



# Report on current monitoring efforts

**Deliverable 1.1 [Improving FSC's understanding of FSC value for biodiversity conservation]**

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# 1. Purpose and background

## 1.1. Scope of the deliverable

The report provides an overview of the various monitoring efforts undertaken by FSC forest management certificate holders in Finland. It produces a description of the various drivers and themes that influence the need for the companies to conduct monitoring and provides an overview of the various methodologies and structures for compiling and utilizing data for monitoring purposes. Furthermore, the report provides some recommendations for FSC in relation to potential future monitoring related requirements and access to data.

The report covers the first deliverable (D1.1) in the service agreement.

## 1.2. Background information

For the purposes of this report, the consultant has contacted all the industrial-scale FSC forest management certificate holders in Finland. A brief overview of the project has been provided, expectations for the certificate holders in relation to the various deliverables explained and necessary information for this report have been compiled through interviews and surveys. The participating certificate holders that accepted to share information for the development of this report were as follows:

UPM-Kymmene Ltd	Metsäliitto Cooperative	Stora Enso Ltd	Tornator Ltd
DNV-FM/COC-001705	GFA-FM/COC-006440	DNV-FM/COC-000805	GFA-FM/COC-006440
DNV-FM/COC-001706			

## 1.3. Limitations of the report

The consultant set out to conduct the information gathering about the companies' monitoring activities with a wider scope than the one solely focused on ensuring conformity with certification requirements. The intent, as agreed with FSC prior to the commencement of the work, entailed that the monitoring activities relevant for the purpose of this report would not be limited to FSC and forest management certification, but would aim to produce a holistic outlook on the needs and means of conducting monitoring for a variety of topics. The discussions with the companies easily focused on environmental impacts and biodiversity, which are the cornerstones of the companies' performance evaluation. This is also evident from this report, where the majority of the topics discussed fall under the umbrella of environmental and biodiversity monitoring.

It is worth noting that each of the participating companies have several business units, teams and divisions that compile data and conduct monitoring for various reasons and with varying drivers. The timeline for conducting the interviews and for the participating companies to fulfill the surveys did not allow the inclusion of all relevant staff, teams or resources from each of the companies. The report outlines the findings from the work, and Annex 1 illustrates the participating personnel from the companies into the interviews conducted in relation to this deliverable. The interviewees were encouraged to involve their colleagues across the companies whom they felt could provide relevant information on the monitoring activities they are in charge of or involved in.

## 2. Synopsis of the report and outline of the actions taken

This section of the report outlines the actions taken to compile the report, as well as the synopsis of findings and conclusions of the work undertaken by the consultant.

### 2.1. Outline of the actions taken

Each industrial scale FSC forest management certificate holder was contacted and invited to partake in the project in its entirety. Each of the contacted certificate holders agreed to share information and participate in the project. List of the participants in these meetings may be found in Annex 1 of this report.

An initial meeting was agreed with each certificate holder where a more detailed description of the project was provided, and anticipated modes of engagement and information sharing were described for the companies. For the deliverable 1.1, the companies were presented with options on how they would wish to provide the consultant with the required information on the scope and means of their monitoring activities. Most of the companies opted for a specific time for an interview where the consultant would go through the full list of themes and questions prepared for the companies. One of the participants requested only the survey template where they produced responses directly themselves. A description of the interview and survey methodology may be found in Annex 2 of this report.

### 2.2. Conclusions and summary of findings

#### **Monitoring data is mostly derived from publicly available forest inventory data**

Finnish authorities allow access to the world's best forest inventory data based on accurate grid-based LiDAR data and aerial footage analysis of forest resources. Companies don't often produce nature and forest inventory data themselves but rely largely on publicly available inventory and sample proxy data. Operational planning (e.g., preparation for a final felling) does include a closer evaluation of the site, which may lead to more accurate data to be compiled on the particular site under planning.

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#### **Monitoring of site-specific impacts is seen as inefficient**

The companies have often stated that producing site-specific monitoring data on nature values is inefficient and costly. Yet the companies produce monitoring data on the performance of contractors at the level of individual sites (contractor self-evaluation and internal quality monitoring). These monitoring activities already allow access to some relevant biodiversity metrics (such as deadwood, retention trees and valuable sites).

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#### **Aggregated impacts and progress against**

The scope for reporting on impacts and progress of individual companies is often covering the full scope of their activities in

**sustainability targets from proxy data**

Finland. To be able to use geographically representative data without the need to compile site-specific data points, the companies often use proxy data from fixed sample sites.

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**Ability to produce site-specific impact data requires additional monitoring tools**

For the companies to be able to accurately and cost-effectively compile site-specific impact data, better monitoring tools are needed. Cost-effective ways of producing data could include:

- Self-evaluation methodologies for contractors/operators
  - Automatic sensory technology (e.g., harvester sensor technology)
  - Remote sensing (detection and monitoring of deadwood, set-aside area allocation, retention trees)
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### 3. Drivers and themes for monitoring

This section outlines firstly the identified common drivers for monitoring. Secondly the section provides an overview of the prevalent themes for monitoring as identified from the interviews and survey materials.

#### 3.1. Outline of prevalent drivers for monitoring activities

##### 3.1.1. Corporate sustainability target setting

Corporate sustainability targets were highlighted by the participating companies as a major driver for their monitoring activities. All participating companies have produced their own corporate sustainability targets. The target setting process aims at providing a framework for monitoring and demonstrating progress against set targets. Some of the companies aim to use external target setting schemes, such as the Science-based Targets Initiative, whereas some have developed and published their targets simply based on internally defined frameworks.

Most of the targets the companies have set may be monitored against available forest inventory data (as provided by the Finnish Forest Centre). For other targets, e.g., the volume of deadwood, the companies may require field verified inventory data. Even if field data is gathered, it is always provided through sampling, and the proxy data is aggregated to a larger forest area.

The main categories for corporate sustainability target setting revolve around the following topics.

Category	Source of data	Description of metrics
<b>Deadwood and retention trees</b>	Proxy data through sampling	Volume <ul style="list-style-type: none"> <li>- There are no quality criteria attached to the deadwood targets set by the companies</li> <li>- Introduction of 'high stumps'</li> <li>- Identification and monitoring of retention trees per harvest site</li> <li>- Some companies have set a numerical target for volume of deadwood in their corporate forests</li> </ul>
<b>RTE species occurrence</b>	Registries and input from stakeholders	Existence <ul style="list-style-type: none"> <li>- The targets are associated often with the occurrence existence and preservation itself, but not the conservation of enabling conditions or habitat where the occurrence initially exists</li> </ul>
<b>Conservation area networks</b>	Forest inventory data + Strict (official registry) and voluntary (e.g.,	Area <ul style="list-style-type: none"> <li>- The targets largely revolve around a simple metric of area under conservation. Connectivity or other quality criteria for conservation are not covered</li> <li>- The targets are unclear whether they bring additionality as compared with e.g., FSC certification requirements</li> </ul>

	FSC/C6.5) conservation	- The definition of conservation may vary according to company
<b>Valuable habitats</b>	Forest inventory data and official registries	<p>Identification and preservation</p> <ul style="list-style-type: none"> <li>- The targets set related to the identification and preservation of valuable key habitats are relatively vague</li> <li>- Monitoring of the activities varies between companies</li> </ul>
<b>Tree specie composition</b>	Forest inventory data	<p>Share of deciduous trees</p> <ul style="list-style-type: none"> <li>- Targets (along with certain FSC FM requirements) are set towards increasing the share of deciduous trees in Finnish forests</li> <li>- Monitoring relies much on public inventory data</li> </ul>
<b>Forest structure</b>	Forest inventory data	<p>Maturity of canopy level trees and management unit divergence</p> <ul style="list-style-type: none"> <li>- These targets revolve around a number of metrics (conservation areas, parcel divergence, set-aside trees, etc.)</li> </ul>
<b>Water impact mitigation</b>	Forest inventory data and forest management planning software	<p>Existence of riparian buffer zones</p> <ul style="list-style-type: none"> <li>- Marcation and reporting on buffer zones (FSC FM requirement)</li> <li>- Monitoring data may be derived from forest inventory data or spatial forest management planning software, if the buffer zones have been delineated into their own parcels</li> </ul>

Additionally, the Finnish Forest Industries Federation and the Finnish Sawmills Association have recently published a joint roadmap for the safeguarding of biodiversity in Finnish forests. This roadmap is expected to be monitored by the companies and industry associations related to the following themes:

- Increase the variation in shares of different species by increasing the share of broad-leaved species and the number of rarer broad-leaved trees (metric: tree species composition and share of specified species)
- Ensure sufficient deadwood resources for all species. Increase the quantity and diversity of deadwood trunks (metric: volume and quality of deadwood)
- Safeguard valuable habitats in connection with forestry operations and promote voluntary protection measures (metric: area of conservation areas)
- Identify herb-rich forests and hot, sunny sites in commercial forests and increase their biodiversity values with nature management (metric: increased nature management activities in specified valuable sites)
- Increase habitats dependent on fire by implementing controlled burns and burning as nature management (metric: area managed with prescribed burning)

The roadmap in itself provides little in terms of tangible targets or specific monitoring activities. It acts as a shared vision statement for most wood-processing industries companies, but requires no immediate activities or improvements from the companies.

### 3.1.2. Corporate sustainability reporting

Related to the sub-section 3.1.1, corporate sustainability reporting has been highlighted as a definite driver for monitoring activities. Existing frameworks for conducting corporate sustainability reporting revolve around green finance (e.g., CDP, green bonds) and sustainability communications through annual sustainability reports (e.g., GRI, Ecovadis). Upcoming requirements from the Corporate Sustainability Reporting Directive (CSRD) will require further refined and detailed reporting on material impacts from the companies, which in turn will likely require targeted monitoring activities from the companies.

### 3.1.3. Conformance and compliance monitoring

Monitoring for ensuring and demonstrating conformance against voluntary schemes and standards (e.g., PEFC), as well as compliance against legislation and regulation, was highlighted as a prevalent theme by the companies.

Although FSC for example does not provide many direct monitoring requirements, to ensure continued conformity against relevant requirements, the companies have had to establish effective monitoring processes. Much of the monitoring is oriented towards compiling conformity information from the various forest management operations conducted on the ground. Monitoring of operations may be roughly divided into the following categories:

Type of monitoring	Responsible entity	Description of the type of monitoring
<b>Site-specific quality assurance</b>	Contractors	Self-evaluation conducted by the contractors. <ul style="list-style-type: none"> <li>- Conducted per each site</li> <li>- Monitoring focused on contractor’s performance and key metrics (e.g., certification requirements related to retention trees) <ul style="list-style-type: none"> <li>o Provides the company with specific information on individual contractor’s performance</li> </ul> </li> </ul>
<b>Internal monitoring</b>	Staff	Field evaluation. May be focused on: <ul style="list-style-type: none"> <li>- Contractor performance and contract compliance</li> <li>- Quality aspects of operations (e.g., harvest quality)</li> <li>- Environmental aspects and performance <ul style="list-style-type: none"> <li>o Provides the company with site-specific information on conformance and impacts</li> </ul> </li> </ul>
<b>Performance and stakeholder feedback</b>	Staff and stakeholders	Channels for compiling feedback <ul style="list-style-type: none"> <li>- Allows the compilation of feedback on environmental and social aspects</li> <li>- Access to potential legality and certification concerns</li> <li>- Performance monitoring and stakeholder inclusion <ul style="list-style-type: none"> <li>o Provides the company with stakeholder perceptions on performance and impacts</li> </ul> </li> </ul>
<b>Second-party quality monitoring</b>	Auditors	Internal conformity assessment <ul style="list-style-type: none"> <li>- Typically mimics a third-party audit</li> <li>- Considers relevant certification requirements and may involve land-owners and contractors</li> </ul>



		<ul style="list-style-type: none"> <li>○ Provides the company with internal information on conformance and compliance aspects</li> </ul>
<b>Third-party evaluation</b>	Auditors	Conformity assessment <ul style="list-style-type: none"> <li>- Conducted as per accreditation requirements             <ul style="list-style-type: none"> <li>○ Provides the company with holistic information on conformity</li> </ul> </li> </ul>

### 3.1.4. Corporate quality management systems application

Many of the participating companies highlighted their corporate quality management systems and frameworks as being drivers for conducting monitoring and compiling monitoring data on their operations. External systems (e.g., EFQM) require the companies to build internal quality management control systems and ensure that there are functional processes established for ensuring a level of quality associated with their operations.

## 3.2. Outline of prevalent themes for monitoring

Theme	Brief description
<b>Regulatory changes and requirements</b>	Aligning monitoring frameworks with upcoming regulatory requirements (i.e., CSRD).
<b>Biodiversity</b>	Mainly related to companies own corporate sustainability targets (prevalent themes related to deadwood, valuable habitats, share of deciduous tree species).
<b>Forest health</b>	Emerging topic where some monitoring is conducted against abiotic and biotic risks imposed against forests (driven by bark beetle detection).
<b>Quality management</b>	Mainly related to operational aspects, performance monitoring and relevant aspects related to forest management and efficiency of wood supply.
<b>Occupational health and safety</b>	The companies conduct rigid occupational health and safety policies. The most common drivers for these policies lie within certification (e.g., FSC), legislation and the companies' own internal quality management systems.

## **4. Recommendations from the CHs**

The participating FSC certificate holders have outlined some key considerations for FSC in its aspirations to further develop its monitoring systems, and abilities to produce 'impact claims'. This section aims to describe the relevant recommendations and considerations pertaining to FSC's upcoming development and revision work.

### **4.1. Becoming more outcome-oriented**

The companies were outspoken in their appreciation of FSC taking steps in becoming more outcome-oriented and less focused on a rules-based approach. The companies did however also vocalize some concerns that comes along with setting specific impact targets and the nature of becoming more outcome oriented. Rules-based system is clear in its implementation, even though a one-size-fits-all set of rules might not be ideal and unable to provide flexibility often needed when dealing with close-to-natural production systems. Some companies underlined the need for the outcome-orientation, and more specifically, the impact determination to be grounded on metrics that may be easily monitored. Rigid additional monitoring requirements, especially ones that require field evaluation and verification, could easily make the system too cumbersome and costly to implement according to some of the respondents.

### **4.2. Rely on existing monitoring frameworks**

Monitoring of impacts is a theme that is being imposed onto the companies from multiple directions. The Corporate Sustainability Reporting Directive (CSRD) is the most common denominator amongst the companies when discussing the future of monitoring of impacts. A prevalent notion from the certificate holders towards FSC was to align with existing monitoring frameworks, if additional monitoring requirements would be something that are being incorporated into the FSC forest management certification framework.

### **4.3. Consider relevant regulatory requirements**

One certificate holder insisted that the consultants raise the issue of General Data Protection Regulation (GDPR) with FSC in regard to monitoring, evaluation and reporting. The transfer of data governed by the GDPR has been seen problematic by this particular certificate holder, and whilst this has been communicated to FSC multiple times, they feel the issue has not been adequately addressed. The certificate holder urges FSC to bear in mind the data protection and privacy requirements of organizations operating within the European Union.

## 5. Discussion and conclusions

Much of the data used by the certificate holders is from open data repositories. The data might be utilized to run company-specific analyses.

The most commonly used data repositories by the certificate holders in Finland are as follows:

Data repository	Owner	Description of the type of data
<b>Open forest and nature information repository (metsaan.fi)</b>	Finnish Forest Centre (Metsäkeskus)	<p>Forest resource and nature information is collected using a method that utilizes sample plot measurements as well as laser scanning from an aircraft and aerial photography. The data is available with an open-source policy in Finland.</p> <ul style="list-style-type: none"> <li>- The data repository also comes with a browser-based user interface (metsaan.fi), that allows forest owners to access their own forest inventories.</li> <li>- API access to up-to-date inventory data is provided for authorized service providers</li> <li>- Access for service providers needs to be requested from the Finnish Forest Centre</li> </ul>
<b>Open-source species information repository (requires authorization)</b>	Finnish Biodiversity Information Facility (Suomen lajitietokeskus)	<p>Environmental information management system that allows access to various biodiversity information in Finnish nature.</p> <ul style="list-style-type: none"> <li>- Mainly the database is used for the detection of occurrence of RTE species</li> <li>- Majority of RTE species data is confidential. The use of it requires that you adhere to data protection measures, and only use the data for forest management planning</li> </ul>
<b>Open-source environmental information repository</b>	Finnish Environmental Institute (SYKE)	<p>The service offers information relevant for environmental management and information systems about water resources, the state of surface waters, groundwater, species, environmental load and the use of areas, as well as environment-related geospatial data materials.</p>

Finnish forest industry relies greatly on open-source data repositories. The quality of especially the open-source forest inventory data is easily best in the world. The open-source data on biodiversity and e.g., species diversity and species occurrence provide beneficial input for the companies, yet the quality and coverage of the data is nowhere near that of the forest inventory data. Detection of valuable habitats, maintenance of species diversity and occurrence of RTE species in Finnish forests is conducted in a manner that requires field work. Often this is linked with FSC certification process requirements, but for example the detection of RTE species occurrence is often complemented by stakeholder inputs.

From the perspective of efficient land-use and forest resource planning, the data and systems in place provide the companies with a good platform to manage forests. Detecting impacts to and inducing information related to biodiversity in forest management planning, the forest industry is relying on agreed red tape and safeguard systems (e.g., FSC certification, legislation, and industry roadmaps). Metrics that relate to trees and tree species diversity, habitats and conservation area networks are often used as the default frameworks for assessing sustainability of forest management operations.

Actual impact determination is rarely conducted, and it is considered to be too costly to produce site-specific data on impacts of forest management. Aggregated and proxy data is widely used to determine the impacts of forest industry and forest management practices. The sole use of proxy data to determine impacts to forests, ecosystems and species provides an indication of trends, but should not be used as means of validating actual impacts. Detailed specie-level data or inventories are not being monitored outside of commercial tree species.

The companies apply divergent monitoring activities themselves and commonalities in terms of data and monitoring methodologies may be hard to come by. The activities and data needs are driven largely by corporate sustainability target setting, quality management practices and, in particular in the future, by Corporate Sustainability Reporting Directive imposed by the European Union. Were FSC to develop additional monitoring and data requirements related to FSC forest management certification, it is advisable to align those with the systems and regulations most in use already by the large-scale industrial forest management certificate holders – especially related to the CSRD.

Were FSC to use open-source data to run data analyses itself related to biodiversity values, there are useful data repositories and services on offer, as illustrated above. Relying solely on the data provided by the certificate holders might not provide the widest scope and access to relevant data, as the data would be already curated, and undesirable data removed. Equally, conducting a periodic in-house data analysis for monitoring purposes would allow FSC to manage the data analysis part itself and draw relevant conclusions on the adequacy of e.g., outcome-oriented requirements in future national Forest Stewardship Standards.

## Annex 1 – Interview schedule and participation

ORGANIZATION	INTERVIEWEES	INTERVIEW DATES / SUBJECT
UPM-Kymmene Ltd	Participant names removed	27.9.2023 9.10.2023
Stora Enso Ltd	Participant names removed	6.10.2023 16.10.2023
Tornator Ltd	Participant names removed	10.10.2023
Metsäliitto Cooperative	Participant names removed	6.10.2023 16.10.2023

## Annex 2 – Interview and survey methodology

Compiling information on the current monitoring practices of FSC forest management certificate holders in Finland was designed to be an iterative process. Firstly, the certificate holders were invited to participate in a meeting where the project was described in general, outline of expectations for participation was illustrated and initial discussions over the scope of the first deliverable were discussed.

Secondly, the certificate holders were given a choice of either providing information via an in-depth interview or via a survey. 3/4 certificate holders opted to initially provide information via interviews and the survey acted as the secondary means of providing inputs. One certificate holder chose to provide input mainly via the survey tool.

The input provided by the certificate holders may be provided for FSC upon request. The structure of the interview and survey methodology is illustrated below.

As background information for the interview and survey, the following points were disclosed with the participating companies:

The goal of the interviews/survey were to identify relevant monitoring measures from FSC's point of view. Potentially relevant monitoring aspects could cover the following:

- 1) Is the topic to be monitored something for which a target state has been set? Will the matter be monitored in such a way that a positive change or a maintaining state is expected?
- 2) Are changes for the matter being monitored on an annual basis? Are the results of annual monitoring being compared with those from previous year(s)?
- 3) What kind of system is used for data collection? Who produces the data or conducts the monitoring activity?
- 4) How often is monitoring carried out for each activity?
- 5) Can the information produced for monitoring be transferred to others (e.g., to FSC as part of wider impact monitoring)?

Monitoring is widely implemented in companies today, for example due to the obligations of legislation and EU regulation. Examples of monitoring drivers can be:

- Forest certification systems
- Obligations under forest and nature conservation legislation
- CSRD
- EUDR
- The compilation of the company's annual and sustainability reports
- Disclosure obligations for sustainable financing (SFDR) received by the company

## Basic structure of the interview and survey on monitoring of the companies

Topic for monitoring	Monitoring theme (input from the consultant)	System for data analysis / Driver for conducting monitoring	Methodology for monitoring	Frequency of monitoring activity	Data provider	Means of providing data / type of data
Aggregated FSC NFSS requirements and derived potential monitoring activities <ul style="list-style-type: none"> <li>- All 10 Principles covered;</li> <li>- 71 rows of predetermined and proposed topics for monitoring</li> </ul>	Input provided by the consultant (aggregated themes)					
Compliance related topics for monitoring <ul style="list-style-type: none"> <li>- Open fields</li> </ul>						
Annual reporting or sustainability reporting related topics for monitoring <ul style="list-style-type: none"> <li>- Open fields</li> </ul>						
Other certification scheme derived topics for monitoring <ul style="list-style-type: none"> <li>- Open fields</li> </ul>						



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