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## **FSC PLANTATION POLICIES: An FSC Discussion Paper**

FSC-DIS-31-001

**T J Synnott . Draft, revised 18 July 2002**



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This FSC Discussion Paper was drafted by TJ Synnott in July 2002. It identifies a range of issues on which advice or guidance has been sought from FSC. It proposes guidance in relation to these issues, as a basis for improving uniformity and transparency of certification decisions.

The proposed guidance has not been finalised, and does not currently represent the formal FSC position on the issues discussed.

Comments on the proposals are welcome. The proposals and any comments received will be included in the ongoing FSC Plantations Review Process.

Please send comments to: [plantations@fsc.org](mailto:plantations@fsc.org).

The Forest Stewardship Council (FSC) is an independent, not for profit, non-government organisation based in Bonn, Germany.

The mission of the Forest Stewardship Council is to support environmentally appropriate, socially beneficial, and economically viable management of the world's forests.

FSC develops, supports and promotes international, national and provincial standards in line with its mission; evaluates, accredits and monitors certification bodies which verify the use of FSC standards; provides training and information; and promotes the use of products that carry the FSC logo.

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## Introduction

Certification of plantations was included in the FSC programme from the earliest discussions, and a draft set of Principles & Criteria for Plantations was circulated at the Founding Assembly in 1993. Later, the FSC Board of Directors agreed to merge the plantation elements with the natural forest elements, as a separate Principle No. 10 for plantations. Consultations and working group meetings for Principle 10 continued through 1994 and 1995. A membership ballot was sent out in December 1995, and Principle 10 was formally adopted at the 8<sup>th</sup> FSC board meeting in February 1996. Criterion 10.9 was added in January 1999.

Certification of plantations has advanced rapidly in the past three years, after a slow start. Products from these certified plantations now contribute large volumes of forest products which are marketed internationally with FSC-endorsed market claims.

However, disputes have arisen around plantation certification, with reports of infractions of FSC guidelines. Some of the disagreements and disputes have been caused by different interpretations of the FSC Principles and Criteria and other policies, from two causes:

- (1) FSC P&C and guidelines are not always clear or precise, leading to different and contradictory interpretations by assessors, managers and FSC members, and
- (2) There is not always a clearly defined line between what is just certifiable, and what is not quite acceptable or certifiable.

In May 2001, a list of the issues needing clarification was distributed from the FSC secretariat, with an undertaking to review the issues, and start work on clarifying and developing FSC policies.

This draft paper takes account of written comments on the draft of 30 May 2002 from FSC staff and members. Many minor changes have been made to the draft of 30 May, to improve clarity. A major addition is a proposal to add another exception to Criterion 10.9 (section 9.2.2).

Please send your comments to [plantations@fsc.org](mailto:plantations@fsc.org).

## **FSC Plantation Policies: An FSC Discussion Paper**

### **1 Scope of Certificates and of the P&C.**

#### **1.1 Plantations are certified against all ten Principles.**

The first point to clarify is that plantations must be assessed against all ten principles, and not only against Principle 10.

Assessments for certification are based on compliance with the FSC Principles and Criteria. All certified forest management units (FMUs) must comply with Principles 1 - 8. In addition, they must also comply with Principle 9, if any High Conservation Value is identified in the certified area. In addition, they must also comply with Principle 10, if any part of the certified area contains forests which match the FSC definition of a plantation. So, a plantation, or any FMU containing plantations, must be assessed against all ten principles.

#### **1.2 Plantations + Natural Forests are also certified against all ten Principles.**

The next point to clarify is what happens in a forest containing both plantations and natural forests. Should the whole forest be assessed altogether against all ten Principles? Or should the natural forests be assessed against Principles 1-9, and the plantations assessed separately against Principles 1-10?

A certified FMU may consist entirely of natural forests. Or it may consist of both plantation and natural forests (or other native ecosystems, section 5.5 below). All certified plantations are required to include some areas dedicated to restoring natural forest, in order to comply with Criterion 10.5. Therefore, all certification assessments must take account of management or restoration of natural forest (or other native ecosystems), even when most of the area is plantation.

Each certificate must have a defined scope (FSC Guidelines for Certification Bodies, Subject 2.1), covering the whole area of the certified FMU. When a certified FMU contains both natural forests and plantations, the ten P&C apply collectively over the whole area. Assessments take account of the forest management as a whole. Audit decisions are based on compliance with the ten P&C over the whole FMU, not on separate assessments and compliance in areas of natural forest and areas of plantation.

This interpretation does not allow a manager to compensate for defective or “bad” forest in some areas by means of acceptable or “good” forest management in other areas. It allows for environmental, social and economic objectives to be

satisfied by a variety of combinations, ranging from FMUs consisting entirely of natural forests, to FMUs with a mixture of more intensively managed plantations and conservation and restoration areas.

### **1.3 How to certify mixtures when separate standards are available.**

The third point to clarify is what to do when separate national standards have been drafted (and especially if they have been endorsed by FSC) for plantations and for natural forests.

This may occur when separate drafts or endorsed standards have been prepared by the national initiative; and when separate generic standards have been prepared as part of the accredited certification systems of certification bodies.

FSC experience indicates that it is vital to make sure that any separate standards are closely harmonized, in order to avoid contradictory decisions. Unless there are clear individual justifications, there should be no significant differences in overall compliance with Principles 1-9, in FMUs with plantations compared to FMUs without plantations.

A certified FMU with mostly plantations must handle legal or labour issues in its natural forest areas in the same way they are handled in a nearby certified forest, which is mostly natural. Equally, the requirements for rare species and High Conservation Values must apply equally in all FMUs. Conflicts will arise if there are significant differences in the FSC requirements. The management of these natural forest areas should take account of the overall management of the whole FMU, including the status of any plantation areas, but FSC would not expect substantial differences in indicators for Principles 1 - 9 between standards for natural forests and plantations, for the same region.

Recommendation: Any standards for plantations should include sufficient details under Principles 1-9 to ensure that

- (1) natural forest areas in the same FMU are managed in full compliance with the P&C (whether or not they are harvested in any way), AND
- (2) the indicators for management of those natural forest areas are at least as demanding as the indicators for management of a natural forest FMU in the same region.

### **1.4 Does FSC recommend separate standards for plantations and natural forests?**

Recommendation: Where possible, FSC recommends national working groups to prepare one Forest Stewardship Standard for management of all forest types, including natural forests and plantations, within the defined geographical region.

The standard may include indicators and verifiers that refer to specific situations, but many of the criteria and indicators will be applied in common.

If the FSC national initiative decides that it is necessary or preferable to prepare separate standards for separate forest types within the same region, FSC will accept them for evaluation and endorsement, separately or together, but will closely scrutinize them for harmonization.

If separate regional FSC standards exist, a manager responsible for both natural forests and plantations may request to be assessed against either the plantation standard overall (Principles 1-10), or separately against the plantation standard (P.1-10) in the plantation areas, and the natural forest standard (P.1-9) in the natural forest areas. This should not result in any important differences in the CARs, when the harmonization has been well done in sufficient detail.

## **2 Hydrology: Criterion 5.5**

### **2.1 Watersheds and water catchment values. Criterion 5.5 and Principle 9**

The economic and social importance of water supplies is growing worldwide. Criterion 5.5 requires that certified forests maintain and enhance the value of watersheds. Plantations, especially those resulting from afforestation, have large impacts on the amount of rainfall absorbed into the soil and the aquifer, and on rates of evaporation and transpiration, and on seasonal runoff, sedimentation and streamflow.

Managers are expected to evaluate the impacts of past, present and future plantation management on water catchment values, and to mitigate past negative impacts and avoid future negative impacts. Certification assessments will cover these elements of management in the FMU, and will take account of the regional or cumulative impact of plantations at the landscape level. These assessments may result in CARs for mitigation and avoidance of negative impacts. These changes may significantly affect the layout, establishment techniques and harvesting rates on certain sites.

Principle 9 covers the environmental, social and economic values of the more critical catchment areas. They will be identified and audited individually (using the HCVF Toolkit). National standards should include indicators for identifying and protecting water catchment areas.

### **2.2 Wetlands, stream courses and water resources. Criteria 10.6, 10.8**

Watercourses and wetlands are mentioned in criteria 5.5, 6.5, 10.6 and 10.8. Other hydrological values are implicitly covered by other criteria. If they include high conservation values, Principle 9 covers them.

Land preparation, planting and harvesting affect water quality, causing changes in acidity and sedimentation, affecting aquatic organisms including fisheries. Large, new plantations can have major regional impacts, which need special consideration during plantation assessments.

The following concepts have emerged in national standards and in CB's generic standards. They are included here for discussion, and for guidance for national standards and CB's generic standards.

\* Natural wetlands should be protected and conserved. They should not be drained, inundated or affected by accelerated sedimentation. Stream courses should not be diverted.

\* Wetlands should not be converted to plantations, but artificial regeneration may be used in natural wetlands to restore indigenous swamp or peatland forests (e.g. Taxodium, swamp cypress, in S USA, or peatswamp forests in Borneo).

\* Native vegetation and habitats along all watercourses, including non-forest vegetation, should be protected. It should not be converted to plantations, except for restoration of natural indigenous forests, which were previously cleared. The width of protected areas along watercourses should be decided case by case, and national standards should provide indicators.

National standards should

- (1) refer to, and build on, government regulations affecting vegetation along rivers and stream, and
- (2) refer to and build on technical and scientific studies about maintaining hydrological functions and habitats, and
- (3) include indicators for essential roadside drainage and culverts, for drainage in new or existing plantations, and restrictions on new drains in native wetlands.

### **3 Conservation.**

#### **3.1 Compliance with P.6 and P.9**

All certified FMUs must comply with the conservation elements of Principle 6, with special provision for rare, threatened and endangered species. Certification should ensure a high degree of protection for high-diversity grasslands,

bushlands or woodlands, for wetlands, and for any other rare non-forest habitats and ecosystems in the certified FMU.

Certified FMUs must also comply with Principle 9 for High Conservation Value Forests. The extra requirements for assessments, consultations and annual monitoring are necessary if the FMU is found to contain any High Conservation Values, whether or not these values are inside a natural forest or plantation. (N.B. many conservation values are covered by other principles; only the classified High Conservation Values introduce extra obligations under P.9.)

Assessments, consultations and monitoring for P. 6 and P. 9 are especially important for new plantations, which can have impacts on wildlife habitats, including non-forest habitats, even when these habitats are not planted. Drainage, fencing, roads, fertilizers and pesticides can all have an impact far from the intended focus. Critical habitats that are HCVs, both inside and outside the planted area, must be conserved, and management activities must ensure their protections. The same concerns apply to archaeological and other cultural sites.

Indicators should be developed in national standards. CBs will assess for the presence of rare species and HCVs, for compliance with Principles 6 & 9 (using the HCVF Toolkit, now under development). FSC will provide more conservation guidance in future.

### **3.2 Management of Conservation areas**

Certification is based on the concept that all parts of the FMU, including the conservation areas are managed. This means that

- (1) all areas of the FMU, and their objectives and methods of management, are covered in the management planning documents, and
- (2) the planned activities are implemented, and
- (3) the areas are monitored, and protected from impacts, which conflict with the objectives.

This interpretation does NOT imply that “management” must include logging, extraction or any silvicultural treatments. In some conservation and restoration areas, the management may consist of complete protection from any kind of use, extraction or even access. In other conservation areas, management may involve some planting, and some collection of wood or NTFPs, and even of some timber, so long as this is fully compatible with the specified objectives.

The job of the manager is to determine the appropriate conservation areas and objectives, and then make sure that management activities fulfill those

conservation objectives, while preventing activities, which would prevent their fulfillment.

#### **4 Impact Appraisal. Criterion 10.8**

Criterion 6.1 requires Assessment of Environmental Impact as part of management planning, appropriate to the scale and intensity of management. Criteria 6.1 and 10.8 together mean that plantation management should include environmental and social impact appraisals. These appraisals are especially important for large plantations, which have a major impact on the landscape and employment.

Some national standards include indicators for the intensity of appraisals, or for how impacts should be appraised. FSC recommends all national standards to include indicators for social and environmental impact appraisals. Further guidance will be needed.

#### **5 Restoration. Principle 10**

**5.1 Principle 10** requires that “plantations....should complement the management of, reduce pressures on, and promote the restoration and conservation of natural forests”.

This principle has two separate implications. One refers to the role of plantations in taking the pressures off natural forests, locally, regionally and globally. The other refers to some of the obligations of all forest managers, including plantation managers, to make a contribution to biological and environmental conservation in their own management areas.

FSC recognizes that well-managed and well-located plantations can play an important role in diverse and healthy rural economies and landscapes; they provide many forest products consumed by society, especially timber, fibre, firewood and other wood and non-wood products. They also provide many non-product benefits including recreation, tourism and shelter. Globally, by providing these products and benefits, plantations reduce the demands to provide these goods and services natural forests. In principle, plantations can enable more natural forest areas to be conserved.

The role of plantations in helping to restore and conserve natural forests may be immediate and local when, for example, (1) a plantation is established to provide firewood for a town or village, so enabling the community to stop the degradation of the natural vegetation, and to conserve or restore it for NTFPs and other benefits, or when (2) profits from a certified plantation are dedicated to improved management, conservation or restoration of nearby natural forests.

This role in restoring or conserving natural forests is sometimes local, and sometimes regional and global. The goods and services from plantations may have an indirect or long-distance impact on conservation. For example, a national plantation programme may help to take the pressure off the natural forests of other countries that were previously degraded to supply the importing country. Overall, a well-managed and well-located national plantation programme can help to export conservation, just as a narrowly protectionist programme can help to export forest destruction to other countries.

However, uncertified plantations are not always associated with better management or conservation of natural forests. On the contrary, the development of effective plantation techniques has sometimes accelerated the elimination or conversion of natural forests. The “restoration objective” of Principle 10 is intended to make a more direct, visible and effective link between management of plantations and conservation and restoration of natural forests. It is based on a specific interpretation of the P&C, that good forest managers can and do take account of conservation objectives in each FMU.

Restoration activities may include the re-establishment of natural forest cover on sites previously cleared, and treatments to improve the authenticity of the natural forest cover, in terms of species, structure and age distribution. Actions may also consist simply of total protection and monitoring. Restoration objectives may be achieved inside the certified FMU, but may also be designed to have impacts in the wider landscape (e.g. by providing corridors or migration routes, or by providing funding for restoration in other FMUs). These restoration requirements are covered explicitly by criteria 10.1, 10.2, 10.4 and 10.5.

## **5.2 Restoration objectives in the management plan. Criterion 10.1**

To comply with this criterion, the management plan (or the collection of management documentation) must explain, in suitable detail, the conservation and restoration objectives of management of the FMU as a whole. Managers will also demonstrate compliance with the plan, and how the objectives are being achieved.

The management of areas, which have been restored to natural forest cover, must aim to maintain this status and conserve its characteristics. This may involve complete protection from any disturbance, or may be compatible with some amount of extraction compatible with natural forest conservation (See Section 3)

(Other FSC guidelines may explain how this requirement may be fulfilled in different ways by small, low-impact enterprises and by large or high impact enterprises.)

### **5.3 Restoration through “the design and layout of plantations”. Criterion 10.2**

This criterion requires that the distribution, size, layout, and cycles of activity should be planned, implemented, monitored and reviewed, so as to contribute to restoration and conservation of natural forests. The criterion mentions some techniques, such as wildlife corridors, streamside zones and mosaics. They may include professional practices such as zones or working circles dedicated to conservation and restoration. Managers should select and implement the most appropriate combinations, and certification assessors should verify that plans are made, implemented and effective. (Further guidance will be needed on design, layout, connectivity and other conservation issues).

### **5.4 “Native species are preferred ... in ... the restoration of degraded ecosystems”. Criterion 10.4**

Within the limits of “restoration objectives”, and within the language of standards, this phrase is best interpreted as requiring that the manager uses or protects only (or mainly) native species in all activities related to restoration. Non-native species may be used when they are the most effective way of improving site-conditions for the establishment of native species and habitats.

### **5.5 Set-asides and restoration of natural forests. Criterion 10.5**

Criterion 10.5: “A proportion of the overall management area, appropriate to the scale of the plantation and to be determined in regional standards, shall be managed so as to restore the site to a natural forest cover.”

This criterion applies to certified FMUs containing plantations. In addition,

1. Criterion 6.2 requires any certified unit to have conservation zones and protection areas to protect rare, threatened and endangered species, and
2. Criterion 6.4 requires that “Representative samples of existing ecosystems within the landscape shall be protected, and
3. P.9 requires protection, maintenance and/or enhancement of HCVs, and
4. Further guidance is suggested in the FSC discussion paper on Conservation Zones and Protection Areas (Set-Asides) (July 2002).

This interpretation is based on the concept that all FMUs have some areas which can be allocated for conservation objectives, and that any forest manager committed to the FSC concept of good forest management will seek to make a

contribution to conservation, even when the primary objective of management is commercial. Since plantations typically make less contribution to conservation than natural forests, they are required to make their specific contribution to conservation by assigning part of the managed area to restoration.

Criterion 10.5 specifies restoration “to a natural forest cover”. The requirement applies to any site, which is known to have carried “natural forest cover” within recent or historical times, which is a common situation for plantations formed by afforestation. However, some plantations have been formed on land, which has been without forests for many hundreds or thousands of years. This discussion document suggests that all references to “restoration of natural forest cover” may be interpreted as including restoration of native ecosystems that existed on that site at some time in the past.

The proposed interpretation of C.10.5 is as follows: all certified forests that consist mainly of plantations or heavily altered natural forest must have one or more designated areas, managed to restore the site to natural forest cover (or native ecosystems), and to maintain or increase the conservation values of the site. Management may have additional obligations to protect and maintain some non-forest areas, to comply with Criterion 6.2 and Principle 9.

This requirement may be achieved either by (i) establishing or restoring areas of natural forest in open, degraded or deforested areas, or by (ii) managing, protecting and improving existing areas of natural forest, or (iii) converting some plantation areas to natural forest.

This criterion applies over the forest management unit as a whole. It does not imply that managers should continuously assign extra areas for restoration from plantation to natural forest. The certification body will assess whether the area of natural forest cover, or the area currently being restored to natural forest cover, is sufficient to comply with this criterion and with the national standard.

Decisions about the sizes of conservation and restoration areas will take account of the intensity of management, and the species composition, in the plantations. The more intensive the Silvicultural treatments, the lower the diversity of planted species, and the greater the use of exotics, then the more conservation values will be required of the conservation and restoration areas.

The criterion does not specify the appropriate size of these areas in different regions or sizes of enterprises. National standards should provide indicators, based on landscape patterns and scale, homogeneity, disturbance regimes and other land uses, taking account of expert advice and consultations. Further FSC guidance is needed (see Next Steps).

Small and low-impact forest management operations may need separate norms, which are now under study.

## **5.6 Restoration of non-forest vegetation, by clearing plantations.**

Some conservation activities involve clearing unsuitable vegetation, including plantations or invasive exotics, to restore native non-forest vegetation. FSC-endorsed certification has not been designed to endorse this kind of management. FSC has a strong presumption against certification of management that consists in converting forests or plantations to non-forest vegetation.

Management which includes clearance and conversion of plantations to non-forest may be eligible for certification, under the following circumstances:

- \* the non-forest vegetation that is being restored has "High Conservation Values", as identified by the HCVF Toolkit. (This would apply mainly where vegetation with a HCV was cleared from the site where the plantation was established, and would be restored after clearing the plantation)
- \* the certificate covers an FMU in which natural forests and plantations will continue to be managed, while only some parts of the plantations are cleared. (A certificate implies a commitment to long-term management planning and implementation. Long-term forest management objectives are mentioned repeatedly in the FSC P&C. These will not apply if the whole FMU will cease to carry forest)
- \* the areas to be cleared of plantations will be managed to restore an appropriate mixture of forest and non-forest vegetation, characteristic of the natural vegetation and landscape of the region.
- \* the system and techniques of restoration of natural forest or non-forest vegetation have been proven successful on that management unit. (...to make sure that this is a genuine and realistic restoration activity). The CB has the duty to check the success of the system, and may postpone the certification until satisfied.

## **6 Landscape values. Criteria 10.2, 10.3**

The P&C include several references to landscape level considerations:

\* Criterion 6.1: "assessments shall include landscape level considerations...."

\* Criterion 6.4: "Representative samples of existing ecosystems within the landscape shall be protected in their natural state..."

\* Criterion 10.2: “The scale and layout of plantation blocks shall be consistent with the patterns of forest stands found within the natural landscape”

\* Criterion 10.3: “Diversity..... is preferred.....Such diversity may include the size and spatial distribution of management units within the landscape.....”

\* HCVs include: ...large landscape level forests...

\* 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.

All plantations have impacts on landscape values, positive and/or negative. These impacts may be highly negative if plantation management is insensitive to existing values, landscapes and conservation areas. Certification assessments and consultations should explicitly cover the impact of plantation management on landscape values. When a CB considers that previous practices have caused unacceptable negative impacts on landscape values, they should assess the efforts of current management to mitigate these impacts, and set CARs accordingly.

More guidance will be needed in future for landscape values in plantation management.

## **7 Exotic and native species. Species selection and diversity. Criteria 10.3 & 10.4**

7.1 Native species are given preference by criteria 6.9 and 10.4. This policy is best interpreted as follows:

FSC recognizes that plantations typically contribute less to the conservation of environmental, biodiversity and landscape values than natural forests. In general, plantations carry a greater risk of disease than most native forests. Unsuitable plantations are also associated with nutrient and hydrological imbalances. These risks are not always high, but they are usually highest with species planted outside their natural geographical or habitat ranges. The inappropriate use of exotic species also has dangers of weediness or invasiveness. FSC also recognizes that well-managed plantations of all kinds provide long-term benefits, including products, shelter and secure, and productive employment. As with other elements of forest management, a balance and a trade-off is often possible.

Species-selection decisions sometimes turn out to be mistaken. When the wrong species was planted in the past, a manager may be faced with disease-ridden or

degraded plantations. In these cases, good management involves taking action to mitigate the impacts of past mistakes, and replacing the unsuitable species with more suitable ones. FSC does not require that the replacement must use native species, but indicates that native species “are preferred”.

The policy is aimed mainly to deter the inappropriate use of unsuitable species, so an exact and binding definition of “native” is not needed. If individual national working groups agree, through national consultations, that greater restrictions are appropriate for non-native species in certain habitats or regions, they are required to define their terms as needed. (For example, an indicator for “restoration” in High Conservation Value Forests may require the use of species native to that specific site.)

One implication of this interpretation is that existing plantations may be eligible for certification whenever the present manager is now implementing good management in compliance with the P&C, to correct the results of past mistakes, even when unsuitable species and techniques were previously used.

In principle, plantations of any species, native or exotic, are eligible for certification, provided that they are covered by a long-term forest management plan, and develop the structure of a plantation or natural forest as defined by FSC, and comply with the P&C. Objectives of management are not restricted to timber production. Therefore, plantations aimed at conservation or restoration may be certified, and plantation of oil palm, rubber, brazil nuts and other fruit trees may also be eligible for certification (FSC Guidelines for Certification Bodies, Subject 2.1).

New plantations of many kinds, including exotic species, are eligible for certification, but managers must evaluate the balance of risks and benefits, and compare the environmental, social and economic performance of exotic and native species, and take decisions accordingly. Certification assessors evaluate these performance evaluations and the system of risk management and its implementation. These decisions will be scrutinized with extra care when the exotic species are new or recent introductions to the region, or when little information about their performance is available.

Diversity: Criterion 10.3 states “Diversity in the composition of plantations is preferred...”

At present, this is interpreted as a preference for greater diversity of species, and for diversity within species, but FSC has no defined threshold for degrees of diversity.

National standards may include indicators for the use of exotics.

## 7.2 Genetically Modified Organisms, GMOs

Criterion 6.8 states “Use of genetically modified organisms shall be prohibited”

The FSC interpretation of this criterion was approved at the 19<sup>th</sup> FSC board meeting in June 2000, after extensive consultation through 1999. It includes two key elements:

- 1 The GM techniques covered by this prohibition are identified and defined, making it clear that the traditional techniques of tree-breeding and genetic improvement and selection are not affected.
- 2 A forest management system is not eligible for certification if it involves the use of GMOs for any purpose, as part of the management system.

The accidental presence of genetically modified plants or animals, through escape or contamination, would not affect certification.

FSC recognises that some government regulatory authorities have approved the use of GMOs in test sites, partly to study long-term risks, while also recognizing that the use of GMOs in field trials may inherently involve some degree of risk from escape or contamination. Governments and corporations, which carry out or participate in such research, are not disqualified from having any of their forests certified. However, individual FMUs containing the research trials are not eligible for certification.

## 8 Felling areas. Criterion 10.6

Several Criteria affect felling areas in plantations. Criterion 10.2 affects their design and layout. Criterion 10.3 affects the size and distribution of management units, and other elements of diversity. Criterion 10.6 covers techniques and rate of harvesting. The criteria of Principles 5 and 6 cover environmental and other impacts of harvesting.

The size and layout of felling areas, especially clear-felling areas, is a critical element of plantation management, and often cause serious controversies. Clear felling can seriously accelerate run-off, erosion and silting, causing damage to water-catchment values and the fauna and flora of waterways, especially when the plantations have little ground-cover vegetation. The size and distribution of felling areas can have major impacts on visual landscape values, and on fragmentation and connectivity of landscape and habitat elements. Managers are expected to take account of landscape features, amenity values, cutting cycles, site characteristics (soil type, slope, erodibility) and climate, in order to avoid these kinds of damage. In some sites, national best-practice guidelines

recognise that clear-felling is never acceptable; in other sites, large areas may be cleared with little effect on the site (e.g. in some plantations on flat, deep, sandy soils). National standards should take account of these variables.

FSC does not encourage setting rigid rules for the size of felling areas. National standards should include indicators and verifiers for harvesting practices and areas, taking account of local or regional conditions (including local controversies). They should avoid giving quantitative management prescriptions, but they may provide quantitative indicators for demonstrating compliance with Principles 5, 6 and 10, including indications for sizes and designs. They may include decision support systems, incorporating available information about landscape ecology and best-practice techniques.

For example, a national standard may develop indicators for harvesting in plantations, along the following lines (adapted from the UK standard)

\* Rate of felling: In plantations of, say, >20 ha, no more than 25 % shall be felled during any 5 year period. In smaller plantations, greater flexibility is accepted, within the limits of other criteria governing environment conservation and regeneration.

\* Size of felling areas: The maximum size of an individual coupe is, say, 20 ha, except that larger areas may be locally justified by a combination of windthrow risk, landscape features and a restructuring of the plantation design, as explained and justified in the Management Plan.

When national laws or regulations include rules on the sizes and designs of felling and regeneration areas, they should be referenced in the national standards.

The FSC P&C do not regulate the size of felling areas. Rather, FSC expects national standards (and CB generic standards) to include regionally-adapted indicators for whether current felling practices comply with national regulations and with the FSC P&C. National standards may set more precise indicators, when based on suitable agreement, but should avoid rigid rules.

## **9 Conversion**

### **9.1 Conversion of natural forests to plantations or non-forest land uses. Criterion 6.10**

Criterion 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 in high conservation value forest areas; and (c) will enable clear, substantial, additional, secure, long term conservation benefits across the forest management unit.

Criterion 10.9 makes it clear that such conversion is a barrier to certification if it occurred after November 1994. The FSC definitions of “plantation”, “natural forest” and “long-term” apply here (as shown in the FSC P&C)

These definitions have been adequate for certification decisions in most cases, but have led to controversies in some cases. This criterion is interpreted as follows, with examples:

**Conversion:**

Silvicultural or management activities in natural forest should be classed as “conversion” if they lead to the long-term elimination of most of structural and diversity elements of that forest, whether by gross simplification of the structure and composition in indigenous forest, or replacement by artificial regeneration with a changed composition, or clearance to non-forest land. Heavy logging in natural forests is sometimes followed by clear-felling, clearance and regeneration, producing stands with a greatly reduced density, composition and diversity. This is better classed as conversion, rather than as a legitimate way of re-establishing natural forest stands

FMUs containing conversion are eligible for certification only under the cases stated in the criterion.

**Marginal cases:**

These will be considered case by case. Some examples:

1. An FMU where the natural forest has been heavily degraded after 1994, causing the loss of most of the elements of complexity, structure and diversity of a “natural forest”, may be eligible for certification if the management is now oriented to restoring the natural forest. Otherwise, it is assessed as uncertifiable “post-1994 conversion”. (See 9.2.2 below)
2. The same FMU may be eligible for certification if it is partially cleared in patches, and enriched or replanted with locally native species, to recreate natural forest, with long-term management aimed at long rotations, but not if it is cleared and replanted for short-rotation plantations, especially if non-native species are used.
3. In north temperate and boreal forests, and in some simple tropical forest ecosystems (e.g. mangroves, tropical pines, bamboo forests), tree-planting is often used to re-establish forests which have a structure, density, composition and diversity similar to results of natural regeneration following natural disturbance. This kind of tree-planting is not necessarily “conversion”, and may be certifiable

Not conversion:

Felling, thinning or planting always has short-term impacts on structure and composition, but not necessarily the long-term impacts of “conversion”. Management is not conversion unless it causes the loss of “most” of the elements of complexity, structure and diversity of native ecosystems.

Each case must be judged on its merits by the certification body. National standards should include indicators.

## **9.2 Conversion and cut-off dates. Criterion 10.9**

Criterion 10.9: “Plantations established in areas converted from natural forests after November 1994 normally shall not qualify for certification.....”

The FSC ruling against replacement of natural forests by plantations or other land uses was included in the earliest versions of the Principles and Criteria, including the version ratified by FSC Founding Members, published in November 1994.

The ruling was not intended to prevent certification of well-managed plantations in cases where original natural forest was cleared many years or even centuries earlier. FSC did not intend to penalize forest managers for activities carried out by earlier managers, or earlier generations, before the Principle was adopted by FSC. FSC did not wish to prevent certification in areas of old or historic deforestation, but certainly wished to discourage continued clearance and conversion. A cut-off date was needed.

In 1998, the FSC Principle 9 Working Group proposed new versions for Criteria 6.10 and 10.9 (above). The Working Group proposed a cut-off date of November 1994 because it was the publication date of the first officially approved P&C. The board and the membership approved these versions, and the P&C were revised accordingly in January 1999.

Forest clearance and conversion before November 1994 does not disqualify an enterprise from being certified, or have any impact on the certification decision. Conversion after November 1994 normally disqualifies an enterprise from certification. The word “normally” indicates that exceptions are possible. One exception is stated in the criterion, and is covered below in 9.2.1. Another possible exception has been proposed in 9.2.2. Others may be identified in due course.

**9.2.1 “Certification may be allowed in circumstances where sufficient evidence is submitted to the certification body that the manager/owner is not responsible directly or indirectly of such conversion”.**

This criterion refers to conversion carried out by the same forest manager/owner. For the purpose of this criterion, the forest manager/owner is the legal entity, which holds or applies for the forest management certificate.

This policy applies to commitments by forest managers in all forms of ownership and management, including:

- \* forests owned by individuals, communities, trusts, companies, associations, cooperatives, governments or administrative units such as counties, districts, provinces or states.
- \* concessions or licences, which include responsibilities for management.

This criterion may affect certification decisions for corporations in which a single manager/owner is responsible for large forest properties, with widely different objectives and plans in different regions, where conversion of natural forest has continued in some regions but not in others. These cases will be considered as they arise.

Certification may be possible if the forest manager (legal entity or private owner) has changed since November 1994, or since the conversion took place.

**9.2.2 Areas dedicated to Restoration of Natural Forest.**

The following option has been approved in principle by FSC-US, and is now proposed to FSC for approval. FSC-US suggests that areas converted from natural forests to plantations after November 1994 may be certified if the whole converted area is now being restored to natural forest.

More explicitly: If an FMU contains plantations formed after November 1994 in areas which were then natural forest, then the FMU will be eligible for certification if, and only if, all such plantations are now being converted back to natural forest. The term “plantation” complies with the definitions in the FSC P&C, so the act of conversion may have consisted of intensive silvicultural treatments, not limited to artificial regeneration. The term “natural forest” also matches the definition, and is not limited to ancient or old-growth forest.

Certification bodies have the right to postpone certification until satisfied that the restoration activities are sufficient and effective. FSC national working groups may include provisions in their standards, specifying the qualities expected in the natural forests being restored. The ruling applies only to areas converted after November 1994. FSC may add other guidelines for this element, if agreed.

The underlying concept is that conversion of natural forests to plantations would not be considered a “major failure” if the post-1994 plantations are now being actively restored to natural forest.

This interpretation of Criterion 9.210.9 is new, and has not been implemented anywhere, but it seems to make sense. Comments are invited.

### **9.3 Cut-off dates for other past activities**

No cut-off dates have been set for activities other than conversion of natural forests. Clearance of bushlands or herbaceous vegetation does not necessarily disqualify an enterprise from certification, and there is no cut-off date prescribed.

However, managers are expected to comply with Principle 6 and 9. These principles require the protection of rare, threatened and endangered species and their habitats, in all cases. Special vigilance is required when the area contains High Conservation Values which should be maintained or enhanced. This indicates that the conversion of non-forest habitats to plantations may sometimes be incompatible with P 6 and 9. Such conversion, prior to assessments, may not disqualify an area from being certified, but would typically be the subject of CARs, to ensure that rare species and habitats and HCVs are not affected in future. CBs have the right to postpone certification until satisfied that the conversion has in fact ceased, and that the restoration activities are in progress and are successful.

Before issuing a certificate, CBs must be satisfied that CARs will be implemented. If they have identified activities, which must cease immediately, or be implemented immediately, they should not issue a certificate unless satisfied by the evidence provided by their client and by their own verification. Case by case, CBs must determine the level of assurance and verification required.

In cases of current or past activities which would be major failures at the level of an FSC Principle, or which have caused major confrontations or controversies, CBs are expected to be more cautious. They would not be satisfied only by seeing changes in a Management Plan or even an annual workplan. They should often require a demonstration in practice that CARs are being implemented, before issuing the certificate. Therefore, although there are no fixed cut-off dates, CBs have mechanisms for ensuring and checking that non-compliances have ceased before issuing a certificate.

## **10 Control of weeds and pests. Criterion 10.7**

The interpretation of the FSC Principles and Criteria with respect to chemical

pesticides is covered in detail in another document, “Chemical Pesticides in Certified Forests - Interpretation of the FSC Principles and Criteria” (2002).

Criterion 10.7 requires that “Plantation management should make every effort to move away from chemical pesticides and fertilizers, including their use in nurseries”. FSC interprets this to mean that management plans for new plantations should not be based on the continued reliance or use of chemical pesticides. FSC members are increasingly questioning whether plantations should be eligible for certification if they depend on long-term use of chemical pesticides.

FSC has not yet developed guidelines for non-chemical methods of pest control, including biological control (Criteria 6.6 and 6.8). The following guidelines are proposed as a first step:

Biological control agents include parasitoids, predators, pathogens, and diseases caused by bacteria and viruses. They include insectivorous or predatory birds; so biological pest control systems include measures to enhance the effectiveness of natural biological control agents, such as improving habitat conditions.

Most commercially available biological control materials have very low relative toxicity to humans, and low persistence and bioaccumulation, making them much safer than chemical pesticides. However, they are biologically active, they must be handled with care to avoid negative environmental impacts, particularly impacts on non-target organisms.

New biological control agents must be treated with as much caution as the introduction of exotic species. If the proposed biological control agent is a non-native organism, it may need approval and licensing by government authorities, after the necessary screening protocols.

If the biological control agent is native, and/or already registered and approved for use for the required purpose, it may be used with care. Certification bodies must assess all use of biological control with as much care as they assess the use of permitted chemical pesticides, including the adequacy of the national regulatory framework.

## **11 Short rotation tree plantations**

The FSC Guidelines for Certification Bodies, Subject 2.1, quoted a definition of “forest” from the Oxford English Dictionary as “An extensive tract of land covered with trees and undergrowth”. It accepted that “very short rotation tree crops” include Christmas trees and Salix or Populus coppice, which might comply with the definition. However, it indicated that FMUs in which short rotation tree crops

are the main or single object of management would usually not comply with Criteria 6.2, 6.3, 6.4, 10.1, 10.2, 10.3 and 10.5, and so would not usually be certifiable.

However, FMUs containing areas of short rotation tree crops may be eligible for certification if most of the FMU is devoted to long-term forest management. Such long-term management may be based mainly on plantations, with appropriate natural forest set-asides and restoration areas (Section 5).

This policy has operated since 1998. No changes are currently proposed.

## **12 Other plantation issues**

The FSC P&C do not provide definitive or complete guidance on all the environmental, social and economic issues and challenges facing forest managers today. This section takes note of some major issues which are currently outside the scope of FSC certification, but for which FSC may consider further work in future.

### **12.1 Public Access.**

Public access is a significant social and political issue in forest management, especially in enterprises which are supported by public money or subsidies. Many large plantations depend on the support of public funds, directly through planting grants or indirectly in the form of road access. Certification assessments often include assessment of the provisions for public access.

Public access is a topic that may be addressed in national standards (e.g. under Criterion 5.5) and in each certification decision. FSC has provided no global guidelines, but we recommend that national standards provide indicators and verifiers covering the main forms of access, e.g.:

- (1) indicators of permitted public access for purposes of amenities, recreation, sport and public rights of way, including indicators of compliance with national legislation and best-practice guidelines, and permitted forms of access (e.g. on foot, by animal-transport, or by vehicle)
- (2) indicators of restrictions on public access, especially in areas where soils or endangered species are especially sensitive to disturbance, or in research areas where disturbance must be minimized. These restrictions may allow the forest manager to restrict access to vehicles.

National standards should clarify the legal framework for public access under Principle 1. They may also include other provisions developed by the national standards group, going beyond basic legal requirements.

## **12.2 Implications of climate change**

Plantations are more susceptible than natural forests to diseases and to fluctuations in climate. Current trends in climate change are adding to the risks. Negative impacts on plantations will have corresponding social, environmental and economic impacts.

Conversely, plantations (especially intensive monoculture plantations) can significantly degrade the capacity of the site to regenerate with native species, after the plantations are abandoned, so reducing the ability of the site and the landscape to adapt to climate change.

Managers should consider the risks and the best available advice. National standards may develop indicators. At present, these considerations add to the importance of increasing monitoring and the variety of species and genotypes in plantations.

## **12.3 Carbon sequestration** (based on an FSC discussion paper of July 1998)

Plantations can contribute to carbon sequestration. They can also accelerate release of carbon from soils, especially when they involve drainage of wetlands or conversion of grasslands, and loss of above-ground carbon when they involve conversion of natural forests. The objectives and methods used for sequestering carbon may have strong implications for rotation lengths and planting techniques.

Large amounts of capital are being made available for carbon offset bonds, which are traded internationally and are used to improve the public image of the companies and enterprises involved. Many of the projects associated with carbon offset deals are forest-based projects, which are emphasizing their role in carbon sequestration. Some FSC-endorsed certified forests already obtain funding from carbon projects. An increasing number of candidate FMUs are including carbon sequestration among their objectives of management, and among their justifications for seeking investment funds.

The funds available are used for conservation and forestry projects. FSC-endorsed certification may benefit from such funding, and may also be used to give credibility to the projects involved. Unfortunately, some forestry projects are making dubious claims and a questionable contribution to carbon sequestration. Certification bodies have an obligation to assess fulfillment of the stated objectives of management, in order to certify compliance with Principle 7 and to

avoid misleading or false claims. Unfortunately, it is easier to claim carbon sequestration than to prove it.

FSC needs a policy to ensure that forest management enterprises associated with carbon offset claims are eligible for certification only when the manager can justify the carbon sequestration claims.

FSC-endorsed certification does not provide any endorsement for claims referring to carbon sequestration. FSC has taken no position on any existing systems for “carbon certification”. However, FSC has a responsibility to ensure that managers of certified forests do not make false or misleading claims. Therefore, FSC-accredited certification bodies are expected to assess the basis and reliability of claims made by their clients about carbon certification when

- \* a certification body has reason to believe that funds related to carbon bonds or sequestration are being sought or used by their forest management client, or
- \* carbon sequestration is stated as one of the intended objects, results or benefits of management.

National standards may include guidance on how to handle this issue. Further FSC guidance will be needed.

## **12.4 Agro-Forestry**

Agro-forestry is not usually a form of long-term forest management, so is not currently eligible for certification. Marginal cases are marginal and may be eligible. They are covered by the last paragraph of Subject 2.1 in the FSC Guidelines for Certification Bodies. CBs should consult with the FSC secretariat case by case.

## **13 Definition of “Plantation”**

The FSC definition of Plantations is “Forest areas lacking most of the principal characteristics and key elements of native ecosystems as defined by FSC-approved national and regional standards of forest stewardship, which result from the human activities of either planting, sowing or intensive silvicultural treatments.”

In practice, most of the certified areas that are classified as “plantations” were established by artificial regeneration (with seeds, seedlings or cuttings).

Forests, established by natural regeneration, which have had their structure and composition simplified or degraded by silviculture (in comparison to previous

natural forest), sometimes lose the key elements of native ecosystems. They may correspond to the definition of plantations.

Early stages of natural succession in natural forests sometimes have a relatively simple structure and composition, apparently similar to monoculture plantations. However, the forests would be classified as natural forests, unless this simplicity is the result of intensive silvicultural treatments.

Some forests established or highly modified by artificial regeneration may, with time, achieve a structure and composition similar to original natural forest, and may then be classified as such. Examples include mahogany forests in Sri Lanka, originally planted and now regenerating naturally. Other examples include restoration planting, enrichment planting in tropical forests, and also combinations of natural and artificial regeneration aimed at achieving the structure and composition of natural forest.

These cases have some special implications for certification, with respect to conversion (see section 9). CBs must evaluate each case on its merits, based on the FSC definition and on the elements of the structure and composition of the forest area. National standards may provide indicators.

Section 2.1 of the FSC Guidelines for CBs, Scope of Certification, determines that an area is eligible for certification if it has a structure compatible with FSC's definition of either plantations or natural forests, and complies with all the P&C. This has justified the certification of plantations of rubber trees and, potentially, oil palms. It could justify certification for plantations of other trees that provide NTFPs, with or without timber production.

## **14 NEXT STEPS**

Please send us your comments and suggestions. We need to know:

- 1 Are these explanations a fair interpretation of current practices and policies?
- 2 Can you suggest improvements, to make them clearer and easier to implement consistently?
- 3 What other elements need clarification?

From mid-July 2002, the Head of the FSC Standards and Policy Unit will take over responsibility for developing these interpretations, and incorporating the results into FSC Standards and Guidelines. Any items agreed for future work will be added to the programme of the Standards & Policy Unit

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