PROTOCOL TO REVIEW FSC RELEVANT STUDIES

Supplementary material #2 for users of the FSC research portal

FSC FORESTS FOR ALL FOREVER™

CONTENTS

Background and aims **3**

Protocol **3**

Stage 1: Planning the review. 3

Research questions. 3

Stage 2: Conducting the review. 3

Searching for literature 3
Selection of relevant literature 4
Data extraction 5
Data synthesis 8

Stage 3: Reporting and dissemination of results. 8

BACKGROUND AND AIMS

The purpose of this document is to inform users of the FSC Research Portal about the process by which literature relevant to the work of the Forest Stewardship Council (FSC relevant studies) is reviewed. For this reason, we detail below the methodological steps followed.

PROTOCOL

Stage 1: Planning the review.

The first step was to plan the literature review by defining both the research questions and the key concepts associated with them.

Research questions.

The objectives of reviewing FSC-relevant studies are twofold: to provide decision-makers—such as standard developers and network partners—with up-to-date knowledge, and to ensure that both technical and market decision making are well informed by recent academic and grey literature. Specifically, the review seeks to identify:

1) Technical knowledge (e.g., forest management practices) that can inform the development and revision of FSC standards,
2) Market knowledge (e.g., drivers of certification uptake) that could strengthen FSC's market strategies; and
3) Outcome monitoring methodologies that can inform the design of outcome monitoring requirements in FSC standards.

Stage 2: Conducting the review.

After defining the objectives, we proceeded to conduct the review following three steps: data search, data selection, and data extraction. These three steps are explained in more detail below.

Searching for literature

To identify literature relevant to FSC, we applied a combination of strategies.

On one hand, publications addressing technical and market knowledge were either provided ad hoc by FSC staff and network partners or identified during searches for FSC effect-related studies (see the *Protocol to Review FSC Effect-Related Studies*).

On the other hand, to locate publications that could inform the design of outcome monitoring requirements in FSC standards, we used search strings specifically tailored to identify studies monitoring each intended outcome. For instance, when exploring literature on monitoring workers' health and safety, we used the following search string in Scopus: *TITLE-ABS-KEY: (Health) AND (Safety) AND (Forest) AND (Monitor)***. These terms were selected to capture the broadest possible set of publications reporting on monitoring methodologies related to a specific intended outcome, such as workers' health and safety, in forestry activities.

Selection of relevant literature

As previously noted, expert knowledge was used to identify studies relevant to FSC from a technical or market knowledge perspective. However, to identify studies pertinent to the design of monitoring requirements, a filtering process was applied to select the most relevant publications. This process consisted of two main filters, described below.

- **Filter 1 (Titles and Abstracts):** All titles and abstracts were reviewed using a single inclusion criterion: (1) the study had to relate to any aspect of monitoring the intended outcome. Therefore, conceptual and theoretical publications that did not report on monitoring elements related to an expected outcome were excluded.

After completing this first filtering, we conducted an intermediate step: locating full texts. All accessible publications were downloaded online. When full texts were unavailable, we contacted the main authors directly by email to request them. If the texts could not be obtained, this was recorded, and we proceeded to the second filtering step.

- **Filter 2 (Full Texts):** All retrieved full texts were reviewed based on two inclusion criteria: (2) the study must report indicators or metrics used to monitor the selected intended outcome (e.g., workers accidents is used to assess health and safety), and (3) it must describe methodologies used to assess those indicators or metrics.

These criteria led to the exclusion of purely theoretical or opinion-based papers. Articles not written in English were translated using Deepl to enable their review.

Data extraction

General information

Authors	The authors of the publication
Access rights	It indicates whether the publication is paywalled or open access
Title	The title of the publication
Abstract	Original abstract of the publication
Year	The year the study was published
Type	It indicates whether the publication is: (1) Research Article, (2) Review Paper, (3) Thesis, (4) Report, (5) Book, (6) Digital Media, or (7) Other
Source (journal)	The name of the journal to which the publication belongs.
Source (issue)	The issue of the journal to which the publication belongs.
Source (volume)	The volume of the journal to which the publication belongs.
Source (pages)	The pages of the journal in which the publication is found.
Permanent Resource Identifier	DOI of the publication
Access to study	The URL of the publication

Methods

Evidence category	Category of link between the scope of the publication at the work of FSC. For this case, all studies are FSC relevant studies.
Evidence type	The study design on which rely the findings of the publications. They could be (1) Case-report, (2) Case-control I, (3) Case-control II, (4) Quasi-experimental, (5) Random Control Trial (RCT), (6) Meta-analysis, or (6) Systematic review.
Data type	Data on which rely the findings of the publications. They could be (1) Field measurements, (2) Participant observation, (3) Interviews/surveys, (4) Focus groups, (5) Document analysis, (6) FSC data archive, (7) Non-FSC data archive; and/or (8) Remote sensing.

Geographical and socio-ecological scope

Forest zone	Forest zone on which study area of the publication is located. They could be (1) Boreal, (2) Temperate, (3) Subtropical, and/or (4) Tropical
Region(s)	Region(s) on which study area of the publication is located. They could be (1) Africa, (2) Asia, (3) Europe, (4) North America, (5) Central America, (6) South America, (7) Oceania, (8) Antarctica; and/or (9) Global
Country(es)	Country(ies) on which study area of the publication is located.
Forest type	Type(s) of forest on which the findings of the publication report. They could be (1) Mixed Forest, (2) Natural Forest; or (3) Plantation
Tenure ownership	Type of ownership over the forest on which the findings of the publication report. It could be (1) Public, (2) Firms, (3) Community, (4) Indigenous peoples, (5) Smallholder; or (6) Other
Tenure management	Type of management over the forest on which the findings of the publication report. It could be (1) Public, (2) Firms, (3) Community, (4) Indigenous peoples, (5) Smallholder; or (6) Other

Thematic scope

There are three sets of metadata reporting on the thematic scope: sustainability dimension(s), which indicates which sustainability pillar the findings of the study report on; topics, which indicates which topics within each sustainability pillar each study focuses on; and subtopics, which reports on which subcategories of topics the findings of the publications report on. Below are all the possible values that these three metadata fields can take.

Sustainability Dimensions	Topics	Subtopics
(1) Economic	Management efficiency	Management costs
		Growing stock
	Utilization efficiency	Logging and transport costs
		Processing costs
		Volume utilized
	Resilience	Diversity of products
	Market	Supply
		Demand
		Price premium
	Profitability	Income
		Expenses
(2) Environmental	Forest cover	Forest gain
		Forest loss
	Forest degradation	Canopy cover
		(Collateral) Tree damage

		Water pollution
		Soil pollution
		Alien species and GMOs
		Use of agrochemicals
		Disturbances
	Climate	Carbon storage
		Greenhouse gases
	Compositional diversity	Animal diversity
		Plant diversity
	Structural diversity	Deadwood
		Protected areas
	Functional diversity	Seed dispersal
		Tree regeneration
(3) Social	Workers	Employment conditions
		Infrastructure
		Representation
		Occupational health
		Training and education
		Gender issues
	Local populations and Indigenous peoples	Consultation and participation
		Communal infrastructure
		Jobs
		Health
		Access to land
		Conflicts
	Governance	Accountability
		Illegal activities
		Transparency
		Institutional capacity
		Legal compliance

Findings

M&E comments	Comments from the FSC M&E team on the methods used by the publication
M&E Summary	Executive summary of the main findings of the publication from the FSC M&E team

Data synthesis

The findings on technical or market knowledge were not synthesized but displayed as metadata in the Research Portal. In contrast, the findings of the publications reporting on methodologies for monitoring intended outcomes were summarized in tables highlighting the indicators, metrics and data collection methods reported by them.

Stage 3: Reporting and dissemination of results.

All reviewed studies and their metadata are stored in the FSC Research Portal. In addition, the findings of the publications that report on methodologies to monitor intended outcomes will be presented in thematic guidances designed to support the development of outcome-oriented forest stewardship standards in 2026/2027.

FSC International – Performance and Standards Unit
Adenauerallee 134
53113 Bonn
Germany

Phone: +49 -(0)228 -36766 -0
Fax: +49 -(0)228 -36766 -30
Email : psu@fsc.org