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The Effects of FSC-Certification in Latvia

An Analysis of Corrective Action Requests

A study by the WWF European Forest Programme
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February 2005
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1. Summary:

Latvia is one of the countries most dependent on forestry in Europe with forest products comprising roughly 40% of the total export economy. The main export markets for Latvia are European countries, particularly the UK, where the awareness on issues like illegal logging and sustainable forest management is rising. As the illegal logging rate in Latvia is as high as 15 to 20%, forest certification in Latvia is generally seen to secure a niche in the competitive timber market by ensuring legality and sustainability of timber.

This study analyzes the environmental, social and economic benefits certification according to FSC can provide to a country in transition like Latvia. The study is based on the analysis of all corrective action requests (CARs) raised by the certifying bodies at the annual audits. The findings of these audits are listed in public summary reports, which are available on the webpage of the certifying bodies.

Today an area of more than 1.6 million hectare is certified according to FSC, equivalent to 60 % of Latvia's total forest area. FSC certification covers the whole state forest, the Riga City Forest and two groups of private owners with small-sized forest properties. Due to the large size of the state forest, that covers 47 % of Latvia's total forest area, changes in the management of these forests have an enormous impact on Latvia's nature.

Altogether 114 CARs were raised. Half of these CARs affected the ecological sector. 24% of the CARs required improvements in the social sector. 26% of the CARs criticized deficiencies in the economic sector. The communal and privately owned forests had more deficiencies in the environmental sector. On the other hand economic issues were more subject to improvement in state forests.

66% of the CARs were met in the time limit given by the certifier; another 20% of the CARs were partially met. 14% of the CARs were not met in due time. While all the CARs affecting the economic sector were met in time, 9 % of the environmental CARs and 38% of the social CARs were realized in the time limit given by the certifier. The 3 major CARs, that would lead to the suspension of a certificate if not fulfilled in time, were all met.

Ecological issues
Certification according to FSC improved biological monitoring as well as training in modern environmental practices and enforced the implementation of legal requirements like Environmental Impact Assessments on nearly half of Latvia's forest area.
The biological diversity in Latvia was enhanced by an improved protection of habitats and endangered species as well as by specific measures in managed forests.

The FSC certification required the identification and adequate protection of High Conservation Value Forests and woodland key habitats over a total forest area of more than 650,000 ha. This allows particular species to migrate and colonise other sites while remaining viable in their current distribution. FSC certification also enforced proactive monitoring of rare, endangered and protected species over a total forest area of nearly 600.000 ha, when the debate about this issue was still ongoing on a national level.

Certification according to FSC increased the amount of biotope trees and dead wood, habitat for many endangered forest species, and the use of trees of various species, also with a large diameter. A new report by WWF shows that a third of forest dwelling species are depending on deadwood and that deadwood is a key indicator for biodiversity. Given the large forest

area of nearly 450.000 ha affected in Latvia by these changes through FSC this has also a positive effect on large and migrating species. Biodiversity in managed forests was also enhanced by the use of a broader range of tree species in regenerations.

FSC certification reduced the risk of soil damage and compaction through the increased use of heavy machinery like harvesters. Driving is limited to forest roads and skid trails. The appropriate weather conditions are taken into consideration when conducting forest operations like harvesting and thinning. Certification raised also the awareness of forestry staff regarding chemical substances and the protection of water resources.

Social issues

The implementation of the safety and health requirements on site level is the key issue in the social sector. FSC certification improved the safety in the forest for employees and the public by requiring systematic controls of the compliance and improved demarcations of hazardous areas.

Local employment in rural areas was ensured by assessing the negative impact of the increased use of expensive machinery like harvesters, which small local enterprises cannot afford. The state forest had to develop a policy to provide the local communities with opportunities for employment.

Certification according to FSC improved the transparency of forest management. All relevant stakeholders and the local communities are involved in the planning process of forest activities.

Group certification according to FSC provides also a “know how transfer” for inexperienced forest owners and their contractors as the group manager is required to provide adequate training to ensure a high quality of work. This is a key issue in Latvia as due to the restitution process the large number of private owners with small forest properties is mostly inexperienced in sustainable forest management.

Economic issues

Certification according to FSC improved sustainable forest management also in the traditional sense, as it reduced the risk of overexploitation on a forest area of nearly 1.4 Million ha. Before certification, the data of forest inventories were of varying quality and not always accurate although this data is essential to estimate the sustainable annual harvesting volume.
FSC certification required that the expected harvesting volume is predicted on the long-term and compared with the volumes actually harvested, including the thinning volumes

The revenues of the state forest could be enhanced by better adapting forest products and services to market requirements. This led also to positive ecological effects, e. g. the use of a broader range of tree species like noble hardwood in regenerations.

Illegal logging is one of the main problems in Latvia. Certification can not eliminate illegal logging, but the ability to trace more than 3.8 m^3 of certified timber from its origin will make illegal harvesting activities harder. It should be noticed that illegally logged timber, which is recovered by the legal owner, cannot be sold as FSC certified.

The conclusion can be drawn that certification according to FSC has conserved and improved biodiversity in large parts of Latvia, especially at a time when these issues were still debated on a national level and legal stipulations were unclear or weak.

2. Methodical Preamble:

This study is based on the data of public summary reports describing the assessment of each company certified according to FSC by a team of independent experts. Therefore a short description of the certification process is essential to understand the method of this study.
The Forest Stewardship Council is an international non-profit organisation founded in 1993 to support environmentally appropriate, socially beneficial and economically viable management of the world‘s forests. FSC’s governance structure ensures that FSC is independent of any one interest group by requiring an equal balance in power between its environmental, social and economic chambers as well as a balance between interests from the economic north and south. The FSC International Centre sets the framework for the development and maintenance of international, national and sub-national FSC standards based on FSC's 10 Principles and Criteria of responsible forest management.
FSC itself does not certify forest operations or manufacturers, but accredits certification bodies to carry out Forest Management (FM) or Chain of Custody (CoC) certifications. An owner or manager wishing to undergo certification selects a certifying body and then goes through a process of scoping or pre-assessment, a formal application, an audit and then certification. At the audit corrective action requests (or conditions) are raised.
A **Major CAR** (or precondition) is a fundamental failing that must be addressed prior to certification.
A **Minor CAR** (or condition) is a partial failing that does not prevent certification, but must be addressed within an agreed timescale.
There is ongoing monitoring of the certified party with an annual surveillance audit over the term (5 years) of the certification.
Each of the certifying bodies is obliged to publish a public summary of the main assessment and the annual surveillance audits of all certifications. These public summaries are freely accessible via the Internet. With each report is listed all the CARs raised.

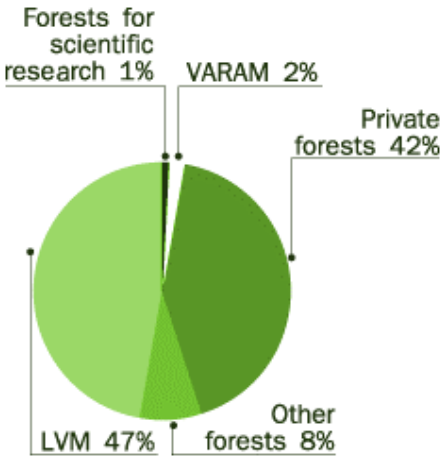
3. Forests in Latvia

Latvia is located in a region where the coniferous-rich Euro-Siberian taiga and the European zone of deciduous forests meet. This forest zone has also been referred to as the boreal-nemoral zone. Nearly half of Latvia's land (45%, 28.870 sq km/2.887 million ha) is covered by semi-natural forest and at present mixed stands are widespread, dominated by Scots pine (*Pinus sylvestris*), Norway spruce (*Picea abies*) and Birch (*Betula spp.*). Other species found commonly are Alder (*Alnus spp*.) and Aspen (*Populus spp.*) while other hardwoods like Oaks (*Quercus spp.*), Lime (*Tilia spp.*) and Ash (Fraxinus excelsior) occur less commonly. Almost 25% of Latvian forests occur on wet soils with half of these classified as swamp forest.
Latvian wildlife is among the richest in Europe. Several species that have gone extinct in most other European countries still have viable populations in Latvia. Latvia retains the last population of black storks (*Ciconia nigra*) within Europe, with approximately 1000 breeding pairs. Other forest species include beavers (*Castor fiber*), otters (*Lutra lutra*), lynx (*Lynx lynx*), lesser spotted eagles (*Aquila pomarina*), and wolves (*Canis lupus*).[1]
Forests are traditionally of high importance for local people as a source of firewood and non-timber forest products. The most common products collected are forest berries (blackberry, raspberry, strawberry, lingon etc) and mushrooms.
Latvia has a forest conservation policy and a program for registration and protection of woodland key habitats (WKH). The State Forest Service under the Ministry of Agriculture carries out a national key habitat inventory of state owned forests assisted by experts contracted by the state forest. A WKH is a habitat, with species, which cannot be sustainably maintained in stands managed for timber production.

During the Soviet era (1940/41 and 1945-90), private land in Latvia was nationalized. Large areas of abandoned agricultural land were afforested naturally. An extensive melioration program was carried out on those areas selected for commercial forestry.
Following the independence of Latvia in 1990 the territory privately owned before World War II was transferred back to the ownership of private persons. This process of restitution is completed for most parts of Latvia. The average size of private properties is about 8 hectares, and Latvia estimates to have more than 160.000 private owners. Due to this process, Latvia has a large proportion of small forest lots owned by people with no experience in forest management at all. The new forest owners typically live in the big cities far away from their property.

Forest distribution by ownership categories (2000 data):

- State-owned forests – 1.43 million hectares (50.2%), of which:
  - 1.37 million hectares (47%) are managed by the Latvian State Stock Company (LVM)
  - 10,000 hectares (1%) are used for scientific research
  - 50,000 hectares (2%) are managed by the Ministry of Environmental Protection and Regional Development (VARAM) in the form of nature reserves, protected areas and national parks
- Privately owned forests – 1.2 million hectares (42%)



[1] *Latvian Environment Data Centre, 2000*

- Other forests – 0.22 million hectares (7.8%)

At the time this study was conducted 11 forest management certificates according to FSC were issued in Latvia. These certificates covered a total area of 1,685,880 ha (which is equivalent to 60 % of Latvia's total forest area) with a total allowed annual cut of 3,854,700 m³ FSC certified timber. All certified forests are semi-natural, mixed conifer and broadleaf.

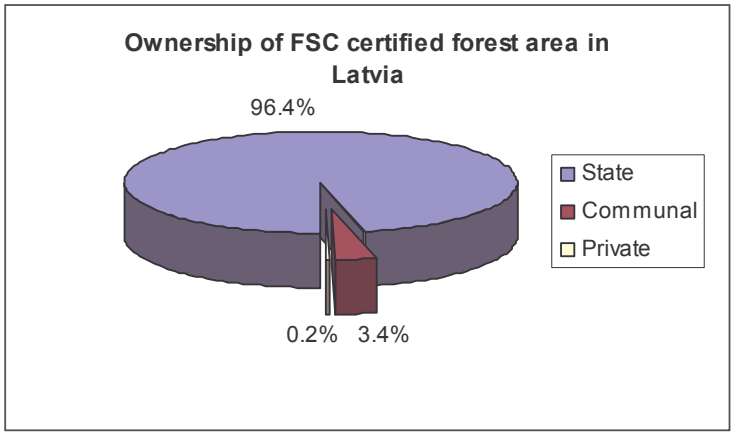
Table 1: FSC certified forests in Latvia

Company	Certificate	Issue date	Ownership	Area (ha)	AAC (m³)
Riga City Forest	SW-FM/COC-153	01.06.2001	Communal	56,766	170,050
Forest Owner Consulting Centre	SW-FM/COC-135	15.01.2001	Private	304	816
Forest 2000	SGS-FM/COC-0660	29.03.2001	Private	2,884	8,160
LVM Austrum Vidzeme	SGS-FM/COC-0788	12.09.2001	State	205,000	520,000
LVM Vidusdaugava	SGS-FM/COC-0933	26.02.2002	State	186,683	470,000
LVM Ziemellatgale	SGS-FM/COC-0934	26.02.2002	State	207,268	467,000
LVM Dienvidkurzeme	SGS-FM/COC-0991	09.04.2002	State	247,363	706,000
LVM North Kurzeme	SW-FM/COC-224	01.01.2003	State	235,687	397,393
LVM South Letgale	SW-FM/COC-225	01.01.2003	State	186,508	369,052
LVM West Vidzeme	SW-FM/COC-226	01.01.2003	State	201,847	391,738
LVM Zemgale	SW-FM/COC-227	01.01.2003	State	155,633	354,347

Source: Public main assessment and surveillance reports of SGS and Smartwood

8 FSC certificates were issued to the 8 regional divisions of the Latvian State Stock Company (LVM), whereby the whole Latvian state forest is FSC certified. The three other forest management certificates were issued to the Riga City Forest and the two private groups Forest 2000 and Forest Owner Consulting Centre.

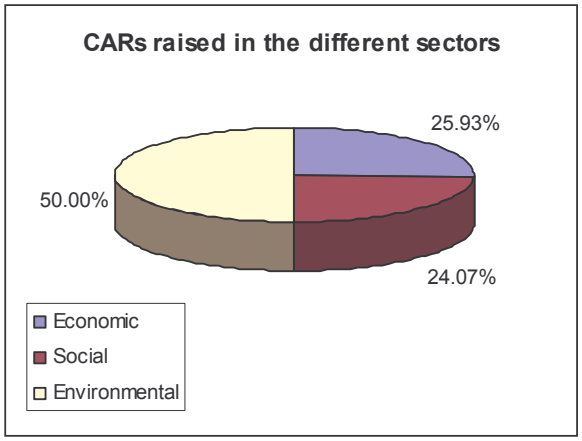
The certification of the state forest has obviously the highest impact on the ground, as it covers 96 % of the total certified forest area.



4. Overview:

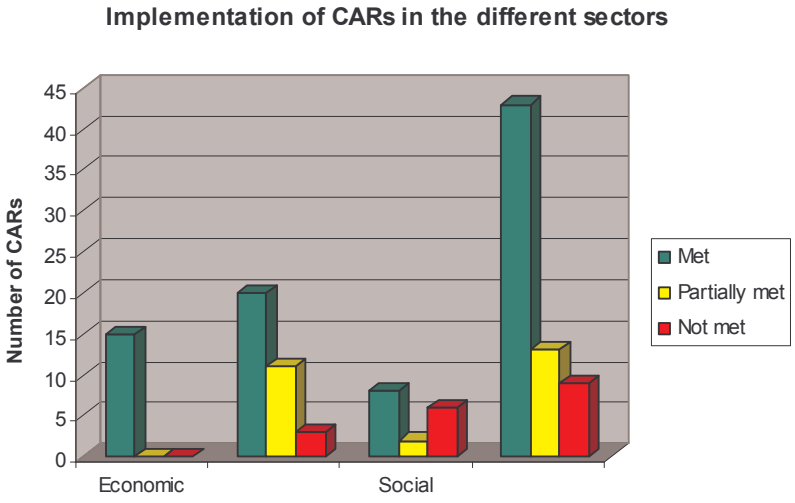
Half of the 114 CARs (54 CARs) affect the environmental sector, 24 % (26 CARs) the social and 26 % (28 CARs) the economic sector. One CAR affects the social and environmental sector; therefore the total of CARs per sector is 108.
A total of 112 Corrective Action Requests (CARs) had to be addressed by the 11 forest owners prior to FSC certification.
85 of all CARs regard the 8 regional state forest divisions, 17 CARs the two groups of private forest owners and 10 the communal forest of the city of Riga.

In total 3 **major CARs** were raised, which were implemented during or following the assessment, as they had to be addressed prior certification. One of the major CARs concerned formal procedures for group certification. The two others regard a state forest division and concerned the safety of forest operations and the maintenance of the ecological function of species diversity. Based on felling approvals planned before the certification broadleaf key species of large diameter were felled while other species were retained.

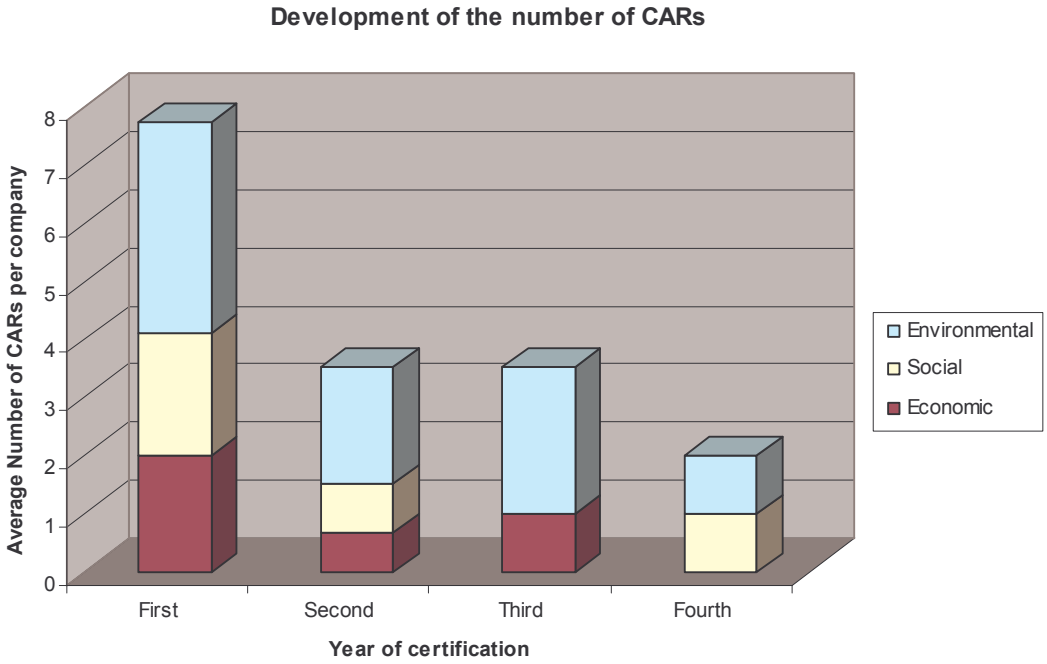


As 5 CARs (including one major CAR) address administrative criteria of group certification they have been neglected to get comparability with the non-group-certifications. Therefore only 12 CARs of the private owner groups and a total of 107 CARs are being used for the analysis below

The analysis of the effectiveness is done on the basis of 48 CARs where verification by the following audit was available. The other 59 CARs were still open at the time this study was conducted.
The implementation differs between the sectors. While all the CARs affecting the economic sector were met in due time, 9% of the environmental CARs and 38% of the social CARs were not realized in the time limit given by the certifier.

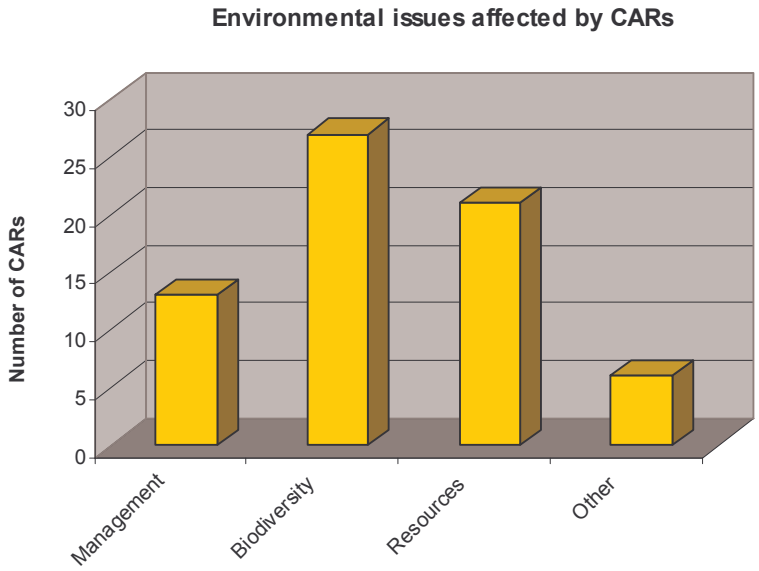


The average number of CARs raised in an annual audit decreases the longer a company is certified. Nonetheless the certifier still finds room for improvement in the audits of the following years as the graph below shows.



5. Ecological changes addressed through the CARs

The main environmental improvements by certification according to FSC were the conservation and enhancement of biodiversity (27 CARs) and the protection of resources like soil and water (21 CARs). The consideration of ecological aspects in forest management including adequate monitoring and training in modern environmental practice was improved.
Keeping in mind that the certified forest area is equivalent to 60 % of Latvia's total forest area, the ecological improvements caused through the FSC process have a high positive impact on Latvia's nature.



In order to analyse the ecological improvements the CARs were sorted by the different issues affected. 49 CARs affect only one issue, 7 CARs affect 2, one CAR 6 and one CAR 7 environmental issues. Altogether the 58 CARs dealing with environmental improvements affect 76 issues.

Other environmental issues

- **Game Management:**
  The only CAR raised to this issue is in relation to a private owner group and demands the development and implementation of a written monitoring strategy to ensure appropriate monitoring of the damage caused by wildlife. This CAR is still open.
- **Harvesting Damage:**
  The 2 CARs raised on this issue concern the 2 private groups. In one case extraction damage was discovered on a harvesting site during the main assessment. Through considering appropriate weather conditions and using brash mats to protect the extraction route the CAR could be marked as completed at the following audit. The other private group had to develop and implement a written monitoring strategy to ensure appropriate monitoring of damage caused by logging operations. This CAR is still open.
- **Invasive Exotic Species:**
  The 3 CARs regarding this issue were all raised at the main assessment of one of the private groups. Giant hogweed (*Heracleum mantegazzianum*) seems to be a significant problem for one property as it is mentioned by 2 CARs. Throughout the certification period the private group has to monitor the spread of the species, to inform affected neighbours and local authorities and to take steps to reduce the negative impact on the ecosystem. Forest management activities that risk favouring the spread of invasive species shall be avoided. Furthermore a monitoring strategy has to be developed, including the monitoring of the spread and impact of hogweed or other invasive species. The third CAR required the development of a template management plan including guidelines for the use of exotic species.

5.1 Environmental management:

Certification according to FSC improved biological monitoring as well as training in modern environmental practices and enforced the implementation of legal requirements like Environmental Impact Assessments on nearly half of Latvia's forest area.

An adequate management is the basic requirement for environmental protection. This includes planning and monitoring as well as training of the staff in modern environmental practices.
The understanding and evaluation of the impact of forest management practices on the environment is essential for assuring progressive improvement of forest ecosystems in that respect. Bearing in mind that each forest operation has both positive and negative environmental consequences, this assessment plays a key role as basis for the promotion of sustainable forest management. An Environmental Impact Assessment (EIA) is accepted to be an adequate instrument for this issue.

According to the Latvian FSC standard, the assessment of environmental impacts shall be completed appropriate to the scale and intensity of the forest management and the uniqueness of the affected resources and adequately integrated into the management systems. The environmental impacts shall be assessed prior to the commencement of site disturbing operations.

General environmental gaps are mentioned in 13 CARs regarding the 8 state forest divisions and a private group. 4 state forest divisions did not conduct an environmental impact assessment (EIA) as required by Latvian legislation. At the following audit a year later, 3 of them had to establish procedures to ensure that significant potential negative environmental aspects of road construction are identified for each road construction project. Furthermore, they had to analyse the effect of these identified impacts to surrounding nature values (e.g. protected areas, woodland key habitats, wet sites, watercourses) and to take steps to minimise negative impacts identified.

2 state forest divisions had no clear procedures for biological monitoring. In one case management staff and forest workers did not have sufficiently adequate training in modern environmental practices. In another case not all environmentally sensitive forest operations were identified and written guidelines prepared and implemented. One CAR criticized that not all the social and ecological objectives stated in the regional management plan had timetabled targets consistent with other objectives. The private group had to develop guidelines for establishment of trails.

Although it is required by the Latvian legislation, 4 State Forest Divisions did not conduct an EIA at all. The certification according to FSC enforced the implementation of legal requirements and strengthened forest governance. Especially regarding road constructions an EIA is essential to reduce negative environmental impacts already during the planning phase. At the following audit a year later this issue was further specified regarding road constructions. An adequate road and trail network is crucial for the utilisation of forests and reduces the risk of soil compaction. On the other hand a road construction may have negative impacts on the visual landscape, the hydrological regime and the soil erosion. The opening of forests increases the pressure by logging and other human activities, e. g. hunting and recreation.

Monitoring is another key instrument to assess the effect of forest management practices on the ground and to identify weak points. Two State Forest Divisions had to develop consistent and replicable procedures for monitoring. Monitoring as a weak point is mentioned also in other more specific issues, e. g. endangered species, habitat and regeneration.

Altogether certification according to FSC improved the environmental management in the whole state forest, which is equivalent to nearly the half of the Latvian forest area.

5.2 Biodiversity:

FSC certification enhanced biological diversity in Latvia by an improved protection of habitats and endangered species as well as by specific measures in managed forests.

The conservation and enhancement of biodiversity is a key issue of sustainable forest management. Biological diversity includes diversity within species (genetic diversity), between species and of ecosystems. Forests with high biological diversity are usually more stable against outside influences than those with low biodiversity.

The Latvian FSC standard requires therefore the conservation of biodiversity and its associated values (*Principle 6*). This can be done by protecting endangered and rare species and their habitats as well as areas with a high biodiversity like high conservation value forests. Another approach is the enhancement of biodiversity in managed forests. The role of managed forests, and of sustainable forest management, is of vital importance for the conservation and enhancement of biological diversity. Biodiversity in managed forests can be enhanced by a broad range of indigenous tree species and the retention of biotope trees and dead wood with a broad range of species and diameters. Appropriate management is needed, including monitoring and training of the staff on the specific requirements for the conversation and enhancement of biodiversity.

The 2 CARs raised on this issue regard the communal forest and one private group. At the beginning of certification the staff of the communal forest lacked understanding of specific biodiversity conservation requirements. The CAR was only partially met in the next audit. Despite training conducted in cooperation with the Latvian Fund for Nature, the certifier still found room for improvement in the subsequent audit and required an additional training of the staff on forestry and operational levels. This CAR was not met in the following audit, but 2 months later in an additional audit.
The private group had to develop and implement a written monitoring strategy to ensure appropriate monitoring of the management of areas for improved biodiversity.

Even if corrective actions directly related to the management of biodiversity were required only two times, the effects of certification on the improvement of biodiversity is considerable. Many corrective actions were required in related issues like the protection and conservation of endangered species and their habitats, the retaining of dead wood and biodiversity trees and the tree species composition. Due to large forest area affected by FSC improvements in Latvia a high positive impact on Latvia's Nature can be expected.
The analysis shows that FSC certification improves the protection of key habitats and endangered species, but also the conversation and enhancement of biodiversity in managed forests.

a) Habitats, High Conservation Value Forests (HCVF) and Conservation Zones:

The FSC certification required the identification and adequate protection of High Conservation Value Forests and woodland key habitats over a total forest area of more than 650,000 ha. This guarantees that particular species are able to migrate and colonise other sites while remaining viable in their current distribution.

Habitat loss is the main cause for species extinction. The protection of the habitat is therefore essential for the conservation of rare and endangered species. Protected areas per se focus on the conservation of biological diversity and the maintenance of natural ecological processes. Protected areas represent one of the oldest instruments for protecting nature and natural resources and are included as a main pillar in nature conservation laws in all European countries. As however only a small percentage of the world´s forests can be found in protected areas, additional measures are needed in managed forests.

The Latvian FSC Standard requires the protection of representative samples of existing ecosystems within the landscape in their natural state as well as the identification and establishment of conservation zones and protection areas, appropriate to the scale and intensity of forest management and the uniqueness of the affected resources (*Criterion 6.2 and 6.4*). Management activities in high conservation value forests shall maintain or enhance the attributes, which define such forests. Decisions regarding these forests shall always be considered in the context of a precautionary approach (*Principle 9*).

This issue was mentioned by 13 CARs regarding the communal forest (2 CARs), the two private groups (5 CARs) and 4 state forest divisions (6 CARs). In the communal forest an audit of their potential key habitats and appropriate protection of identified additional key habitats was required. Meanwhile stands prepared for sale on auctions had to be checked for HCVF. In cases where HCVF was identified, they had to be exempted from operations. The Riga City Forest initiated a project to identify key habitats and HCVF in cooperation with the Latvian Fund for Nature. Thus this gap could be closed at an audit 2 years later. Unfortunately some of the sites with key habitats were already prepared for logging at a time when the list of key habitats and HCVF did not exist. Logging operations on these sites were discovered in an additional audit 2 months after the first CAR was closed and lead to another CAR that required to stop immediately logging on these sites.

In 3 state forest divisions High Conservation Value Forest (HCVF) and old growth forest attributes have not been defined in sufficient detail nor sufficiently been consulted on. Neither a clear methodology on how to identify HCVF nor an adequate identification and documentation of HCVFs existed. In one case where the verification by the following audit was already available the gap was closed. The woodland key habitat inventory of another state forest division was of poor quality. This gap was closed by a detailed inventory and the elaboration of a manual for monitoring woodland key habitats.
A private group had a continuous problem in reviewing existing sources of information concerning the habitats of protected, rare and endangered species and to update the management plan of the properties covered by the certification. The CAR raised in the main assessment was only partially met as the certifier still found room for improvement. As the superceding CAR was added in the final review of the audit report the group manager was not aware of this addition and so the CAR was not met at the next audit. This lead to a new superceding CAR, that is still open. The same group had to establish conservation zones in a way that properties belonging to each owner fulfil the 5% minimum requirement and to

develop guidelines for management or protection of these zones. While one CAR was closed in the following audit, the CAR regarding the management guidelines was ongoing for the case of group expansion. One year later in the following audit a new CAR required the development and implementation of a written monitoring strategy for the protection of conservation zones.
A member of the other private group marked a wrong zone for long-term retention. This CAR is still open.

The FSC certification required the identification and adequate protection of High Conservation Value Forests and woodland key habitats at the Riga City Forest and three State Forest Divisions. The audits on high conservation value forests were requested in 2001, when the consultations on HCVF on a national level were still ongoing. As they concerned a total forest area of more than 650,000 ha it provides not only the conservation of high value selected sites, but also the connectivity of such sites, allowing particular species to migrate and colonise other sites while remaining viable in their current distribution.

b) Endangered Species:

FSC certification enforced proactive monitoring of rare, endangered and protected species at a total forest area of nearly 600.000 ha, when the debate about this issue was still ongoing on a national level.

The most recognisable form of depletion of biodiversity lies in the loss of species (fauna and flora). Slowing down the rate of species extinction due to anthropogenic factors is a key objective of the conservation of biodiversity. Changes in forest species population levels may also provide an early warning of changes in vital forest ecosystem functions.

The Latvian FSC standard requires therefore the identification and monitoring of endangered, rare and protected species and the establishment of safeguards for their protection (Criterion 6.2).

The 4 CARs on this issue regard a private group and three state forest divisions. The 3 CARs concerning the state forest divisions criticize inadequate monitoring data and management planning for rare, threatened and endangered species. The issues concerning protected species were still being debated at national level especially on how to integrate management planning with current EU legislation. In the absence of data from the Ministry for Environment who is formally responsible, no plan to progress monitoring proactively was developed.

A private group had a continuous problem in reviewing existing sources of information concerning protected, rare and endangered species and their habitats in order to update the management plan of the properties covered by the certification. The CAR raised in the main assessment was only partially met as the certifier still found room to improvement. As the superceding CAR was added in the final review of the audit report the group manager was not aware of this addition and so the CAR was not met in the next audit. This led to a new superceding CAR that is still open.

Although monitoring of rare endangered and threatened species is formally the legal responsibility of the Ministry for Environment, in 2001 the data was scarce and lacking in accuracy. FSC certification led to proactive monitoring of a total forest area of nearly 600.000 ha in three state forest divisions, when the issues concerning protected species were still being debated on a national level.

c) Tree species composition:

Biodiversity in managed forests was enhanced by the use of a broader range of tree species in regenerations.

Species diversity and dynamics of forests and woodland ecosystems depend considerably on the composition of tree species. Multispecies forests and woodlands are usually richer in biodiversity than monospecies forests and woodlands.
Natural regeneration contributes to conserving the diversity of the genotype and to maintaining the natural species composition, structure and ecological dynamics. However, it has to be considered, that natural regeneration is not always feasible to reach adequate management and conservation goals.

The Latvian FSC standard requires therefore a mixing-in of broadleaved species of at least 10% in conifer stands, the retention of indigenous undergrowth species, the use of natural regeneration, where it ensures well-timed and economically efficient forest regeneration, and the regeneration of specific broadleaf species in forest stands dominated by them (Criterion 6.3).

The 4 CARs raised on this issue concern the communal forest, a private group and 2 state forest divisions. The communal forest has to implement a plan to broaden the range of species used for regeneration including noble hardwoods. The private group has to ensure appropriate monitoring of the regeneration including the species composition and the quality.

The absence of a rationale for the rate of species conversion without quantified targets and monitoring were criticized in one state forest division where some areas of Aspen and White / Grey Alder were converted to Birch or Spruce. The other state forest division used the natural regeneration by Aspen on cost considerations only, but without an adequate consideration of silviculture or ecology. The only CAR raised on this issue demanded the development and implementation of a written monitoring strategy to ensure appropriate monitoring of the regeneration, including species composition and quality. This CAR is still open.

74% of the pine stands in Latvia are pure stands, as clear cutting followed by planting mainly conifers has been the dominating practice during the Soviet era2.

FSC certification led to a broader range of tree species used in regeneration at the Riga City Forest and to an increased consideration of ecological aspects in the case of species conversion at two state forests.

[2] LVM Homepage, 2004

d) Dead Wood and Biodiversity Trees:

Certification according to FSC increased the amount of biotope trees and dead wood, habitat for many endangered forest species, and the quality by using trees of various species, also with a large diameter. In account of the large forest area of nearly 450.000 ha affected by these changes this has also a positive effect on large and migrating species.

Individual biotope trees and dead wood are essential for the conservation of biodiversity. Biotope trees fulfil special functions like nesting sites or habitat for rare epiphytes, insects, mushrooms and other organisms living on old trees. Deadwood in form of snags (dead standing trees) and logs (dead lying trees) is a habitat for a wide array of organisms and after humification an important component of forest soil. Many species are dependent, during some part of their life cycle, upon dead or dying wood of moribund or dead trees (standing and fallen), or upon wood-inhabiting fungi or other species. It provides even a source of food for large mammals like bears. Because of lack of deadwood many of the dependent species are endangered. In addition to the amount of deadwood, a broad range of diameter and dead tree species is an important factor, as some of these species are dependent on a single tree species or specific diameters[3].

The Latvian FSC standard requires the retention of at least 10 live trees per ha and the retention of large dimension dead trees and their parts in different stages of decomposition (*Criterion 6.3*).

6 CARs were raised on this issue regarding the communal forest (2 CARs), a private group (1 CAR) and two state forest divisions (3 CAR). The communal forest had to elaborate and implement procedures on preserving dead wood during thinning and harvesting operations and procedures, ensuring that a sufficient number of larger-than-average wind resistant trees are chosen, representing a broad range of species. The private group had to develop a template management plan with selection and protection of biodiversity trees including a minimum average number per hectare.
Due to not sufficient training in environmental aspects the staff of one state forest division still had gaps in environmental awareness, with respect to modern forestry management practices for the biodiversity value of surface deadwood with large diameter. Through the retention of only a single or a few tree species as biodiversity trees, the ecological function of species diversity was not always being maintained.

Despite training regarding deadwood and trees needed to retain for biodiversity this was as yet not effectively incorporated into site-practice at the other state forest divisions. Therefore opportunities for the retention of deadwood and trees for biodiversity were not being utilised.

FSC certification required an increased amount of dead wood and biotope trees with a larger-than-average diameter, representing a broad range of species on a total forest area of nearly 450,000 ha at the Riga City Forest, two state forest divisions and a private forest owner group.

[3] WWF; Dead wood – Living Forests; 2004

5.2 Protection of resources

a) Soil:

FSC certification reduced the risk of soil damage and compaction by the increased use of heavy machinery like harvesters.

Soil condition is the basic source of ecosystem stability. Acidification and changes in chemical soil properties directly or indirectly affect crown conditions and species composition. Soil compaction reduces the pore space and therefore the intake capacity for water available for the trees. This leads to a higher surface run-off and in some cases to erosion, while plants suffer from water shortage. The main cause for soil compaction is the use of heavy machinery, especially on wet soil. As almost 25 % of the Latvian forests occur on wet soils and the use of heavy machinery increased, reducing the negative impacts on soil is an important issue for sustainable forest management in Latvia.

The Latvian FSC standard requires that no methods and technologies causing locally increasing soil compaction, swamping, or wind and weather erosion shall be used in forest management. Furthermore it requires the preparation and implementation of written guidelines to control erosion (*Criterion 6.5*).

11 CARs were requested on the issue of soil protection regarding the communal forest, a private owner group and 5 state forest divisions (9 CARs). The communal forest had to elaborate and implement procedures that limit driving on forest stands in order to lower the level of soil damage, soil compaction and damage to biodiversity trees. The private group had to develop guidelines for soil scarification and forest operations on wet ground. This CAR was partially met.
At one state forest division thinning operations were taking place in wet conditions in springtime to suit long-term contract commitments although this favours soil damage. The other 4 state forest divisions had to prepare and implement guidelines for evaluating and measuring an acceptable level of soil damage and establish a mechanism ensuring that harvesting on sensitive site types only takes place in appropriate weather conditions. This CAR was closed at the following audits of all 4 state forest divisions, but another CAR was raised requiring to conduct an environmental impact study on the use of heavy machinery such as forwarders and harvesters in the forest and to take steps to reduce or avoid identified negative impacts. The study had to consider suitable and unsuitable site types for heavy machinery and the need for limiting the driving to permanent trails and other measures to avoid soil damage and soil compaction. This CAR is still open.

A high number of corrective actions were required on the protection of soil, especially to avoid or limit soil compaction. FSC certification led to a better consideration of the weather conditions when conducting forest operations like harvesting and thinning. Heavy machinery like harvesters play an increased role in forest operations of the Latvian State Forest. This provides a higher productivity and eased working conditions, but carries the risk of soil compaction.
FSC certification required to conduct an environmental impact study on the use of heavy machinery in the forest and to take steps to reduce or avoid identified negative impacts at four State Forest Divisions with a total forest area of nearly 780,000 ha.

b) Water Pollution Control, Chemicals and Toxics:

Certification raised the awareness of forestry staff regarding chemical substances and the protection of water resources.

Water is an essential resource for life. Well-managed natural forests provide benefits also to local populations in terms of high quality drinking water[4].
However, forest operations carry a risk of water pollution e.g. through mineral oil. Also the inappropriate use of chemicals and toxics can lead to water pollution. Furthermore these toxics may contaminate the soil and accumulate in the food chain beyond their intended use.

The Latvian FSC standard requires to promote the development and adoption of environmentally friendly non-chemical methods of pest management and to avoid the use of chemical pesticides (*Criterion 6.6*). Chemicals, containers, liquid and solid non-organic wastes including fuel and oil have to be disposed of in an environmentally appropriate manner at offsite locations (*Criterion 6.7*). Furthermore written guidelines have to be prepared and implemented to protect water resources (*Criterion 6.5*)

Water protection was mentioned in 2 CARs regarding 2 state forest divisions. One CAR criticised the lack of adequate pollution control measures protecting water resources from environmental sensitive operations like harvesting and timber transportation. Even though this is an existing requirement of the state forest it did not achieve compliance. Also timber lorries did not carry any pollution control materials. This CAR was closed at the following audit as it was tackled by the state forest division via their Nature Protection and Labour Safety seminars, where pollution control kits were specified and examples were shown. The information was disseminated down and implemented on site level. At the other state forest division timber lorries were not required to carry any pollution control materials. (CAR still open)

The 6 CARs raised on chemicals and toxics regard one private group and 5 state forest divisions. The private group had to develop a template management plan, including guidelines for the use of pesticides and fertilizers within 3 months of certification.
3 of the 5 CARs regarding the state forest division criticised that the use of biodegradable chainsaw lubricants is not a policy, despite its availability.

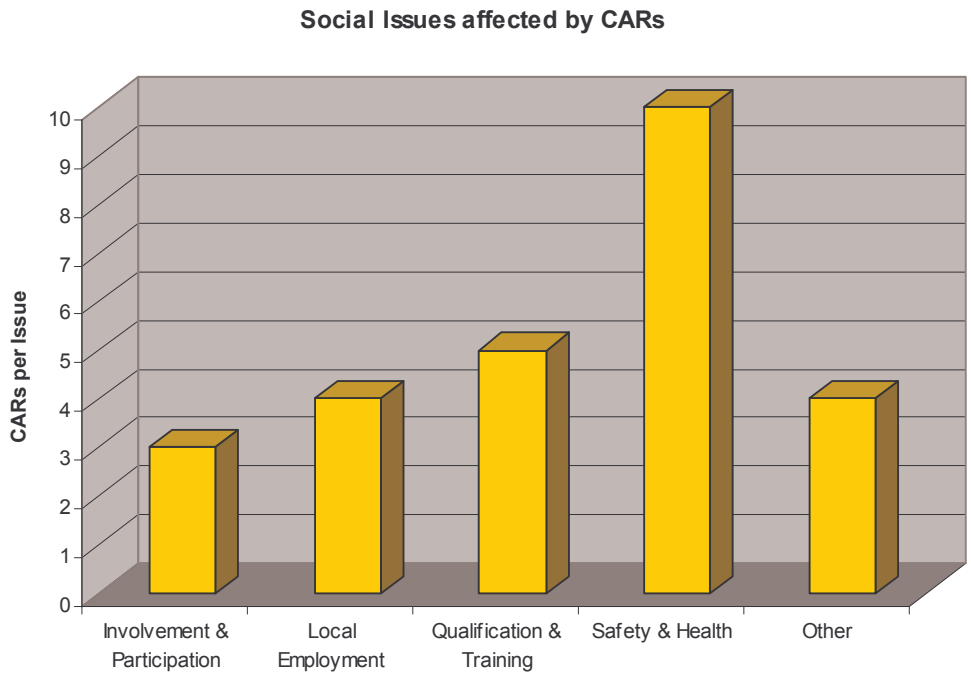
The remaining 2 CARs are in relation to the use of insecticides. “Fastac” which is used against weevil (Hylobius abietis) damage on replanted young trees. The management staff did not know the active ingredient, and the chemical reduction targets for the next five years were not clearly set out. One state forest division also had to put a waste disposal procedure in place for chemical containers and residues instead of burning them.

Obviously chemicals and toxics like insecticides, pesticides and fertilizers do not play a major role in Latvian forest management, but FSC certification raised the awareness of the state forestry staff on this issue as well as on the protection of water resources from environmental sensitive forest operations. The use of biodegradable chainsaw lubricants reduces the environmental impact of harvesting operations on soil and water resources.

[4] WWF / World Bank: Running Pure, 2003

6. Social changes addressed through the CARs

The main social improvements by certification according to FSC were the implementation of safety and health guidelines at site level (10 CARs). Other important issues were the qualification and training of forest owners, workers and contractors (6 CARs) as well as the involvement of all relevant stakeholders and the participation of local communities in the planning process of forest activities (5 CARs).
Altogether the social sector was mentioned by 29 CARs. Each CAR affected a single issue.



Other social issues:

- **General:**
  One general CAR was raised in the social sector regarding a state forest division where not all the social objectives stated in the regional management plan had timetabled targets consistent with other objectives.

- **Historic and Cultural Sites:**
  The 2 CARs raised on this issue regard 2 state forest divisions. In one case sites of special cultural and historical significance were entered into a database, but were not recorded on maps. This CAR was met and closed in the next annual audit.
  At the other state forest division not all sites of special cultural and historical significance had been identified.

- **Recreation:**
  One CAR was raised on this issue, as a state forest division had no timetable target for developing management plans for recreational sites

6.1 Safety and Health:

The implementation of the safety and health requirements on site level is a key issue in the social sector and was enforced by systematic controls of compliance.

Forestry continues to be one of the most hazardous sectors in most European countries. The prevention of occupational accidents and occupational diseases of the forestry workforce is an important social aspect of sustainable forest management.

According to the Latvian FSC standard the forest management should meet or exceed all applicable laws and regulations covering the health and safety of the employees and their families (*Criterion 4.2*).

Mentioned by 10 CARs safety and health is the key issue in the social sector. 4 CARs concerned the communal forest, one CAR a private group and 7 CARs 6 state forest divisions. In general, the implication of the safety requirements on site level seems to be difficult. The communal forest had to establish an internal audit system to ensure systematic control of compliance with forest workers' health and safety requirements. Although the enforcement of the health and safety requirements was probably not possible in cases where wood was sold for "social needs" to locals in need of a small amount of fire wood, this CAR was partially met and superseded by a new one to strengthen this enforcement. The field visit of the following audit showed contractors lacking almost all basic health and safety requirements. Therefore the new CAR was not met and the deadline was extended with 2 months. Then this CAR was partially met and superseded by another CAR to complete the enforcement. If a significant improvement cannot be verified at an unannounced audit, the certificate will be suspended. The second CAR requiring that warning signs are in place on logging sites for the protection of the public was met in the given time frame.

At the private group owners and contractors working in the forest had no chainsaw certificates. This CAR is still open.

Also in the 6 state forest divisions not all safety and health requirements were implemented on site level. Hazardous areas and hazardous substances were not adequately demarcated, appropriate safety equipment like protective clothing or first aid kits were not always available and in use, a proactive accident prevention system was not maintained. In one case where verification by the following audit was available, the CAR was met.

The implementation of safety and health requirements on site level is obviously a major problem in forest management. While guidelines for the safety and health requirements exist they are not, or only partially, realized by workers and contractors. The certification according to FSC required an enforced a systematic control of the compliance with the forest worker's health and safety requirements including the adequate demarcation of hazardous areas to protect the public. This improves the work safety on a total forest area of more than 1.3 Million ha at six State Forest Divisions, the Riga City Forest and the forest properties of a private owner group.

6.2 Local Employment:

Local employment in rural areas was improved by assessing the negative impact of the increased use of heavy machinery in state forests and by developing a policy to provide the local communities with opportunities for employment.

Employment provided by forestry is an important indicator for the social benefits generated by forests, especially for a sustainable rural development. Employment in the forestry sector has been falling in almost all European countries. This trend continues notwithstanding policy efforts to maintain rural employment.

The Latvian FSC standard requires to give the communities within or adjacent to the forest management areas opportunities for employment (*Criterion 4.1*)

The 4 CARs raised on this issue concern 4 state forest divisions. They had to analyse the social impact on local communities, including consequences for local employment and economy resulting from the increased use of mechanized harvesters. Based on this analysis they had to prepare and implement a policy on providing local communities with opportunities for employment, training and other services within their forest operation. As the technical requirements for using harvesters by the roundwood division might not favour the intention of this CAR it was not met in the following audit and the deadline was extended for 6 months. Therefore at the time this study was conducted the CARs were still open.

Heavy machinery like harvesters plays an increased role in forest operations of the Latvian State Forests. This provides a higher productivity and eased working conditions, but beside the risk of soil compaction (see 5.2.a) it has a negative social impact regarding the employment of the local population, as small local enterprises cannot afford such expensive forestry machinery. Only a few large companies own a harvester. Thus the round wood supply policy of the state forest has negative implications for local employment.

FSC certification required to analyse the impact on local communities and local employment resulting from the increased use of harvesters. Based on the analysis they had to develop a policy to provide the local communities with opportunities for employment. This affects half of all state forest divisions. Therefore this measure is likely to have a high impact on the employment market in rural areas.

6.3 Involvement and Participation:

The involvement of all relevant stakeholders and the participation of local communities in the planning process of forest activities were improved by certification according to FSC.

Forest management is an important issue for local communities. Along with the timber supply, forests provide other invaluable protective functions. Forests are also important to human well being for their spiritual, inspirational and recreational values. Therefore the interests of local communities and relevant stakeholders are important to be taken into account and incorporated into forest management planning.

The Latvian FSC standard requires the consultation with people and groups directly affected by management operations (*Criterion 4.4*). Furthermore, the forest manager shall make publicly available a summary of the primary elements of the management plan (*Criterion 7.4*).

The 4 CARs on this issue concern a private group and 3 state forest divisions. The private group had to identify and consult owners of the neighbouring property prior to any activities that might have a negative impact on neighbouring properties. The results of the consultation should be documented including steps taken to avoid any risk of negative impact. As no activities with negative impact on neighbouring properties had taken place until the following audit this CAR was met only partially and was kept open.

The local stakeholder lists of the three state forest divisions had gaps and omitted regional environmental boards and important NGOs. 2 state forest divisions did not clearly present all forest management district plans to the local communities.

Certification according to FSC led to an increased participation of stakeholders and local communities. Although lists of relevant stakeholders existed before, at three forest divisions these lists were incomplete and omitted stakeholders like regional environment boards, important NGOs or the cultural monument protection inspectorate. Two of the state forest divisions did also not clearly present all forest management district plans to the local communities. FSC certification required to close the gaps of the stakeholder lists and to enforce the transparency of the forest management.

6.4 Qualification:

Group certification according to FSC provides a "know how transfer" for inexperienced forest owners and their contractors as the group manager is required to provide adequate training to ensure high quality work.

An adequate qualification of forest owners, workers and contractors is essential so that the quality of work carried out in the forest is according to the FSC standard. Forestry is one of the most hazardous sectors and adequate qualification is vital for the safety and health of the forest workers. Regarding the changes in forest management practice required by certification according to FSC, an additional training also of experienced forest workers may be necessary, e. g. on the issue of biodiversity trees and dead wood.

According to the Latvian FSC standard the forest manager shall advance to subcontractors the same vocational competence demands the FSC standard requires. On introducing in forest operations novel technologies and equipment the needs of employee training and retraining shall be met (*Criterion 4.1*). In addition forest workers shall receive adequate training and supervision to ensure proper implementation of the management plan (*Criterion 7.3*).

The 5 CARs raised on this issue concern a private group and 4 state forest divisions. The private group had to outline a plan detailing mechanisms to ensure the high quality of the work carried out in the forest by owners and contractors according to FSC standards. The purpose of this CAR was to assist new forest owners entering the group with little knowledge on forest management and biological considerations. As the group did not expand as rapidly as expected there was no urgent need for such a training plan. Therefore the CAR was not met and was kept open.

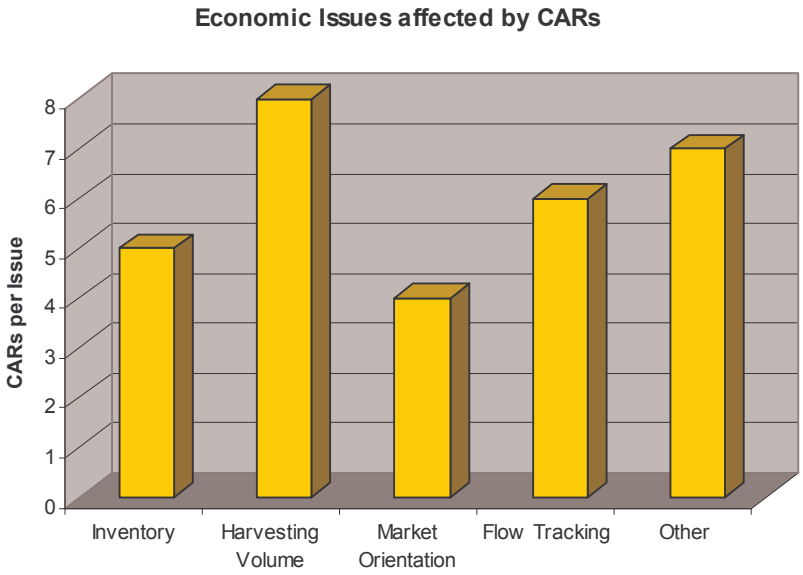
To ensure that all staff are familiar with the guidelines and requirements, the 4 state forest divisions had to translate the documents describing procedures relevant to forest workers into Russian and disseminate to Russian speaking contractors as well as provide training targeted at this group of workers. These CARs were all met in the given time frame.

For the private forest owners in Latvia, qualification and training is one of the most important benefits of FSC certification. Due to the process of restitution 42 % of Latvia's forest is in possession of more than 160.000 private owners, which typically live in the big cities far away from their property and are not experienced in forest management. As the average size of these private properties is very small, group certification is particularly appropriate. FSC certification requires the group manager to provide training to forest owners and contractors to ensure the high quality of the work, if the forest owners are not able to provide adequate training.

Translating the documents and guidelines relevant to forest workers into Russian ensures that the work carried out by Russian speaking workers and contractors is of high quality and in accordance to the FSC standard and anticipates the discrimination of the Russian speaking minority.

7. Economic changes addressed through the CARs

The main economic improvement effected by certification according to FSC was the enhancement of the quality of forest inventories, including the verification of the long-term sustainability of the actual harvesting volume (13 CARs). Other important issues were the identification of all products leaving the forest in order to be able to trace them from its origin and to prevent fraudulent use of the FSC logo (6 CARs) as well as the valorisation of forest products and services in conformity to market requirements (4 CARs). In comparison with these issues the misspelling of the correct certification code and a logo use in conflict with the FSC logo guide (5 CARs) seem to be quite unimportant and will not be discussed further.
Altogether the economic sector was mentioned by 28 CARs. One CAR affected two issues, the others only a single issue. Therefore the total number of issues affected by economic CARs is 29.



- **Management Plan:**

  The CAR raised on this issue regards a private group where adequate management plans were not available for all forest properties. A full management planning documentation has been prepared only for properties in which forest operations are currently active or planned within the 5 year period of the certification. The other properties were covered by a brief statement of intent, which included a description of the resource, and an outline of objectives.

- **Documentation:**

  The CAR raised on this issue regards a single state forest division. The maps available showed land ownership and some protected areas, but no planned management activities like thinning, felling, replanting, road repairs etc. A system of maps for this purpose confirmed by the state forest division did not exist.

- **Logo Use:**

  5 CARs were raised on this issue regarding the communal forest and 4 state forest divisions. The communal forest had to ensure that all publications and electronic uses of the FSC Logo is in accordance with the FSC logo guide and send to the certifying body for approval.

The 4 state forest divisions had to ensure that the correct certification code is used on all invoices of certified wood. The certification code consists of the abbreviation of the certifying body, "FM/COC" for the forest management certification and a certification registration number to identify the certified company. In the criticized cases the abbreviation of the certifying body was not correct, the certification registration number was written at the other side of the page or "FM/COC" was missing in the certification code.
These CARs were still open at the time this study was conducted.

7.1 Inventory and Harvesting Volume:

Certification according to FSC improved sustainable forest management also in the traditional sense, as it reduced the risk of overexploitation of a forest area of nearly 1.4 Million ha. Before certification, the data of forest inventories were of varying quality and not always accurate although this data is essential to estimate the sustainable annual harvesting volumes.

Forest inventory is a key issue in sustainable forest management, as accurate forest data is essential for long-term management. Appropriate knowledge of the standing volume and the annual increment is the basis to define the annual allowable cut and to avoid unsustainable exploitation.

According to the Latvian FSC standard the management plan shall provide a description of silvicultural or other management systems, based on the information gathered through resource inventories as well as a rationale for the rate of the annual harvest (*Criterion 7.1*). In the forest inventory the increment of the standing timber volume has to be determined and the changes in the area covered by forest have to be established (*Criterion 8.2*). The rate of harvest of forest products shall not exceed levels which can be permanently sustained (*Criterion 5.6*).

The 5 CARs raised on forest inventories regard 5 state forest divisions. At one of them the forest stand data was not always accurate. Even the district managers confirmed the need to correct significant inaccuracies within the data produced from the recent inventory.

The other 4 state forest divisions had to implement an adequate control mechanism to verify the quality of all forest inventories carried out thereafter and ensure that the forest inventory results comply with existing requirements. This CAR was met by all 4 state forest divisions in the following annual audit.
8 CARs were raised on the harvesting volume regarding a private group and 7 state forest divisions.
The harvesting level of the private group was already in the main assessment higher than the long-term sustainable annual logging level. This was justified with the fact that most of the forest properties have been taken over by the current forest owners in the year of the main assessment and that the harvesting activities the previous years have been very low or lacking due to the lack of legal owners during the privatization process. An audit two years later found that the annual harvest still significantly exceeded the annual allowable cut. Therefore the private group had to present a technical description of the procedures for estimating the Annual Allowable Cut and to document to the certifying body that the current harvesting level is within the limit of the AAC.
4 state forest divisions had to complete the long-term projections of forest species and age structure as well as expected harvesting volume per area for at least the coming 30 years.

The volume prediction of another state forest division for comparison with the actual harvesting volume was not always accurate. The basal area figures required for work instructions to the contractors for thinning removal were found to be highly inaccurate on more than one occasion. Also the thinning volumes had to be monitored as well as from clearfells for assessment of overall yield.

2 other state forest divisions did not always compare the volumes harvested with those predicted. Although the state forest division is usually told the actual volume by the purchasing contractor, actual timber measurements at the roadside of the volumes reportedly harvested are only sometimes but not always compared against the predictions from standing measurements and sample plots and recorded.
The 4 CARs where verification by the following audit was available were all met.

Certification according to FSC enhanced the quality of the forest inventories on a total forest area of nearly one million ha at five state forest divisions. Furthermore FSC certification required the long-term prediction of the expected harvesting volume and the comparison of the volumes harvested, including the thinning volumes, with those predicted at seven state forest divisions and a private owner group. This concerns a total forest area of nearly 1.4 Million ha (1,378,930 ha).

7.2 Market Orientation:

Revenues of the state forest could be enhanced by conforming forest products and services to the market requirements. This led also to positive ecological effects, e.g. the use of a broader range of tree species like noble hardwood in regenerations.

The forest owner has the responsibility for the economic opportunities and risks resulting from his commitment to an ecologically responsible, socially beneficial and economically viable forest management. The economic viability is essential for the survival of an ecologically operating enterprise. A valorisation of forest products and services in conformity with the market requirements helps to achieve this goal.

According to the Latvian FSC standard the forest management and the market operations should encourage the optimal use and the local processing of the forest's diversity of products (*Criterion 5.2*)

The 4 CARs raised on this issue regard 4 state forest divisions. As they had a narrow and not market oriented selection of tree species and forest products, they had to prepare a long-term analysis of the potential demand for forest products and assortment services to be offered by them within the Latvian society. The analysis had to consider the possibilities of applying a broader range of species and regeneration systems such as increased use of noble hardwoods (Oak, Ash and Elm), the utilization of various forest products, as well as the increased use of alternatives to the current clear felling system like selective logging, shelter wood regeneration or group regeneration on appropriate sites. Furthermore the divisions had to implement a strategy based on the results of the analysis.

Certification according to FSC led to an appropriate market orientation at four State Forest Divisions, as it required a long-term analysis of the potential demand of for forest products and assortment services and a market strategy based on the results of this analysis. This will not only increase the revenues from a forest area of nearly 780,000 ha, but leads also to other changes in forest management, e. g. a broader range of tree species including an increased use of noble hardwoods.

7.3 Flow Tracing:

Illegal logging is one of the main problems in Latvia where the illegal logging rate is as high as 15 to 20 %. Certification can not eliminate illegal logging, but the ability to trace more than 3.8 m³ of certified timber from its origin will make illegal harvesting activities harder.

The identification and marking of certified forest products, including appropriate accompanying documents, is essential to trace each certified product from its origin and to prevent fraudulent use of the FSC logo. Therefore a comprehensible chain of custody is vital for the credibility of FSC. It is also an instrument to reduce illegal harvesting activities as in Latvia where the estimated illegal logging rate is as high as 15 to 20%.

According to the Latvian FSC standard the forest manager has to provide documentation to enable monitoring and certifying organisations to trace each forest product from its origin, a process known as the "chain of custody" (Criterion 8.3).

The 6 CARs raised on this issue regard 6 state forest divisions. 2 of them had no documented procedure for identifying all products leaving the forest so the next point in the "chain" can determine the origin. According to the existing procedure the contractor was responsible for documenting the movement of timber outside the forest.
The other 4 state forest divisions had to ensure that the wood that has been illegally harvested by third persons from their forest and recovered by the state forest is identified in their sales system and not sold as certified. This CAR was met by all 4 state forest divisions in the following annual audit.

The identification of the products leaving the forest, including recovered timber that was illegally harvested, was improved at six State Forest Divisions. Considering the market power of the Latvian state forest this improvement ensures the supply of a variety of credibly certified forest products from Latvia. It should be noted that the State forest is not allowed to sell recovered timber that was illegally cut as certified even though the State Forest is the legal owner.

8. References:

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