Invasive Species Programme.

The project should ensure that there is 'no net loss of biodiversity' arising from the project's existence in comparison with a baseline situation without the project. To achieve this, the Standard requires projects to take appropriate measures to protect existing biodiversity within the project zone. The biodiversity policy of the project management shall be informed by an understanding of the ecosystems and species present within and around the project area, and the likely causes of biodiversity loss.

The Standard requires that project proponents should provide:

- A descriptive summary of important endemic flora and fauna within the project area.
- A summary of the threats facing the endemic species of the project area.
- A description of the habitat loss mitigation activities of the project designed to mitigate these threats to the biodiversity.

The project's biodiversity impacts should be assessed using the Normative Biodiversity Metric[13]. Guidance on this can be found in the Biodiversity Assessment section of this document.

[13] Jarrett, D, 2011. Assessing Organisational Biodiversity Performance. Available at: http://ecometrica-cms-media.s3.amazonaws.com/assets/media/pdf/assessing_organisational_performance.pdf

2.7.1 Threats to Biodiversity

Threats to biodiversity within the project area should be documented. This section provides some guidance examples for how the project may mitigate identified threats to biodiversity. There are three example mitigation activities outlined below. There may be other threats within the project area and these should be identified, documented and addressed where appropriate.

The information gathered in these categories, and the extent of the measures implemented by the project to mitigate potential threats should be recorded in the project management plan.

i. Habitat loss

Habitat loss is generally agreed to be the biggest driver of global biodiversity loss[14] and may be covered by descriptions of deforestation risk used in relation to the carbon benefits.

ii. Invasive species

Invasive alien species are considered to be a globally significant threat to biodiversity, according to the Invasive Species Specialist Group (ISSG)[15] and the Global Invasive Species Programme (GISP). With regards to invasive species, the project should consider following the three management stages of the GISP Invasive Alien Species toolkit[16]:

- Prevent the release and spread of non-native animal and plant species into areas where they can cause damage to native species and habitats and to economic interests.
- Ensure a rapid response to new populations can be undertaken.
- Ensure effective control and eradication measures can be carried out when problem situations arise.

For more guidance on invasive species management review, the referenced GISP publication and the Global Invasive Species Database (GISD)[17] whose research in this area may guide the project approach.

[14] Slingenberg, A et. al. 2009.Study on understanding the causes of biodiversity loss and the policy assessment framework. European Commission. Available at: http://ec.europa.eu/environment/enveco/biodiversity/pdf/causes_biodiv_loss.pdf

[15] Invasive Species Specialist Group Available at: http://www.issg.org/index.html

[16] Global Invasive Species Programme (GISP) Invasive Alien Species: A Toolkit of Best Prevention and Management Practices. Available at: http://www.issg.org/pdf/publications/GISP/Guidelines_Toolkits_BestPractice/Wittenberg&Cock_2001_EN.pdf

[17] Global Invasive Species Database. Available at: http://www.issg.org/database/welcome/

iii. Hunting and Bushmeat

Bushmeat in tropical and sub-tropical forests is often an important source of food for forest communities[18]. The disappearance of wildlife, as a consequence of over-harvesting, can have a serious impact on the well-being of forest communities. The Convention on Biological Diversity[19] recommends that the key to mitigating the over-harvesting of bushmeat is to focus on the trade of bushmeat, not subsistence consumption.

The majority of NFS projects are likely to be based in developing countries located in tropical and sub-tropical areas, which means managing and mitigating bushmeat trade within project areas will be critical to ensuring that the project achieves a 'no net loss' of biodiversity.

The diversification of income sources within local communities has been found to be the most successful way to reduce bushmeat trade and over-hunting. The hypothesis being that hunters will stop hunting only if a more lucrative activity is available; this has been applied in a number of different projects.

Examples include:

- Bee-keeping initiatives in Cameroon.
- Bead-making in Kenya.
- Fair trade agriculture in Ecuador.
- Improving domestic livestock productivity.
- Community-based wildlife management and tourism.
- Working together with local farmers to minimise the burning of crop residues or natural areas.

Where the project seeks to enable alternative livelihood activities, this shall be with the Free, Prior and Informed Consent of the community involved in the project, and it should consider potential negative impacts on certain groups within the area (e.g. women, non-landowning groups or minorities) and aim to avoid negative social impacts.

[18] Nasi, R., Brown, D., Wilkie, D., Bennett, E., Tutin, C., van Tol, G., and Christophersen, T. (2008). Conservation and use of wildlife-based resources: the bushmeat crisis. Secretariat of the Convention on Biological Diversity, Montreal, and Center for International Forestry Research (CIFOR), Bogor. Technical Series no. 33, 50 pages.

[19] Secretariat of the Convention on Biological Diversity, 2011. *Livelihood Alternatives for the Unsustainable use of Bushmeat*. Technical Series No. 60, Montreal, SCBD. Available at: http://www.cbd.int/doc/publications/cbd-ts-60-en.pdf

iv. Project Development 'Halo Effect'

Where there are development projects planned for local communities, or there is anticipated to be a large inflow of resources into the project area as a consequence of the project, the project shall assess what effects this will have on biodiversity within and around the project area.

For example, the building of new transport infrastructure could have negative effects on biodiversity as new areas become accessible to hunters and loggers. The project shall seek to ensure that the effect on biodiversity is minimised. Where a development project is expected to impact significantly on biodiversity, a biodiversity impact assessment should be carried out. For more guidance on this process, see Forest Trends guidance on biodiversity impact assessment[20].

2.8 Leakage

When indicators of leakage are found within the identified leakage buffer zone, they should be investigated and, if possible, a negotiation to reduce or minimise these activities should occur. The project managers should, where possible, reduce leakage through improved project management and the encouragement of sustainable economic activities within the project area.

Any land use change and forest degradation that appears to result from displacement of activities from within the project area should be quantified using standard methods recommended in GOFC-GOLD Source Book[21], using the same methods for estimating carbon stocks within a project area.

2.9 Permanence

2.9.1 General

NFS projects should be designed and implemented to promote permanent conservation of carbon stocks and biodiversity. The aim is to build resilient conservation areas that are well governed, locally supported and aligned to economic development.

[20] Richards, M. and Panfil, S.N., 2011. Social and Biodiversity Impact Assessment (SBIA) Manual for REDD+ Projects: Part 1 – Core Guidance for Project Proponents available at: http://www.forest-trends.org/documents/files/doc_2981.pdf and Part 3 – Biodiversity Impact Assessment Toolbox available at: http://www.forest-trends.org/publication_details.php?publicationID=2998

[21] GOFC-GOLD, 2010. A sourcebook of methods and procedures for monitoring and reporting anthropogenic greenhouse gas emissions and removals caused by deforestation, gains and losses of carbon stocks in forests remaining forests, and forestation. GOFC-GOLD Report version COP16-1. GOFC-GOLD Project Office, Natural Resources Canada, Alberta, Canada. Available at: http://www.gofc-gold.uni-jena.de/redd/sourcebook/Sourcebook_Version_Nov_2010_cop16-1.pdf

2.9.2 Measures of Ensuring Permanence

The relevance and appropriateness of specific measures to deliver permanence varies between project locations, so the NFS is not prescriptive about the measures to be implemented. This section provides some general guidance on how permanence can be promoted and how verifiers and risk assessors may evaluate the adequacy of these measures.

i. Understanding the Nature of the Threats

Projects should seek to understand the nature of threats to the forest within the project area. Specifically, projects should seek to understand the behaviour and motives of groups that present threats. Projects should consider whether the planned protection measures are likely to provide temporary respite or a long-term solution to the issues affecting these groups. Projects should consider the extent to which underlying problems such as income security and access to resources may be resolved in a way that provides a stable long-term relationship between these groups and the forest area.

ii. Strengthening of Legal Frameworks Protecting Natural Forests

Projects should consider the potential for using and strengthening local legal frameworks for protecting Natural Forests. The establishment of areas protected by local laws can, in some places, be an effective protection measure.

iii. Sustainable Financial Models for Implementation

Projects should consider what the requirements will be for monitoring and enforcement of protection measures over the long term. Sustainable funding models for monitoring and enforcement should be created so that monitoring and protection can continue beyond the timeline of carbon credit sales.

iv. Effective, Durable Governance Structures

Projects should consider establishing effective, durable governance structures that can continue beyond the timeline of carbon credit sales. Governance structures need to have sufficient buy-in and authority to be sustainable. The FAO's "framework for assessing and monitoring forest governance"[22], while aimed at national level, provides a useful guide for assessing areas of weakness that may require attention.

v. Alignment of Conservation with Economic Development

Projects should seek to develop an alignment between conservation of natural forests and economic development. Projects should consider how revenues from carbon credit sales can be invested in economic activities that are consistent with forest conservation.

[22] http://www.fao.org/climatechange/27526-0cc61ecc084048c7a9425f64942df70a8.pdf

3. PROJECT MANAGEMENT AND MONITORING

3.1 Project Management Plan

A project management plan is a key document that provides up to date information on how the project will address the identified threats to forest carbon and biodiversity and, where appropriate, recover carbon stocks and biodiversity through restoration activities.

A management plan should be a 'living document' aligned with the PDD but kept up to date to reflect any changes that may be required, and lessons learned in the course of the project. The NFS does not expect rigid adherence to a management plan, however, where significant non-planned events occur these should be reflected in reports or changes to the plan.

The management plan and supporting documents should where relevant, contain information on the following:

- Maps of the project areas, showing:
  - areas under protection
  - areas to be restored
  - potential leakage zones
  - land ownership or use rights (as appropriate)
  - vegetation types
  - other relevant characteristics.
- The main activities that will be undertaken by the project (including locations and timing).
- The expected outputs of activities and anticipated outcomes.
- The main functions and responsibilities of key staff.
- The structures and arrangements for collaboration, partnership or sub-contracting with local organisations, government bodies and sub-contractors.
- The process for interacting with local organisations and communities to ensure FPIC is achieved and maintained.
- The budgets for activities, and intended sources and recipients of project funds.
- The mechanism by which benefit distribution will operate.
- The process for dealing with complaints or grievances.
- The process by which progress will be monitored, reviewed and evaluated.

The management plan is expected to be an internal document, agreed by the senior project staff and maintained as a living document, adapting and adjusting to developments over the course of the project.

The management plan should address relevant governance, social and biodiversity issues, as described in the previous section.

3.2 Project Monitoring System

A Project Monitoring System (PMS) should be used to maintain records of all relevant conservation and restoration activities, observations and measurements made to quantify the environmental impacts and progress with achieving social benefits. Project monitoring should be viewed as an integral part of good governance and effective management.

Records in the PMS may include:

- Field patrols, observations, interventions and plans for follow-up.
- Incident reports – records on actions being taken when deforestation activity is detected.
- Measurements taken for the purposes of quantifying carbon stock changes or risk factors (e.g. sample plots, mapping of roads and tracks, etc.).
- Measurements and observations taken for the purposes of biodiversity monitoring.
- Monitoring of progress on agreed development activities.
- Records of staff training and capabilities.

To enable auditing, data collected within the PMS should include:

- Dates, times, locations and identity of observations and measurements.
- Identities of relevant people and places.
- Relevant measurement units.

3.2.1 Training and Equipment

The personnel involved in quantification of carbon and biodiversity metrics should have sufficient training and be properly equipped to carry out the tasks assigned to them.

4. METHODOLOGIES FOR QUANTIFICATION OF NATURAL CAPITAL CREDITS

4.1 Introduction

The NFS requires projects to quantify carbon and other ecosystem benefits using approved methods. The following guidance is provided to assist the development of methods that can gain approval by the Technical Committee.

Methodologies should cover the following steps:

1. Mapping of vegetation to be conserved and restored within the project area and identification of potential leakage zones.
2. Estimation of carbon stocks within the project area and leakage zones at the start of the project.
3. Stratification of the project area and leakage zones according to the risk of deforestation and forest degradation into the NFS risk categories, using an approved risk methodology.
4. Calculation of emissions expected under the baseline scenario.
5. Monitoring of carbon stocks over the course of the project in the project and leakage area.
6. Calculation of net annual carbon benefits.

4.1.1 Transparency of Evidence and Assumptions

Methodologies should be based on transparent and relevant evidence and assumptions, and should take account of best available evidence.

4.1.2 Methods for Monitoring of Changes in Carbon Stocks

Monitoring methods should be consistent with good practices set out in GOFC-GOLD[23].

4.1.3 Carbon Quantification Units

Methodologies should quantify the NCC's that can be issued to a project or project area.

Projects may, but are not required to, quantify non-CO_2 greenhouse gas benefits, such as avoided emissions of methane (CH_4) or nitrous oxide (N_2O).

NFS Approved Methodologies

A list of approved methodologies can be found on the NFS website

4.2 Leakage Areas

A leakage zone of 10 km from the boundaries of the project area is recommended. The NFS does not require projects to estimate the potential impacts of project activities on national or international markets.

[23] GOFC-GOLD, 2010. A sourcebook of methods and procedures for monitoring and reporting anthropogenic greenhouse gas emissions and removals caused by deforestation, gains and losses of carbon stocks in forests remaining forests, and forestation. GOFC-GOLD Report version COP16-1. GOFC-GOLD Project Office, Natural Resources Canada, Alberta, Canada. Available at: http://www.gofc-gold.uni-jena.de/redd/sourcebook/Sourcebook_Version_Nov_2010_cop16-1.pdf

4.3 Tiers of Forest Carbon Data

Quantification of carbon stocks may be carried out using Approved Tier 1 or 2 Maps, or Tier 3 Inventory methods combined with remote sensing, where Tier 1 or 2 are unavailable. See figure 5 below:

	SCALE	DATA
Tier 1	Global	Global carbon data sets
Tier 2	Regional	Regional carbon data sets
Tier 3	Local	Local, based on measurements from within the project area combined with remote sensing

Figure 4: Characteristics of Tiers of data sources

4.3.1 Tier 3 Inventory Methods

The carbon stock values adopted should provide a conservative estimate of carbon stocks at the start of the project. The maps should therefore be recent, and have a known error. Carbon stock maps can be derived from a combination of remote sensing data and ground-based survey or default values of carbon stocks.

The validity of the carbon stock map will be assessed by the NFS Technical Committee, who will consider an appropriate, conservative factor to apply on the level of uncertainty.

4.4 Baseline Assessment

To be approved, methods should provide a credible, conservative, baseline scenario of emissions from deforestation and degradation in the absence of the project activities. The Standard recommends risk-based approaches to provide baseline emissions scenarios, such as the ACEU method described in Grace et al 2010[24].

[24] Grace, J., Ryan, CM., Williams, M., P Powell, P., Goodman, L., & Tipper, R., 2010. A pilot project to store carbon as biomass in African Woodlands. *Carbon Management* 1, (2)

4.4.1 Outputs of Risk Assessment

The outputs of both Tier 2 and Tier 3 Risk Assessments should be a map of the project area and leakage zones, with areas categorised into the following classes:

RISK CATEGORY	EXPECTED % BIOCARBON LOSS OVER 20 YEARS	CLAIMABLE CARBON LOSS
Very High	>80%	0.80
High	60 to 80%	0.60
Medium	40 to 60%	0.40
Low	20 to 40%	0.20
Very Low	0 to 20%	0

Figure 5: Risk Category Model

5. BIODIVERSITY ASSESSMENT

5.1 Consistent Approach

To provide some consistency and comparability of biodiversity measures between projects, the NFS recommends use of Ecometrica's Normative Biodiversity Metric (NBM)[25] in addition to any other methods that a project wishes to use. An NBM map, as described below should be developed and improved over the course of the project. In the early stages of project development a broad overview of the biodiversity status of the project area should be achieved from available vegetation maps, satellite images and local information. As the project progresses the project should improve the quality of biodiversity information to identify areas where biodiversity is under threat. This is likely to be closely related to threats to carbon stocks.

[25] Jarrett, D, 2011. Assessing Organisational Biodiversity Performance. Available at: http://ecometrica-cms-media.s3.amazonaws.com/assets/media/pdf/assessing_organisational_performance.pdf

5.2 Transparency of Evidence and Assumptions

To maintain a transparent account of the evidence and assumptions used throughout the quantification of biodiversity, methods, dates, locations and identities of people undertaking measurements and estimates should be recorded.

5.3 Normative Biodiversity Metric

The Normative Biodiversity Metric (NBM)[26] is a practical method used to provide an assessment of the biodiversity value of any given area under ownership or management control. The NBM is similar to the concepts of habitat hectares[27] and mean species abundance[28] which are also designed to provide quantified information on the biodiversity value of an area.

The NBM is designed to assess the habitat quality of all the land within the project zone, providing a quantified rating of the biodiversity value of the carbon credits. When these carbon credits are sold on the NFS registry, potential buyers will be able to use this information on the NBM score of the Natural Capital Credit to inform their buying decision. This assessment process may be used to verify that the project is meeting the 'no net loss' biodiversity commitment of NFS projects.

Step 1: Identifying Eco-Floristic Zones

The metric is based on a scale of ecosystem intactness, specific to the ecosystems within the project area. The first step in the assessment process is therefore to define the eco-floristic zones in which the project is taking place and to and identify examples of pristine habitats.

The FAO (Food and Agriculture Organisation) eco-floristic zones[29] definitions are a useful source with which to identify the different habitats present within each eco-floristic zone. Other sources which

[26] Jarrett, D, 2011. Assessing Organisational Biodiversity Performance. Available at: http://ecometrica-cms-media.s3.amazonaws.com/assets/media/pdf/assessing_organisational_performance.pdf

[27] Parkes, D et al., 2003. Assessing the quality of native vegetation: The 'habitat hectares' approach. *Ecological Management & Restoration,* 4 Available at: http://www.forest-trends.org/documents/files/doc_578.pdf

[28] Alkemade, R *et al.* 2009. Globio3: A Framework to Investigate Options for Reducing Global Terrestrial Biodiversity Loss. *Ecosystems 12(3), pp. 374-390.*Available at: http://www.globio.info/downloads/14/fulltext%20%28artikel%20GLOBIO%29.pdf

[29] Food and Agriculture Organisation of the United Nations, 2000.*Global Ecological Zones*. Available at: http://www.fao.org/geonetwork/srv/en/metadata.show?id=1255

provide similar information are the 'Bailey Eco-regions of the continent' map[30], or the WWF's terrestrial eco-regions map[31].

This step may also be done in conjunction with local or regional ecological knowledge. For example, within the tropical rainforest eco-zone, the FAO analysis suggests 6 different habitats which may be typical to this eco-floristic zone as a result of variations in the meteorology, hydrology or altitude within the zone.

Step 2: Defining the NBM Scale

Having characterised examples of pristine habitats within the project area, the NBM assessment scale should be produced to characterise intermediate levels of impact, down to "Artificial surface", which is given zero in the NBM classification system. Using the generic descriptors of each category, the eco-floristic zone specific scale should be produced. Identifying the likely occurrences of habitats within the eco-floristic zone is important for simplifying the classification process.

Below is an example of a completed pristineness scale for a project operating in the 'tropical rainforest' eco-floristic zone:

[30] Bailey, R.G. and H.C. Hogg, 1986. A World Eco-Regions Map for Resource Reporting. *Environmental Conservation*,13,(3) pp. 195-202 Available at: ftp://ftp.ngdc.noaa.gov/Solid_Earth/Ecosystems/CEOS_Ecoregions/datasets/b03/reprints/bec1.htm#top

[31] Olson, D et al., 2001. Terrestrial Ecoregions of the World: A New Map of Life on Earth. *Bioscience*, 51, (11). Available at: http://www.worldwildlife.org/science/ecoregions/WWFBinaryitem6498.pdf

CATEGORY	GENERIC DESCRIPTORS	LIKELY OCCURRENCES IN TROPICAL RAINFOREST ECO-FLORISTIC ZONE
5 PRISTINE	Land is inaccessible, no roads or navigable rivers. Can be small, indigenous communities present.	**Tropical Rainforest** Areas of primary rainforest where there are only small indigenous communities present. The inaccessibility of the forest precludes the possibility of access from loggers or commercial hunters, or tourists. The indigenous communities may use forest resources but species populations are stable.
4 MINIMAL USE	Original habitat and species distributions mostly intact; however, the area is subject to minor human activity which has a small impact on ecosystem functions.	**Disturbed Rainforest** Areas of primary rainforest which have been impacted on in relatively minor ways by human activity. Hunting, harvesting of non-timber forest products, evidence of selective logging, or high levels of tourist activity in the area.
3 IMPACTED	These areas are notionally still natural areas, but degraded such that many indigenous species are not present.	**Rainforest fragments, degraded forest** In vicinities or roads and towns, strips of original forest will remain, but cut-off from main areas of habitat. Areas subject to high levels of hunting, such that many species and ecological functions are absent.
2 CONVERTED	Areas of habitat which have been converted to a different type of land cover. Gardens, parklands, grazing areas, low-intensive farmlands for example.	**Low secondary vegetation** Secondary vegetation such as scrub, thicket, brush which occurs when the original rainforest is removed/burned/destroyed and the soil does not recover its potential for regrowth of the rainforest. **Grazing grasslands** Former rainforest land now bearing grasses and possibly undergoing periodic burning and grazing, e.g. Imperata grasslands. Some of these grasslands provide useful environmental functions such as maintaining water regimes and soil stability, but only provide habitat for a small number of generalist species.
1 MONO-CULTURE	High intensity production of one crop which causes the homogenisation of large areas of landscape.	**Monocultures** Intensive agriculture areas, normally soybean production in the Amazon. These areas do not provide natural habitat for any species. Other monoculture plantations common in converted Amazon land include eucalyptus, sugar cane and corn. **Barren unused land** Barren land devoid of plants or vegetation which can provide habitat for indigenous species. Following the closure of a mine, or the abandonment of some man-made structure, this is the first step in the process of

		rehabilitation and natural reclamation of land.
0 ARTIFICIAL	Areas which have been developed, built up areas, or areas where no organic vegetation remains.	**Roads** Tarmac roads which have been constructed through the rainforest. **Active mines** Open-cast mines currently in operation.

Figure 16: Example completed pristineness scale

Step 3: Classifying Habitat Zones

The next step is to classify the habitat zones into the pristineness categories of the table above. Initially, remote sensed images may be used to identify the distinct habitat zones within the project area. Artificial areas (0) and monoculture areas (1) should be straightforward to identify from remote sensing in most cases, according to the designed scale.

As a project develops, the initial habitat map should be improved by infilling gaps and uncertainties, through field surveys:

- Surveys of areas which were identified as having a high degree of ecosystem intactness at the remote imaging stage, to establish whether there are any signs of hunting, or resource harvesting in the area which has affected the ecosystem function – if these are found the area should be considered a minimal impact area (4) – if these are not present, the area should be considered a pristine area (5).
- Surveys of areas initially thought to be impacted (3) and converted (2) to establish that the initial assessment was correct. For areas to be considered converted, the original land cover must have been removed and replaced with another land cover. An impacted area still retains the initial land cover, but human activities have significantly degraded the land – these areas should have restoration potential, whereas converted areas may be more difficult to restore, and take longer to return to a high degree of intactness.

Step 4: Endangered Species Presence

The next stage is to assess and document presence of endangered species in project areas. The project will have more value for biodiversity if the conservation of natural forest also contributes to the protection of endangered species - the IUCN red list[32] classifications will be used to define what is and

[32]International Union for the Conservation of Nature [online] Available at: http://www.iucnredlist.org/

isn't an endangered species - initially mammals will be used, because the red list data is most complete for mammals.

For each endangered mammal species present within a distinct habitat zone, the NBM score for that area will be subject to an uplift of 0.5, up to a maximum uplift of 5. However, the NBM scores for ecosystem intactness and endangered species presence should be reported separately.

Initially, the NFS will only consider the distribution of endangered mammals (in very small project areas, the presence of amphibians may be more indicative of localised biodiversity value, because amphibians do not travel over large ranges, so can be more indicative of ecosystem function), although where a project wishes to use an alternative 'endangered species' indicator to mammals, justification for this can be given.

Information on which threatened, endangered, critically endangered species are present in the area may already be available if the area has been subject to regular ecological surveys from other organisations; if this data is considered reliable, it may be used to complete the NBM endangered species assessment. If such information is not available, it is recommended that the project first uses the IUCN red list species distribution maps to get an initial impression of which endangered species are likely to be present within the project area. However, if this data is imprecise and general, the project should then verify and evidence the presence of these endangered species within the project area. Where species which move over large areas are spotted within the project area, it can be assumed that they are present within all of the project area which is of a similar type of habitat. Only areas of degraded, converted, monoculture or artificial land should be excluded from the endangered species uplift to the NBM score in this case.

Step 5: Monitoring NBM Scores

The project should provide information on the scores for both pristineness and endangered mammals. This information should be monitored over time with a report on progress included in the annual project report.