1.2 Forest-related standards and certification schemes

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Does certification protect biodiversity?

Based on the recent literature (Peña-Claros, Blommerde and Bongers 2009) and personal experience, the answer to the question whether forest biodiversity is better off in certified forests would best be stated as: "Yes, but...." Standards and auditing show ambiguity, and certification is not the way to stop the conversion of natural forests.

Positive effects of certification

Prevailing forest certification systems (Table 1) such as that of the Forest Stewardship Council (FSC) and those endorsed by the Programme for the Endorsement of Forest Certification Schemes (PEFC) strengthen the conservation of biodiversity in various ways:

- They support the enforcement of legislation pertaining to biodiversity by requiring compliance. In most tropical countries, forest legislation is poorly enforced outside certified forests.
- They require the effects of management activities to be monitored and the results to be fed back into planning and forest management practices.
- They are instrumental in identifying areas within the Forest Management Unit (FMU) that will be left alone, including the protection of riparian buffers, improved management of High Conservation Value Forests (HCVFs) and improved management of threatened and endangered species.
- They require that interventions prevent avoidable damage to the ecosystem by implementing reduced-impact logging (RIL) technologies.

MONITORING SHOULD BE DIRECTED AT THE IMPACT OF HARVESTING ON BIODIVERSITY AND CHANGES IN SPECIES COMPOSITION.

Recent research (Peña-Claros, Blommerde and Bongers 2009) shows "that FMUs being evaluated nowadays have fewer issues raised (corrective action requests or CARs) than FMUs evaluated in the past. This result suggests that FMUs now have higher working standards than in the past" (Peña-Claros, Blommerde and Bongers: 56). However, a lack of

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rigour in assessments could also result in fewer CARs. Further analysis will be required to better understand this finding.

Ambiguity

At the same time, certification standards are ambiguous and raise false expectations about the conservation of biodiversity. The decision to harvest timber or NTFPs means that human-induced changes in biodiversity will occur, at least in terms of relative abundance and, in the case of timber production, of forest structure.

Research (van Kuijk, Putz and Zagt 2009) further showed that several factors hamper the ability to assess the effects of certified forest management on biodiversity:

- limited knowledge of biodiversity, species and their interactions, and variations in species' responses to changes in the ecosystem;
- poor articulation of biodiversity objectives and incorporation of these objectives into management activities. For instance, in the SmartWood generic standard, Indicator 6.3.3 requires forest managers to maintain, enhance or restore forest composition (i.e., species numbers and diversity) and structure (Rainforest Alliance/SmartWood 2005). This is either so strict as to be impractical, or if put into practice, provides no guidance to forest managers in terms of species and acceptable reference levels.
- Limited knowledge of prevailing biodiversity and lack of long-term checks and observations. This allows room for a wide range of interpretations by auditors, who tend to rely more on the evaluation of process indicators (prescribing how an intervention must be executed) than on outcome indicators that describe the state of the ecosystem or specific elements of it.

Not a land-use tool

Importantly, forest certification plays virtually no role in the combat against the most important threat to biodiversity: the conversion of natural forests. The scope of forest certification is forest management: certification is not a tool for land-use planning at a landscape scale beyond the FMU.

Most forest certification systems allow conversion within a certified FMU to a limited extent, albeit under certain conditions. For example, FSC sets clear limits on conversion. No more than 0.5% of a certified FMU can be converted each year, no more than 5% in total. PEFC uses more general phrasing: "Forest management practices shall safeguard the quantity and the quality of the forest resources in the medium and long term..." (PEOLG Criterion 1.2 a). Certification systems allow a certificate to be withdrawn when conversion exceeds the justified allowable part of the certified FMU. Although that in itself does not stop conversion, there seems to be scope for certification systems to be more proactive, as is suggested in this paper.

Source-oriented and use-oriented standards

Most of the relevant certification standards are geared to assess and reward responsible forest management practices. Certification standards are requirements (defined by principles, criteria and indicators) for sustaining one or more societal functions on a

specific land type. A societal function is defined here as a service, such as CO_2 storage, water supply, recreation or the delivery and application of raw materials such as fuelwood for energy and timber for construction. Although wood may potentially be used in many ways, each of these uses is classified as a separate societal function.

Over the past years, an increasing number of certification systems (Table 1) have been developed that focus on a particular societal function of the forest. These use-oriented systems are often complementary to or partly overlap with source-oriented systems, which focus on the forest. These two approaches will lead to significantly different impacts on the conservation of biodiversity, as illustrated by their objectives with respect to biodiversity.

Table 1. Certification systems relevant to forest management

Source-oriented standards	
Legal forest management/ legal wood	SGS: Timber Legality and Traceability system (TLTV) (VLO and VLC)
	Smart Wood: Legal Origin (LO) and Legal Compliance (LC)
	Origin and legality of timber/*Origine et légalité des bois* (OLB)
	FSC: Controlled Wood (CW)
	EU Forest Law Enforcement Governance and Trade action plan (FLEGT)
Sustainable forest management/ sustainably produced wood	FSC
	PEFC International and national systems endorsed by PEFC
	ISO Environmental management system
	RIL standard, Tropical Forest Foundation (USA)
Use-oriented standards	
Sustainable biomass	Criteria for Sustainable Bioenergy use on a global scale (Germany)
	Round-table for Sustainable Biofuels
	Round-table for Sustainable Palm Oil (RSPO)
	Testing Framework for sustainable biomass (Cramer criteria, Netherlands)
CO_2 storage	Clean Development Mechanism (CDM A/R)
	Gold standard (GS)
	Voluntary Carbon Standard (VCS)
	Chicago climate exchange (CCX)
	Voluntary Offset Standard (VOS)
	Climate, Community and Biodiversity Standards (CCBS)
	Plan Vivo

Note: not exhaustive

Box 1. Source-oriented and use-oriented standards

The primary objective of source-oriented standards is to maintain or sustain the integrity of the ecosystem and its potential societal functions. The conservation of biodiversity is part of its primary objective. In contrast, use-oriented standards have one specific function as their primary objective, such as the sequestration of carbon. Use-oriented standards support the conservation of biodiversity only so far as is necessary to sustain the specified function. Based on ethical grounds, they may add further requirements for conservation of biodiversity as a complementary objective. The minimum requirement for a land-use system to sustainably deliver a service or product is that the required ecological production basis for that service or product is being maintained.

Biodiversity in source-oriented standards

Source-oriented standards typically address biodiversity through one general criterion and a series of more detailed criteria. The general criterion is usually formulated in terms of maintaining biodiversity and/or ecological functions and values. It is complemented by a requirement for legal compliance; auditors need to know the content of legislation in order to assess compliance.

In standards that focus on conserving biodiversity, these more detailed criteria generally cover two dimensions: spatial and quality.

Spatial dimension

The spatial dimension separates zones of intervention and non-intervention. The spatial component comprises criteria to identify and protect areas with in an FMU, such as habitats for rare and endangered species, representative samples of ecosystems and HCV areas. These areas are left undisturbed and biodiversity evolves without any direct intervention. Without these areas there will be little chance to maintain the full range of biodiversity in the FMU. The larger the no-go area, the greater the chance that no side effects will occur.

Quality dimension

Criteria that address the quality dimension are developed to minimize the impact of the intervention on biodiversity. Criteria and/or indicators directed at the quality of the intervention include the use of chemicals, exotic species and RIL technologies. Often, these criteria and indicators do not directly assess changes in biodiversity; instead, they assess the management activities leading to these changes (Table 2).

Table 2. Examples of biodiversity criteria in source-oriented standards

FSC	PEFC
Overall requirement to conserve biodiversity	
Criterion 6.3: Ecological functions and values shall be maintained including genetic, species, and ecosystem diversity	Criterion 4.1.a: Forest management planning should aim to maintain, conserve and enhance biodiversity on ecosystem, species and genetic level and, where appropriate, diversity at landscape level
Spatial component of standards	
Criterion 6.2: Protect habitats of rare, threatened species	Criterion 1.2.a: Forest management practices shall the quantity and the quality of the forests…
Criterion 6.4: Representative samples of ecosystems shall be protected	Criterion 4.1.b: Forest management planning should include representative forest ecosystems… habitats of threatened and endangered species
Principle 9: Maintenance of HCVFs	Criterion 4.2.i: Special key biotopes should be protected
Quality intervention criteria	
6.2: Protect rare and threatened species 6.5: Guidelines to minimize damage 6.6: Avoid use chemical pesticides 6.9: Use of exotic species shall be carefully controlled	4.2.a: Natural regeneration 4.2.b: Exotic species use shall be evaluated 4.2.c: Forest management shall promote diversity of horizontal and vertical structures and of species

Biodiversity in use-oriented standards

Certification systems that are oriented to one particular product or service — for example, biomass for energy or CO_2 storage — tend to exclude areas from production based on their biodiversity values. They do not always address biodiversity within productive areas once the production site has been identified.

For example, the main focus of biodiversity-related criteria in standards for sustainable biomass is often the exclusion of land types for production, e.g., areas with HCVs. The EC Directive on Renewable Energy (2009)[1] excludes as being unsustainable biomass from primary forests and areas designated by law to protect nature, but has no restrictions on interventions in the areas where biomass production is allowed.

Criteria addressing the quality of the intervention within production area are rarely if ever formulated. In the Dutch standard for sustainable biomass,[2] biodiversity within the production unit is addressed by the requirement that good practices will be applied to take into account ecological corridors and to prevent ecological degradation as much as

possible. Some standards that focus on CO_2 fixation have very general if any biodiversity requirements. Other standards find their basis in a source-oriented approach that includes specific requirements for CO_2 storage (Table 3).

Table 3. Examples of biodiversity criteria in use-oriented standards

Testing framework for sustainable biomass (Netherlands)	Principle 4 Biodiversity; Biomass production must not affect protected or vulnerable biodiversity and will, where possible, have to strengthen biodiversity. Biomass production must not take place in: ▪ 4.2.1 recently cultivated areas that were gazetted protected areas ▪ 4.3.1 recently cultivated areas that have been recognized as HCV ▪ 4.4.1 if biomass production takes place in recently cultivated areas (after 1 January 2007) room will be given to set-aside areas (at least 10%) ▪ 4.4.2 if biomass production takes place in recently cultivated areas it has to be indicated: how fragmentation is discouraged; if ecological corridors are applied; if restoration of degraded areas is involved ▪ 4.5.1 good practices will be applied on and around the biomass production unit for the strengthening of biodiversity to take into account ecological corridors and to prevent disintegration as much as possible
Spatial restrictions defining non-production areas	Very few requirements for the management of biodiversity in existing forests
Voluntary Carbon Standard (VCS)	VCS is basically a calculation standard for CO_2 emission reductions and CO_2 sequestration. It has no biodiversity requirements.
Climate Community and Biodiversity Standard (CCBS)	CCBS has a mix of spatial and quality intervention criteria: B1. The project must generate net positive impacts on biodiversity within the project zone, measured against baseline conditions (i.e., development without the project) The project should maintain or enhance any High Conservation Values present in the project zone Use of non-native species must be justified. B3. The project proponents must quantify and document the changes in biodiversity resulting from the project activities (within and outside the project boundaries)

Proliferation of standards

Different standards impose unequal requirements on the management of the source — the forest — depending on what product or service is being delivered. The ongoing proliferation of standards, and the combination of different standards, can cause unintended and undesired consequences:

- distortion of competition between products and/or product uses, for example, lower sustainability requirements for fuelwood than for timber for pulp and paper or construction; this means that fuelwood could be subject to less restrictive

management requirements than wood for the pulp and paper industry, giving it an advantage in the market;
- the risk that management will focus too much on a single function, such as CO_2 storage, while disregarding other forest functions and other aspects of sustainability;
- higher transaction costs for producers as a result of having to meet many standards; and
- confusion among producers and consumers.

Table 4 highlights the complex context in which sustainability standards are developing.

Table 4. Context for sustainability standards

Function		Source	
		Single source	**Various sources**
Function = service, or product specific application of raw material.	Single function	1) Energy generation *Natural forest*	2) Energy generation *Natural forest, plantation, shelterbelt, natural short vegetation, agriculture*
	Multiple functions	3) Energy generation, timber for construction, paper, CO_2 storage, water supply, recreation, employment *Natural forest*	4) Energy generation, timber for construction, paper, CO_2 storage, water supply, recreation, employment *Natural forest, plantation, shelterbelt, natural short vegetation, agriculture*

Sources are in italics; in 4) not every source can fulfill all the social functions given as examples.

FSC and PEFC focused initially on the production of timber in natural and semi-natural forests, which would place them in segment 1. Since they claim to certify responsible forest management, irrespective the function of the forest, however, segment 3 seems the best way to describe these systems, even though FSC has included in its standard one specific principle for the management of plantations.

Nowadays, government increasingly sets the standard for public and private demands for sustainably produced products by formulating procurement policies. Politicians and other policy-makers should therefore provide guidance on the further development of standards. It is important that they answer several policy questions.

Should the same sustainability requirements be established for all sources that deliver the same societal function (insofar as the requirements are relevant to the type of source)?
- In the case of raw materials for energy generation such as wood, rapeseed or palm oil, the associated sources, to which comparable sustainability requirements would apply, would then be forest or timber plantations, agricultural land, or oil palm plantations.

Should the same sustainability requirements be established for different functions delivered by one type of source?

- In the case of natural forest, the multiple functions to which comparable sustainability requirements would apply would then include production of wood for energy generation, timber for construction, CO_2 storage, water supply, biodiversity and recreation.
- In the case of natural forest, when raw material potentially serves different functions, the various uses of wood (for which the same sustainability requirements would apply) would then include energy generation, construction and paper.

Conclusions

In order to assess the impact of certification on biodiversity, apart from the attention that must be paid to the proliferation of standards, there is still much to do in enhancing our knowledge of biodiversity. The challenge is to demonstrate evidence of relationships between certified management practices and biodiversity. Systematic research is needed to understand species responses to management practices.

Recommendations

Monitoring should be directed at the impact of harvesting on biodiversity and changes in species composition. Partnerships between forest management companies and research institutions are highly recommended, particularly for monitoring.

Standards should be more explicit in what they mean by "conserving biological diversity" and for what purpose.

Standards should require that the forest management plan contain clearly articulated biodiversity objectives and a translation of these objectives into management activities.

Policy-makers should establish fair and equivalent sustainability requirements for different products and for products from different sources. This means that the requirements of use-oriented standards would become more consistent with those of forest-oriented standards.

Certification systems should discourage major conversion within FMUs in several ways:

- requiring assurance that no major conversion will occur within ten years of certification — to that end, certification bodies should develop indicators that provide sufficient assurance of this;
- withdrawing certificates from FMUs when a larger part than that allowed has been converted into a plantation or agricultural use; and
- banning the issuance of new certificates, for a period of ten years, to the remaining part of any FMU that has violated conversion requirements.

Endnotes

1. Directive 2009/30/EC of the European Parliament and of the European Council, 23 April 2009.
2. The Dutch testing framework for sustainable biomass; Final report from the project group "Sustainable production of biomass," February 2007.

References

Peña-Claros, M., S. Blommerde and F. Bongers. 2009. *Assessing the progress made: an evaluation of forest management certification in the tropics*. Tropical Resource Management Papers 95. Wageningen: Wageningen University, 72 pp. www.fem.wur.nl/UK/Publications/books/book_ pena/.

Rainforest Alliance/SmartWood. 2005. *Generic Standards for Assessing Forest Management*. www.rainforest-alliance.org/forestry/documents/generic_standards.doc.

van Kuijk, M., F.E. Putz and R.J. Zagt. 2009. *Effects of Forest Certification on Biodiversity*. Wageningen: Tropenbos International, 94 pp.www.tropenbos.org/images/Tropenbos/publications_TBI/forest_certification/forest_certification_and_biodiversity.pdf.