



EUROPEAN FOREST INSTITUTE  
CENTRAL-EAST AND SOUTH-EAST EUROPEAN  
REGIONAL OFFICE - EFICEEC-EFISEE



# Forest Land Ownership Change in Sweden

COST Action FP1201 FACESMAP Country Report



**COST Action FP1201**  
Forest Land Ownership Change in Europe:  
Significance for Management and Policy  
(FACESMAP)



# Forest Land Ownership Change in Sweden

COST Action FP1201 FACESMAP Country Report

*Authors*

**Gun Lidestav<sup>1</sup>**

**Torgny Lind<sup>1</sup>**

**Marie Appelstrand<sup>2</sup>**

**Carina Keskitalo<sup>3</sup>**

**Kerstin Westin<sup>4</sup>**

**Erik Wilhelmsson<sup>1</sup>**

<sup>1</sup> *Swedish University of Agricultural Sciences  
Department of Forest Resource Management  
SE 901 83, Umeå  
Sweden*

<sup>2</sup> *Lund University  
Department of Business Law  
SE 221 00 Lund  
Sweden*

<sup>3</sup> *Swedish University of Agricultural Sciences  
Department of Forest Resource Management  
SE 901 87, Umeå  
Sweden*

<sup>4</sup> *Umeå University  
Department of Geography and Economic History  
SE 901 87, Umeå  
Sweden*

The COST Action FP1201 FACESMAP Country Reports are edited by the European Forest Institute Central-East and South-East European Regional Office (EFICEEC-EFISEE) at the University of Natural Resources and Life Sciences, Vienna (BOKU). The Country Reports are not subject to external peer review. The responsibility for the contents of the Country Reports lies solely with the country author teams. Comments and critique by readers are highly appreciated.

The main parts of these Country Reports will be included in the upcoming EFICEEC-EFISEE Research Report "Forest Land Ownership Change in Europe. COST Action FP1201 FACESMAP Country Reports, Joint Volume", published online on the FACESMAP (<http://facesmap.boku.ac.at>) and EFICEEC-EFISEE ([www.eficeec.efi.int](http://www.eficeec.efi.int)) websites.

#### **Reference:**

Lidestav, G., Lind, T., Appelstrand, M., Keskitalo, C., Westin, K., Wilhelmsson, E. (2015) Forest Land Ownership Change in Sweden. COST Action FP1201 FACESMAP Country Report, European Forest Institute Central-East and South-East European Regional Office, Vienna. 46 pages. [Online publication]

#### **Published by:**

European Forest Institute Central-East and South-East European Regional Office  
(EFICEEC-EFISEE) c/o  
University of Natural Resources and Life Sciences, Vienna (BOKU)  
Feistmantelstrasse 4  
1180 Vienna  
Austria

Tel: + 43-1-47654-4410  
e-mail: [eficeec@efi.int](mailto:eficeec@efi.int)  
Web site: [www.eficeec.efi.int](http://www.eficeec.efi.int)

Papers published in this series can be downloaded in PDF-format from:  
<http://facesmap.boku.ac.at/library/countryreports>

Cover: F. Aggestam    Layout: S. Zivojinovic



COST is supported by the EU Framework Programme Horizon 2020



COST (European Cooperation in Science and Technology) is a pan-European intergovernmental organisation allowing scientists, engineers and scholars to jointly develop their ideas and initiatives across all scientific disciplines. It does so by funding science and technology networks called COST Actions, which give impetus to research, careers and innovation.

Overall, COST Actions help coordinate nationally funded research activities throughout Europe. COST ensures that less research-intensive countries gain better access to European knowledge hubs, which also allows for their integration in the European Research Area.

By promoting trans-disciplinary, original approaches and topics, addressing societal questions, COST enables breakthrough scientific and technological developments leading to new concepts and products. It thereby contributes to strengthening Europe's research and innovation capacities.

COST is implemented through the COST Association, an international not-for-profit association under Belgian law, whose members are the COST Member Countries.

*"The views expressed in the report belong solely to the Action and should not in any way be attributed to COST".*



## Background of the project

Forest ownership is changing across Europe. In some areas a growing number of so-called “new” forest owners hold only small parcels, have no agricultural or forestry knowledge and no capacity or interest to manage their forests, while in others new community and private owners are bringing fresh interest and new objectives to woodland management. This is the outcome of various societal and political developments, including structural changes to agriculture, changes in lifestyles, as well as restitution, privatization and decentralization policies. The interactions between ownership type, actual or appropriate forest management approaches, and policy, are of fundamental importance in understanding and shaping forestry, but represent an often neglected research area.

The European COST Action FP1201 FOREST LAND OWNERSHIP CHANGES IN EUROPE: SIGNIFICANCE FOR MANAGEMENT AND POLICY (FACESMAP) aims to bring together the state-of-knowledge in this field across Europe and can build on expertise from 30 participating countries. Drawing on an evidence review across these countries, the objectives of the Action are as follows:

- (1) To analyse attitudes and constraints of different forest owner types in Europe and the ongoing changes (outputs: literature survey, meta-analyses and maps).
- (2) To explore innovative management approaches for new forest owner types (outputs: case studies, critical assessment).
- (3) To study effective policy instruments with a comparative analysis approach (outputs: literature survey, case studies, policy analyses).
- (4) To draw conclusions and recommendations for forest-related policies, forest management practice, further education and future research.

Part of the work of the COST Action is the collection of data into country reports. These are written following prepared guidelines and to a common structure in order to allow comparisons across the countries. They also stand by themselves, giving a comprehensive account on the state of knowledge on forest ownership changes in each country.

The common work in all countries comprises of a collection of quantitative data as well as qualitative description of relevant issues. The COUNTRY REPORTS of the COST Action serve the following purposes:

- Give an overview of forest ownership structures and respective changes in each country and insight on specific issues in the countries;
- Provide data for some of the central outputs that are planned in the Action, including the literature reviews;
- Provide information for further work in the Action, including sub-groups on specific topics.

A specific focus of the COST Action is on new forest owner types. It is not so much about “new forest owners” in the sense of owners who have only recently acquired their forest, but the interest is rather on new types of ownership – owners with non-traditional goals of ownership and methods of management. For the purpose of the Action, a broad definition of “new forest owner types” was chosen. In a broad understanding of new or non-traditional forest ownership we include several characteristics as possible determinants of new forest owners. The following groups may all be determined to be new forest owners:

- (1) individuals or organizations that previously have not owned forest land,
- (2) traditional forest owner categories who have changed motives, or introduced new goals and/or management practices for their forests,
- (3) transformed public ownership categories (e.g., through privatisation, contracting out forest management, transfer to municipalities, etc.), and
- (4) new legal forms of ownership in the countries (e.g. new common property regimes, community ownership), both for private and state land.

This embraces all relevant phenomena of changing forest ownership, including urban, absentee, and non-traditional or non-farm owners as well as investments of forest funds or ownership by new community initiatives, etc. Although the COST Action wants to grasp all kinds of ownership changes it has to be noted that the special interest lies on non-state forms of ownership.



# Contents

<b>1. Introduction</b> .....	<b>1</b>
1.1. Forests, forest ownership and forest management in Sweden .....	1
1.2. Overview of the country report .....	1
<b>2. Methods</b> .....	<b>3</b>
2.1. General approach.....	3
2.2. Methods used.....	3
<b>3. Literature review on forest ownership in change</b> .....	<b>4</b>
3.1. Research framework and research approaches .....	4
3.2. New forest ownership types .....	5
3.2.1. Characteristics of forest owners .....	5
3.3. Forest management approaches .....	6
3.3.1. Ecosystem services and certification.....	6
3.4. Policy change / policy instruments .....	6
<b>4. Forest ownership</b> .....	<b>8</b>
4.1. Forest ownership structure.....	8
4.1.1. National data set.....	8
4.1.2. Critical comparison with national data in FRA reporting .....	9
4.2. Unclear or disputed forest ownership .....	9
4.3. Legal provisions on buying or inheriting forests .....	9
4.3.1. Legal restrictions for buying or selling forests.....	9
4.3.2. Specific inheritance (or marriage) rules applied to forests.....	10
4.4. Changes of the forest ownership structure in last three decades .....	10
4.4.1. Changes between public and private ownership .....	10
4.4.2. Changes within public ownership categories.....	10
4.4.3. Changes within private forest ownership .....	11
4.4.4. Main trends of forest ownership change.....	11
4.5. Gender issues in relation to forest ownership .....	12
4.6. Charitable, NGO or not-for-profit ownership of the forests .....	12
4.7. Common pool resources regimes .....	14
<b>5. Forest management approaches for new forest owner types</b> .....	<b>16</b>
5.1. Forest management in Sweden .....	16
5.2. New or innovative forest management approaches relevant for new forest owner types ...	17
5.3. Main opportunities for innovative forest management.....	17
5.4. Obstacles for innovative forest management approaches .....	18
<b>6. Policies influencing ownership development / Policy instruments for new forest owners</b> .....	<b>19</b>
6.1. Influences of policies on the development of forest ownership .....	19
6.2. Influences of policies in forest management .....	19
6.3. Policy instruments specifically addressing different ownership categories .....	19
6.4. Forest management plans.....	19
6.4.1. Tools for policy implementation .....	20
6.5. Factors affecting innovation in policies.....	20
<b>7. Literature</b> .....	<b>23</b>
<b>8. Annexes</b> .....	<b>30</b>
8.1. Tables with detailed description of 10 most important publications .....	30

## Figures

Figure 1:	Number of holdings owned by individual owners distributed on size class.....	9
Figure 2:	Rural areas and other areas according to the Swedish Land Acquisition Act (Swedish Government, 2005). Rural areas also include some islands east of Stockholm. ....	10
Figure 3:	Example of planned final felling made by a forest owner in the web-based tool for forest owners. ....	18

## Tables

Table 1:	Distribution of ownership of productive forest land in Sweden .....	8
Table 2:	Number and proportion of owners distributed on gender .....	12
Table 3:	Self-activity in small-scale forestry in 1993 and 2012. Amount of felling and terrain transport in 1000 m <sup>3</sup> stand volume, of silviculture in hectares, beeting in 1000 of seedlings. Proportion in percent of total volume .....	17

## **Acronyms and abbreviations**

NFI	National Forest Inventory
FOA	Forest Owners Association
FAO	Food and Agriculture Organization of the United Nations
PEFC	Programme for the Endorsement of Forest Certification
FSC	Forest Stewardship Council
AFT	General Property Tax Assessment of Agricultural unit
NGO	Non Government Organisation
CPR	common property regimes



# 1. Introduction

## 1.1. Forests, forest ownership and forest management in Sweden

In Sweden about 28 million ha is covered by forest<sup>1</sup> (Forest Statistics, 2013) of a total land area of 41 million ha. Out of 28 million ha forest about 23 million is classified as productive<sup>2</sup> forest land. The total number of individual private forest owners in 2011 was 321 thousand whereof 199 thousand men and 124 thousand women. They own about 51 % of the productive forest area, private owned companies 23%, state owned company 14%, other private owners 6 %, state authorities 3% and other public owners 2%, respectively (Swedish Forest Agency, 2013).

The growing stock amounts to around 3.3 billion m<sup>3</sup> distributed on Scots Pine (39 %), Norway Spruce (42 %), Birch (12 %) and other species (7 %). The annual growth amounts to around 115 million m<sup>3</sup> and the annual cuttings to around 91 million m<sup>3</sup>. The Swedish forest industry is number three among the world leading exporters of sawn wood, pulp and paper (Swedish Forest Agency, 2013). The predominant silviculture managing system uses area regeneration with planting or seed trees when regenerating. Usually, the rotation period range from 50 to 120 years depending on geographic location and site productivity. The revised Swedish Forestry Act in 1993 (Swedish Riksdag, 1979a) sets the demands placed upon forest owners by society regarding wood production and considerations for conservation of nature and the cultural heritage.

## 1.2. Overview of the country report

Changes between different owner categories last 3 decades have been small and no new

<sup>1</sup> Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use.

<sup>2</sup> Forest land with a production potential of at least 1 m<sup>3</sup> timber per hectare and year

forms of ownership in Sweden have occurred. Since 2001 a smaller share of the state owned forest has been sold out to individual private forest owners. In 2012, 68 % the forest holdings were locally owned, 25 % were owned by non-residents and 7 % partly by non-residents. Co-ownership is common, and 2 out of 3 forest owners own their holding together with someone else – often family member/-s. The average holding size is about 47 ha. Compared to figures from 1976 number and proportion of female forest owners has increased a lot, from 21 % to 38 %, but since beginning of the 1990s the change has been rather slow (34 % in 1992 and 38 % in 2012). Research shows that gender has an impact on how family owned holdings was transferred from one generation to another. In 2011 the Ministry for Rural Affairs launched a National Gender Equality Strategy for the forestry sector.

Availability of quantitative data from official statistics including NFI data and research is fairly good. The focus in research has moved from explaining the forest owners harvesting behaviour by “simple” models towards attempts to understand impact of underlying motivations, values and attitudes using multidisciplinary approaches.

Management decisions are decided by the individual forest owner, but the main part of the forestry operations and especially the harvesting are outsourced to large-scale companies, timber merchants and contractors. The self-activity in small scale forestry has decreased and the share of felling (weighted by volume) made by forest owners has decreased from about 30% down to 11 % from 1993 to 2012. Nevertheless, more than 50 % of regeneration and cleaning are performed by self-active forest owners today. It is not compulsory to have a forest management plan but many forest owners have a plan as an important source of information when deciding management activities. The owners have to pay themselves for the service to get a plan.

For commons and companies management decisions are taken by management board/assembly and for municipality forests by the municipal executive board.

Professional contractors working with timber procurement for forest companies, forest owners associations (FOA), the forest industry and state company Sveaskog performs the majority of the practical forest management. The buyers contact the sellers in different ways as direct business proposals, direct advertising, advertising in newspapers and information events. Authorities and organisations within the forest sector use different approaches to contact new owners as well as old owners with objectives as implementation of the forest policy to knowledge development of forest owners.

For individual forest owners the FOAs are an important actor on the timber market, and they also;

- I. Protect the individual forest owners' economic interests,
- II. Work towards an active and environmentally responsible forestry
- III. Convey members' timber to the Swedish forest industry
- IV. Offer their members comprehensive forestry service, advice and training. Normally, the FOAs are represented in reference groups when it comes to major investigations dealing with issues connected to forestry as ownership rights, environmental goals of Sweden, etc.

There are numerous village commons, seven parish commons and sixty district commons, all of them with roots in a pre-industrial society. The latter sum up to about 130 000 hectares of forest land, and are located in southern part of Sweden. A more recent category of forest commons were established in the northern interior of Sweden at the time

when forest industry expanded into the extensive and previously unexploited northern inland forests. Taken together these 33 forest commons cover 540 000 hectares of forest land and thereby represent the largest type of private forest holdings owned in common with about 25 000 shareholders. Municipalities own some 321 000 hectares whereof about 3/4 of the area has production of timber as main objective and the remaining 1/4 are primarily managed with other objectives such as outdoor life, nature conservation or future building sites.

The current Swedish forest policy from 1993 was manifested in a revised and deregulated Forestry Act and brought on two radical changes.

- i. An environmental goal was written into legislation, explicitly made to be of equal importance to the former production goal.
- ii. Previous policy instruments – detailed regulation, economic incentives, command and control enforcement and monitoring – were abandoned in favour of 'softer' means and instruments such as information and education, advice, extension services and voluntary agreements resulting in a move from steering to supporting structures. However, there are still regulations that hinder fragmentation of forest estates and some incentives that promote merging forest estates into larger units.

Another important change influencing the forestry last 20 years has been the development of forest certification. In 2012 all larger forest owners and about 60 % of individual private forest owners' forest area is certified by PEFC and/or FSC.

## 2. Methods

### 2.1. General approach

According to the aims of the country report which is to give a comprehensive overview of forest ownership issues in the country, a mix of methods is applied. They include a literature review, secondary data, expert interviews as well as the expert knowledge of the authors.

Data include quantitative data (from official statistics and scientific studies) as well as qualitative data (own expert knowledge, expert interviews and results from studies). A literature review explicates the state-of-knowledge in the countries and contributes to a European scale state-of-art report. Case examples are used for illustration and to gain a better understanding of mechanisms of change and of new forest owner types.

Detailed analyses of the collected data and case study analyses are done in subsequent work steps in the COST Action.

### 2.2. Methods used

In Sweden, availability of quantitative data from official statistics including NFI data (Fridman et al., 2014) is fairly good. Also the body of scientific literature (articles published in scientific journals or doctoral/licentiate thesis) using different methodological approaches, sometimes in combination is quiet rich. Therefore, we have mainly used these two types of sources, and only in a few cases used published master thesis or grey literature in order to provide answers to the questions asked.

### 3. Literature review on forest ownership in change

The COST Action national representatives aimed to review and compile information on changes in forest ownership in their countries based on scientific and grey scientific literature, including reports and articles in national languages and official statistics, formal guidance or advisory notes from official websites, etc.

The scope of the literature review is as follows:

- Forest ownership change (with a specific focus on new forest ownership types), private forest owners' motives and behaviour, management approaches for new forest owner types, and related policies and policy instruments.

The literature review consists of the following three steps: collection of all literature as defined relevant, detailed description of 10 most relevant publications, and a 1-3 pages summary according to the structure given in the guidelines. The full list of literature includes grey literature, i.e. literature not easily accessible by regular literature search methods (unpublished study reports, articles in national languages, etc.). These references are listed at the end of the report. The 10 detailed descriptions of publications are found in the Annex. The literature review contains the following questions: Which research frameworks and research approaches are used by research? What forms of new forest ownership types are identified? Which specific forest management approaches exist or are discussed? Which policies possibly influence ownership changes in the country and which policy instruments answer to the growing share of new forest owner types?

#### 3.1. Research framework and research approaches

The literature covers in a comprehensive way all fields relevant for FACESMAP including following research:

The implementation of the new paradigm (sustainable forest management) and the shift towards "smart regulation" via the use of various forms of flexible instruments, including forest certification, in a context

where more stakeholders are involved. Thus the role of "regulatory" authorities has moved from governing to governance.

- Research historically focused on the practical problem of efficient production using a weak theoretical foundation regarding forest owners' motivations and behaviour.
- By applying the Tipple Helix concept, a comprehensive research program on small-scale forestry "Privatskogsprogrammet" was carried out 1986/87 – 1990/91 involving about 50 different projects and some 200 people (Håkansson & Persson, 1992). The technology-oriented part of the program focused on the development of machines, mechanised systems and working methods to improve productivity, safety and job-satisfaction. In silviculture, alternative methods for harvesting and regeneration, also on abandoned farm land, were developed and analysed from a technological and economical perspective. Within the economy-oriented part of the program, the financial and legal conditions were analysed, and the basis for understanding the diverse motivations and roles of the forest owners were established by using multidisciplinary approaches.
- Comparison of different types of ownership regarding to management behaviour including environmental considerations. (State, companies, commons and small-scale private ownership).
- Impact of gender on ownership and management behaviour.
- The emergence and view of private forest ownership, the social and institutional frameworks for ownership, and the modes of actions in which the forest owner engage.
- Forest owner cooperative as tool for the forest owner to optimise the (economic) value from the property and the ownership, and its role as service provider.



- How forests will be managed in the future due to the trend towards an increased share of non-resident forest owners, and the increased female forest ownership.

All research has been conducted by Universities and primarily by the Swedish University of Agriculture Sciences. In the last few decades an increasing number of authors affiliated with non-forest research organizations as Umeå University, Lund University, Luleå Technical University and Uppsala University have done research in the subject area. Research has been carried out with funding both from public as well as from private funds. Quite often studies get funding from a mix of funding sources.

Methods used:

- questionnaires to individual forest owners and forest experts
- interviews including focus groups with stakeholders
- use of NFI data and other national databases
- literature review.

Several studies uses a combination of quantitative data from databases and data achieved from specific surveys using qualitative approaches. The focus in research has moved from explaining the forest owners harvesting behaviour by “simple” models towards attempts to understand impact of underlying motivations, values and attitudes using multidisciplinary approaches.

In order to evaluate the impact of policies and incentives, surveys of attitudes are not sufficient. There is an apparent need for a consecutive quantitative data assessment of high quality in order to describe and understand present forest conditions and forest owner behaviour and predict future trends. Whenever there is possible to combine surveys based on self-assessment of behaviour with on ground observations based on environmental monitoring data it should be used for critical assessment. To measure changes in forest ownership including management behaviour there is a need to define relevant measurable indicators.

## 3.2. New forest ownership types

There are no new forms of ownership of importance and changes between categories have been limited (Swedish Forest Agency, 2013). However, the characteristics of forest owners have changed over time. A smaller share of the state owned forest has been sold out to small-private forest owners, see chapter 4.4.1.

### 3.2.1. Characteristics of forest owners

The share of female owners has slowly increased since the beginning of the 1990s (it was 34% in 1992 and 38 % in 2012) contrary to the 1970s and 1980s when there was a significant increase of female owners (see chapter 4.5). The total number of forest owners has however decreased and in 2012 there was approximately 6% less forest owners compared to 1992 (Swedish Forest Agency, 2013; National Board of Forestry, 1997).

In official statistics the owner's residency is classified by whether they are living in the same municipality as the forest estate (resident owners) or not (non-residential owners). The share of estates with resident owners (at least one of the owners living in the municipality) has been at same level since 1990s. In 1992 about 70% of the forest estates were owned by residential forest owners and in 2012 the share was 68% (Swedish Forest Agency, 2013).

There are differences between resident and non-resident when it comes to attitudes. Resident owners put larger values on most goods from forest ownership than non-resident. For example, forest income, firewood and housing, is more important to resident owners than it is for non-resident owners. Women put a higher value on ecological and recreational aspects. Still there are no major gender differences in forest values and forest management attitudes (Nordlund & Westin, 2011).

### 3.3. Forest management approaches

The Swedish Forest Agency's annual questionnaire survey (Swedish Forest Agency, 2013b) of forest owners shows that in 2012;

- Pre-commercial thinning of young forest amounted to a total of 388,000 hectares.
- Site preparation was carried out on 167,000 hectares, and 166,000 hectares were planted with seedlings.
- Forest fertilization was carried out on 46,000 hectares whereof only about 2000 – 3000 ha on individual private forest owner land.
- Planting was the dominating method of regeneration (73 %) followed by natural regeneration (20 %) and sowing (5 %). The difference between individual private forest owners and other owner categories is very small.
- 7.6 m<sup>3</sup> standing timber of conservation trees and 1.4 m<sup>3</sup> standing timber of dead trees was left per hectare. For conservation trees, this means about 12 trees per hectare on average.
- The total annual felling for the two year period mid 2010 – mid 2012 was 87 million m<sup>3</sup>. The individual private owners share was 44 million m<sup>3</sup>.
- The dominating forest management approach is clear-cut felling with planting. The rotation period ranges from 50 to 120 years depending on location (south to north) and site conditions.

#### 3.3.1. Ecosystem services and certification

Lately, there has been a growing interest regarding the use of the forest (ecosystem services to produce). One example is a growing interest in and views on which forest management practices that should be used. Stakeholders bringing up the issues are NGOs, researchers, individual citizens and journalists. In spite of an intensive debate in newspapers and other media no observable changes can be seen when it comes to forest

management practices in general (Swedish Forest Agency, 2013).

An important change occurring in the last 20 years is the process of certification. In 2012 about 60 % of individual private forest owners' forest area was certified by PEFC (PEFC, 2015) and/or FSC (FSC, 2015). However, with regards to indicators of environmental quality objective as regards to sustainable forests (Swedish Environmental Protection Agency, 2015), only minor improvements have been reported, somewhat more improvements can be found on small private forest owners land (Johansson & Lidestav, 2011; Keskitalo & Liljenfeldt, 2014).

### 3.4. Policy change / policy instruments

The revised Forest Act from 1994 (Swedish Riksdag, 1979a) placed the two aims of forestry production and environmental protection on formally equal footing, and also placed a large focus on that forestry and forest owners themselves were to choose implementation in order to comply with the aims in the Act. This relative de-regulation and focus on multiple aims has, however, also led to a large complexity in terms of the levels of requirements placed on forest owners. To control compliance with the legal requirements require relatively large monitoring systems, which have sometimes been criticized for measuring compliance in ways that do not cohere with other systems. The equal focus on protection has largely been developed at policy level, where Swedish authorities for instance note that a higher level of protection than the minimum one mandated by law is required for Sweden to meet its environmental protection targets, including for instance the broad Environmental Objectives set by the Government. Here, the Swedish Forest Agency is the national authority in charge of forest-related issues. The main function is to promote the kind of management of Sweden's forests that enables the objectives of forest policy to be attained, with the Forest Agency mainly providing advice to forestry at a level somewhat higher than that of legal requirement, in order to support Swedish policy (Johansson and Keskitalo, 2014).

The minimum legal level is thus complemented with a broad policy level including that of the Environmental Objectives, and an interpretation of this at a Forest Agency “advice level”. In this relation, the voluntary market-based and third-party assessed system of forest certification, with the two main systems FSC and PEFC have become particularly important, as they provide a way for companies to indicate both to the state and the international market that they integrate higher environmental protection requirements (Johansson and Keskitalo, 2014). However, as criteria measured in certification differ from those measured in state monitoring large forest companies often develop own company policies to integrate these systems, further adding to the complexity of criteria used.

For private forest owners, however, as these increasingly live off their property and are

employed in other sectors, this complexity may seldom be recognized, as their interactions with requirements on forestry may be limited to contacts with the FOA through which in particular logging may be undertaken. New individual private forest owners may thus only get the question of whether they would like their forest to be logged in accordance with specific certification criteria as a question of whether they are prepared to trade leaving some additional wood in the forest for getting a somewhat higher payment for wood taken out. The complex policy context may thus in extension result in increased difficulties for new forest owners to comprehend of the complex choices that they according to law are responsible for, in that they legally hold the responsibility for logging and management on their own land (Keskitalo & Liljenfeldt, 2014).

## 4. Forest ownership

The aim of this chapter is to give a detailed overview of forest ownership in the country. The most detailed information on national level is often structured in different ways in different countries. In order to show the most accurate information, it was decided to use the national data sets in the country reports. In order to make this information comparable still, the information is also collected in an international format which is used in the Forest Resources Assessments by Food and Agriculture Organization (FAO). The transfer from national data sets to international definitions is, however, not always easy. This report therefore critically assesses in how far the national categories and definitions may be transformed into the international FRA data structure or in how far there are inconsistencies between them.

### 4.1. Forest ownership structure

#### 4.1.1. National data set

Since 2004 the classification of ownership harmonizes with the concepts and definitions used by FAO and other international organizations. Statistics reported below are published in Swedish Statistical Yearbook of Forestry 2013 by Swedish Forest Agency (Swedish Forest Agency, 2013).

Definitions and collection of statistics on different ownership classes' holdings of

productive forest land is gained through the Swedish NFI and General Property Tax Assessment of Agricultural unit (AFT). The NFI and AFT almost use the same definition of productive forest land.

The distribution of productive forest land<sup>3</sup> (23.1 mill ha) by ownership classes in 2010 (Swedish Forest Agency, 2013) is shown in table 1.

When using the international definition of forest land (FAO, 2010) the ownership will be distributed somewhat differently. According to statistics from NFI in 2010, publicly owned land amounts to 28.7 % and private 71.3 %, (private owned companies 22.3 and individual owners 49.0 %). The larger share owned by state is because large areas of low productive mountain forests (not classified as productive forest) belongs to the state.

In 2011 there were 227 129 forest holdings<sup>4</sup> each owned by individual owners. The number of individual forest owners were 327 727, of whom 38 % were women. Of the forest holdings 68 % were locally owned, 25 % were owned by non-residents and 7 % partly by non-residents. The numbers above show that co-ownership is common, and 2 out of 3 forest owners own their property together with someone else – often family member/-s. The average holding size is about 47 ha of productive forest land and the size distribution of holdings is shown in figure 1.

Table 1: Distribution of ownership of productive forest land in Sweden, %

Ownership	Share, %	Definition
Individual owners	51	Single owner, estates and small companies (sole trader)
Private owned companies	23	Company/corporation that is more than 50 percent privately owned.
State owned companies	14	Companies more than 50 percent administrated by the Swedish government.
Other private owners	6	Religious associations including the Swedish Church, privately owned foundations and funds, profit and non-profit associations, profit driven community groups (commons).
State authorities	3	Swedish state owned institution funds, foundations etc.
Other public owners	2	Swedish local and county councils including limited companies, foundations and funds owned to 50 percent or more by local and county councils

<sup>3</sup> Include forest land with a production potential of at least 1 m<sup>3</sup> timber per hectare and year

<sup>4</sup> Forest holding – productive forest land within a municipality belonging to same owner.

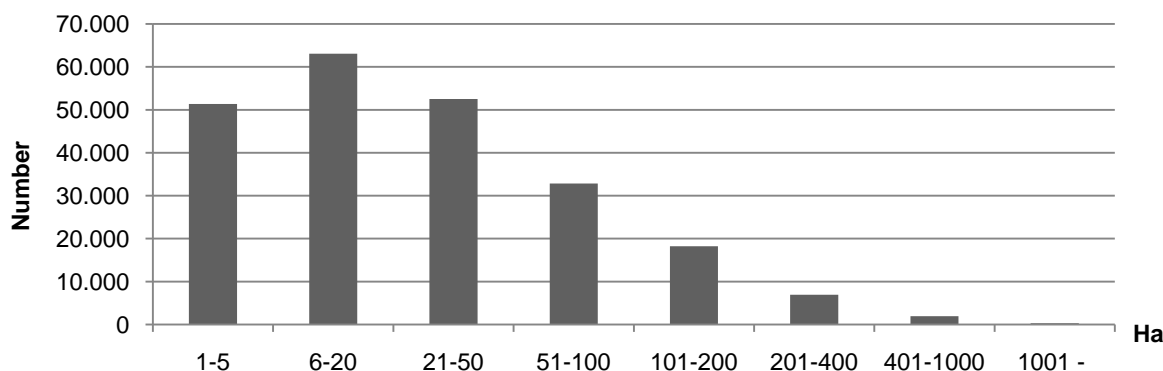


Figure 1: Number of holdings owned by individual owners distributed on size class.  
 Source: Swedish Tax Agency, Swedish Tax Agency Property Register, processed by Swedish Forest Agency.

#### 4.1.2. Critical comparison with national data in FRA reporting

Normally, Sweden don't need to transform or "Reclassify" national forest data with appurtenant classes and definitions when reporting for international statistics as the FRA 2010 (FAO, 2010). The main bulk of national information for the FRA 2010 global reporting tables can be extracted as primary data from the detailed NFI database using FRA 2010 variables and definitions. Exceptions was data on forest land and other wooded land area within the alpine region and the estimates of below ground carbon, which were delivered by the environmental monitoring programmes National Inventory of Landscapes in Sweden (NILS, 2015) and Swedish Forest Soil Inventory (SFSI, 2015). Additional data on protected land has also been extracted from the Swedish Forest Agency registers.

#### 4.2. Unclear or disputed forest ownership

There are no areas of importance where ownership is unclear or disputed.

#### 4.3. Legal provisions on buying or inheriting forests

##### 4.3.1. Legal restrictions for buying or selling forests

There are two legal restrictions for buying forest in Sweden:

- The first one's aim it to support work opportunities and living in rural areas (defined according to figure 2).

- The second one's is to maintain the balance in ownership proportion between private persons and juridical persons (companies, the church, municipality, associations and foundations).

The legislation (Swedish Riksdag, 1979a; Swedish Riksdag, 1979b) differ between rural areas and other areas. Some areas with a high degree of small and very narrow forest holdings have the same regulations as for rural areas (included in rural areas in figure 2). The regulations are given below, but there are also some exceptions not included here.

Buyers need an acquisition permit in the following cases (Swedish Riksdag, 1979b);

- Juridical persons buying from private persons.
- Juridical persons buying from other juridical persons if the forest is located in rural areas or areas where structural improvement of the geographical pattern of the forest holdings is needed.
- Private persons buying from other persons except in cases below.

Buyers do not need an acquisition permit in the following cases;

- Juridical persons buying from other juridical persons in other areas or areas where structural improvements are not needed.
- Private persons buying forest located in other areas or areas where structural improvements are not needed.
- Private persons buying (exchange, receiving a gift) from parents, grandparents, spouse or via inheritance or testimony.

- Private persons owing a share of a forest holding buying more shares of the holding.
- Private persons since at least one year registered (living) in the same rural district where the forest is located.

The decision about an acquisition permit is based on the following;

A private person can get exemptions from the rules if no other potential buyer fulfil the criteria for acquisition permit, or if the buyer can show he or she will start living in the rural district. A permit can be given to a juridical person if they sell another area of the same size to private persons or to the state for nature conservation purposes. Other reasons for a permit can be to use the forest land for exploitation, for use of timber in own industry in the district, or special reasons.

The forest owner may not cut the forest until the permit is approved. Also non-Swedish citizens can buy forest land in Sweden.

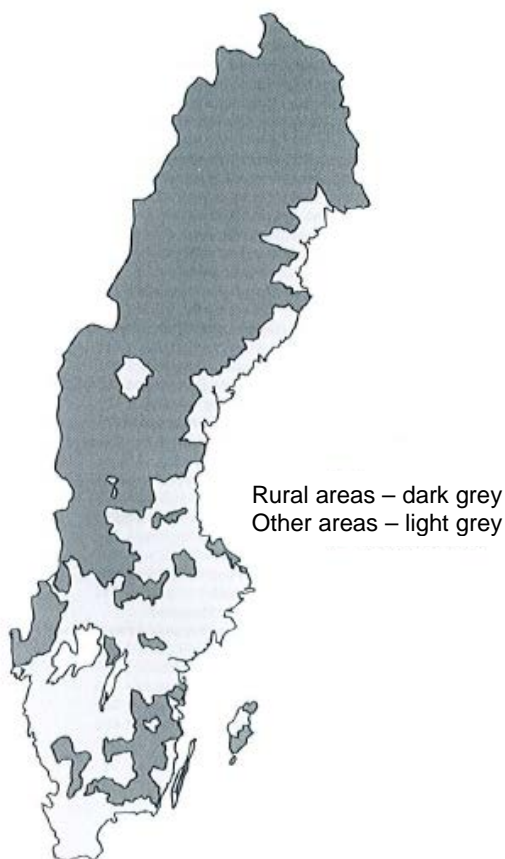


Figure 2: Rural areas and other areas according to the Swedish Land Acquisition Act (Swedish Government, 2005). Rural areas also include some islands east of Stockholm.

#### 4.3.2. Specific inheritance (or marriage) rules applied to forests

No specific inheritance rules apply to forests.

### 4.4. Changes of the forest ownership structure in last three decades

#### 4.4.1. Changes between public and private ownership

Sveaskog has by its owner the Swedish state received a mandate in 2001 to sell 10% of their forest land in order to strengthen private farming and forestry in rural areas (Government Bill, 2010). In 2014 less than 10 % has been sold out and there is still possible to buy forest land from Sveaskog. Sveaskog owns 14 % of the productive forest land in Sweden, i.e. the transfer of forest land from state to individual private owners will be about 1,4 % of total forest area.

#### 4.4.2. Changes within public ownership categories

The forest land owned by the state was in 1993 divided into two separate organisations, the National Property Board and AssiDomän AB (from 2001 Sveaskog) (Riksrevisionen, 2010). The National Property Board manages 750 000 hectares of productive forest land of which about 450 000 ha is formally protected, and another 40 000 voluntarily protected. Thus only 260 000 ha is managed for timber production.

The state owned stock company Sveaskog manages 3.1 mill hectares of productive forest land. More than 20 % are set aside for nature conservation purposes. The ownership situation for Sveaskog has changed over time, and between 1993 and 2002 the state owned part was 50.25 % whilst 300 000 private persons and institutions had the other part. The state bought back those shares in 2002.

The Swedish Environmental Protection Agency has since 1999 long term lease on 294 000 hectares below but close to the mountain area for nature conservation purposes. They have also got 100 000 hectares from Sveaskog with the purpose to

be able to exchange forest land with high nature conservation value from other forest owners. This exchange program is currently running and will continue years ahead.

#### 4.4.3. Changes within private forest ownership

The changes within private forest ownership are very small.

#### 4.4.4. Main trends of forest ownership change

Across Europe, the following drivers for ownership changes had been identified in the COST Action:

- Privatization, or restitution, of forest land (giving or selling state forest land to private people or bodies)
- Privatization of public forest management (introduction of private forms of management, e.g. state owned company)
- New private forest owners who have bought forests
- New forest ownership through afforestation of formerly agricultural or waste lands
- Changing life style, motivations and attitudes of forest owners (e.g. when farms are given up or heirs are not farmers any more).

Trends in forest ownership: New forest ownership through...	Significance*
• Privatization, or restitution, of forest land (giving or selling state forest land to private people or bodies)	1
• Privatization of public forest management (introduction of private forms of management, e.g. state owned company)	2
• New private forest owners who have bought forests	1
• New forest ownership through afforestation of formerly agricultural or waste lands	0
• Changing life style, motivations and attitudes of forest owners (e.g. when farms are given up or heirs are not farmers any more)	2
• Other trend, namely: Number of small-scale forest owners is somewhat decreasing separated ownership of forest land and industry, see chapter 4.4.3.	1
• Other trend: Contractors	3

\* 0 (not relevant); 1 (to some extent); 2 (rather important); 3 (highly important)

#### CASE STUDY 1: PRIVATIZATION

In a case study by Lindgren (2013), an investigating of the sale of Sveaskog forest land was conducted: "Sveaskog has by its owner the Swedish state received mandated to sell 10% of the land holdings it had in 2002 in order to strengthen private farming and forestry". This because it is expected to be easier for private individuals to earn a living in rural areas being forest owners. The objectives of the study were to examine the sale process and the properties sold and the buyers, motives for purchasing and how it affected them and their surroundings. Key people within Sveaskog were interviewed to understand the sales process and what criteria they had in areas that have been sold. The case study included 36 properties sold by Sveaskog in the municipalities of Dorotea and Vilhelmina from 2003 to 2011. The properties were analysed to see how they met the criteria set for the sale. It was concluded that the sales process applied has changed over time. In the beginning there were relatively high standards set up for the purchasers of the properties compared to the current situation where anyone can buy a property. Conflicts with other industries such as reindeer husbandry in the area have not increased with the sale, but the reindeer owner's points out that they want the opportunity to be heard before the sales starts. The impacts by the sales on buyers vary in terms of the opportunity to stay / reside in the municipality and the impact on livelihoods. Thus, it is far from obvious that property sales had a positive impact on rural areas in Vilhelmina and Dorotea as intended.

#### CASE STUDY 2: CHANGING LIFE STYLE

Due to increased mobility, economic restructuring and urbanization many forest owners reside in urban areas (urban forest owners), engaging in urban life styles. Although life style is a much debated concept, recent research on forest owners and life styles has suggested that in addition to the classical aspects of social situation (such as income, age, sex, residential region), dimensions of mental level (values and attitudes), and expressive behaviour (e.g. leisure time behaviour) (e.g. Ziegenspech et al., 2004). Private forest owners constitute a heterogeneous group, yet there are certain life style characteristics that differ between forest owners residing in urban areas vs those residing in rural areas, as well as between residential and non-residential forest owners. Urban forest owners, as well as non-residential forest owners, are less dependent on forest revenues as they often have an income from off-farm work. Partly related to higher incomes is higher education level (ASTRID database, Umeå

University). Regarding the life style dimension mental level, non-residential owners assign greater value to preservation of virgin forests, while residential forest owners assign greater importance to production. Management attitudes follow the same patterns; resident owners assign greater value to the economic aspects of management than non-residential owners do. In this respect, though, there is no difference between urban and rural forest owners (Nordlund & Westin, 2011).

### CASE STUDY 3: CONTRACTORS

In Sweden, contractors have played a prominent role since the technological developments matured in the late 1970s, driven by the decision of large-scale forestry companies to outsource mechanized forestry operations to reduce costs. During the 1980s, the number of machine contractors and their share of logging activities increased rapidly. These increases were primarily due to a shift from machine owners employed by large-scale forestry companies towards full contractors. Many changes have affected forestry management since the 1990s, and the contractors' sector has undergone continuous change. However, there have been no major breakthroughs in technological development in recent years.

Based on data from the national survey Häggström et al. (2013) estimates that between 1993 and 2009, the number of forestry contractors has increased by 80% and the number of employees by 157%. Yet, throughout the whole period, most enterprises were either one-person or small-sized enterprises (1-4 employees). In 2009, 60% of contractors were mainly performing logging activities, whereas 30% were mainly performing silviculture activities. These increases were mainly due to increased silviculture activities. Although one-person enterprises still dominate among Swedish forestry contractors, most logging work is performed by small-sized enterprises, whereas most silviculture work is performed by large-sized enterprises. It was suggested that there is an increased dependency upon contractors and forestry contractors have become more diversified, but still specialized, in the type of work they perform.

## 4.5. Gender issues in relation to forest ownership

In Statistical Year Book on Forestry 1997 (National Board of Forestry, 1997) and henceforth number of forest owners are reported by gender, age class and size class of productive forest land. However, the figures are not updated every year. The most recent statistics (reference year 2011) shows that there are 124 050 female forest owners and 199 145 men (38% women and 61 % men, for 1% of owners gender is not reported/not relevant). Compared to figures from 1976 number and proportion of female forest

owners has increased significantly (see table 2). At present official statistics also provide figures on number of forest owners (single owners) by gender, age class and size class of productive forest land, and region. In addition, a number of studies with a gender perspective or using/reporting gender disaggregated data/analysis have been carried out since 1998. In 2004 a governmental report on gender equality in agriculture and forestry was presented (Ds 2004:39) and in 2011 the Ministry for Rural Affairs launched a National Gender Equality Strategy for the forestry sector (Ministry for Rural Affairs, 2011b).

Table 2: Number and proportion of owners distributed on gender

Gender	1976 <sup>a</sup>	1992 <sup>b</sup>	2000 <sup>c</sup>	2011 <sup>d</sup>
Women	51 000 (21%)	116 563 (34%)	135 116 (38%)	124 050 (38%)
Men	197 000 (79%)	226 515 (66%)	219 207 (62%)	199 145 (61%)
<b>All</b>	<b>248 000</b>	<b>343 078</b>	<b>354 323</b>	<b>327 727</b>

a. Statistics Sweden 1979

b. Swedish Forest Agency 1997

c. Swedish Forest Agency 2003

d. Swedish Forest Agency 2013

## 4.6. Charitable, NGO or not-for-profit ownership of the forests

This section is concerned with forests owned by organisations such as conservation and heritage NGOs, self-organised community-based institutions and other philanthropic ("Characterized or motivated by philanthropy; benevolent; humane" OED) organisations.

The management objective for these forests is usually to deliver social or environmental aims with maximisation of financial or timber returns as a secondary concern. Most owners are corporate and may invoke at least an element of group or participatory decision-making on management objectives and high ethical standards. It is possible for such ownership to be entirely private. However, the provision of public benefits (services (e.g.



biodiversity, amenity, recreation etc.) which are free for everyone to enjoy or provide benefits to local communities (employment for disadvantaged people etc.) are sometimes recognised in the form of charitable

registration. This in turn puts restrictions on the rights of the owners to use profits and to dispose of assets in exchange for tax exemptions and access to charitable funding.

Forests owned by ...	Yes	No	Uncertain
• Foundations or trusts <sup>5</sup>		x	
• NGO with environmental or social objectives		x	
• Self-organised local community groups	x		
• Co-operatives/forest owner associations	x		
• Social enterprises		x	
• Recognized charitable status for land-owners		x	
• Other forms of charitable ownerships, namely:		x	

#### CASE STUDY 4: MUNICIPAL FORESTS

Municipal forest lands can be found in most of Sweden's municipalities and their origins vary considerably as land originating from royal donations as well as donations from farmers as compensation for their elder-care of poor relief. During the first part of the 20th century the number of holdings and the total area expanded considerably mainly because;

- i) a widespread concern for the poor forest conditions especially in southern Sweden
- ii) expectations of a positive impact on the municipal economy
- iii) as means of controlling unemployment

iv) securing land (including forest land) for future need of housing, infrastructure and recreational areas (Lidestav, 1997; Stjernström et al., 2013). However,  $\frac{3}{4}$  of the 321 000 hectares forest land owned by municipals can be considered as regular forest land and the remaining  $\frac{1}{4}$  are primarily managed for outdoor life, nature conservation or future building sites. Typically, a municipal forest land holding is in the range of 1-2000 hectares, but there are also a few with more than 5000 hectares (Lundquist, 2005). Although it could be expected that municipalities would have goals and management practices based on the wishes and needs of their citizens, expressed through a process of participatory planning, it rarely seems to be the case. Generally, there is little integration in the overall municipal planning and involvement by politicians' civil servants, and many municipal forests are more or less managed by external forest organisations (Lidestav, 1994). Still there are exceptions to be mentioned. By combining a traditional forest planning and valuation system with a multi-dimensional economic called position analysis, a planning instrument for municipally owned forest was developed and tested in Sala municipality respectively Säter municipality (Lidestav, 1994). More recently, scenario analysis in combination with multicriteria analysis has been applied to evaluate alternative forest management strategies for Linköping municipality, and in the planning process of urban forest in Lycksele municipality (Nordström et al., 2010; Nordström et al., 2013). Further, if forest land has such qualities that it is labelled a national interest (Riksintresse), the municipality has to report this in its comprehensive plan and describe a vision for how to secure the national interest (Stjernström et al., 2013).

#### CASE STUDY 5: FOREST OWNER ASSOCIATIONS

In response to their exposed position on the timber market in the beginning of the last century, Swedish private forest owners started to organize themselves in forest owner cooperatives. Initially the cooperatives' only business was collecting timber from the members in order to bring larger volumes to the timber market (Andersson et al., 1980). Through these joint deliveries, the forest owners (members) gained an improved bargaining position and could get better pay for their timber deliveries (Glete, 1987). In the early 1940s, when the cooperatives could not reach their economic goals only by trading their members' timber, some of the cooperatives bought or established new sawmills and other wood processing industries. From the board of the cooperatives the main motive put forward was that, by owning their own industry, members could achieve surplus values (Gummesson, 1993). Thus, the Swedish forest owner cooperatives follows the general characteristics of a cooperative summarized by Skår (1981) such that the cooperative constitutes of an economic business with joint action between members and consists of a democratic association and an enterprise (corporation). Further, individuals are assumed to become members for social and other reasons, but their interests lie in their individual activities and benefits. However, for members who join cooperatives, dilemmas arise when members' decisions are made as joint decisions that can be very different from the individual's own decision. This could, according to Nilsson & Björklund (2003), cause organizational problems when the association and the enterprise are two different sides of the same coin. The analytical implications of this organizational duality and complexity of the cooperative will be developed further in

<sup>5</sup> There are a number of foundations that owns forest. The total area is not very large and the objectives varies a lot from support to nature conservation, research to education.

the next section. In practice, the Swedish private forest owner associations has, as one way of dealing with the duality and the multiple needs of members, introduced other services to their members such as management planning, providing tax advice, undertaking silviculture on the forest owner's request, arranging forest-days and evenings for the members. Additionally, employees at the cooperative represent the private forest owners in dialogue with authorities and advocate for good policies concerning business in the timber market and in various forest policy issues. The lobbying to the government and other authorities is however mostly handled from The Federation of Swedish Family Forest Owners, an umbrella organization for the Swedish private forest owners' cooperatives (LRF, 2011). With an increasing industrial demand for timber and forest fuel, there are, different to earlier situations, other actors in the forest sector who are eager to serve and start business with the private forest owners and offer comparable services as cooperatives (Törnqvist, 1995). Further, due to the Swedish competition act, the cooperatives are not allowed to restrict or complicate member's mobility on the market. For example, a cooperative member can sell to any buyer, while the forest owner cooperative cannot refuse a delivery from one of its members, if nothing else is said (Swedish Government, 1992/93; Swedish Government, 1999/2000; Swedish Codes of Statutes, 1993). Similar to the structural changes in other parts of the society, the cooperatives have gradually merged and today there are four major cooperatives, namely Norra Skogsägarna, Norrskog, Mellanskog and Södra skogsägarna that cover the entire Sweden. In 2011, the Swedish forest owners' associations had more than 112 000 members with a total area of 6 million hectares. (LRF, 2014).

#### 4.7. Common pool resources regimes

Commons - forest common property regimes (CPR) are resource regimes where property is shared among users and management rules are derived and operated on self-management, collective actions and self-organization (of rules and decisions). Examples of traditional CPR regime are pastures, forest land communities in Sweden, Slovakia, Romania Italy and other European countries or irrigation systems in Africa or Asia. The number of new common property regimes is growing and it is challenge of this Action to transfer knowledge and skills of traditional CPRs to new CPRs and vice versa. Example of new CPR regime is community woodlands in UK, established in last 20 years mainly in Scotland, Wales. Our interest in "traditional" and "new" common pool resources regimes (CPRs) in European forest, is based on the understanding that robust resource regimes are critical for sustainable forest management regardless of the property rights. Ongoing practice shows that local land

users (without ownership share) leased use agreement may also be CPR regime if they have the rights to determine management rules typical for commons (e.g. self-organisation and shared rights and responsibilities). Thus proper rules on management (harvesting, decision making and conflict resolution mechanism, cost/benefit sharing, sanctioning etc.) are the key for sustainable use of CPR regimes.

In Sweden there are numerous village commons (unknown how many), seven parish commons (sockenallmänningar) and sixty district commons (häradssällmänningar), all of them with roots in a pre-industrial society. The latter, (häradssällmänningar) sum up to about 130 000 hectares of forest land, and are located in southern part of Sweden (Bergman, 2002).

A more recent category of forest commons were established in the northern interior of Sweden at the time when forest industry expanded into the extensive and previously unexploited northern inland forests, see New Swedish forest commons.

#### CASE STUDY 6: NEW SWEDISH FOREST COMMONS

In the late 19<sup>th</sup> century, much forest land in the interior of Northern Sweden still remained unallocated, and in connection to a widespread land tenure reform a new type of forest commons was established. Simultaneous many politicians and officials were convinced that Swedish forests were on the brink of devastation and both the authorities and forest experts had little confidence in the farmers' ability to manage their forests appropriately (Carlsson, 1999). These commons were created (1861-1918) by allocating a proportion of each owner's forestland to be managed jointly. At the time of establishment the aims were:

1. To serve as an instrument for improved forest management (timber production)
2. To serve as an instrument for sustainable economic support for farmers and the local economy
3. To provide a solid basis for taxation and secure the existence of an independent class of farmers
4. To support rural development and wellbeing

Further, the intention was to prevent forest companies from gaining control over the forest resources (Holmgren et al., 2004).

There are currently 33 such "new forest commons", all in four of the six northern counties covering 540,000 ha of productive forest land. In total, there are around 25,000 shareholders of whom 46% are non-residential (Holmgren,

2009). In the districts where they occur, they make up to about 7% to 13% of the forest area. The shares in the common are tied with the private landholding (farm/forest) and thus cannot be owned in isolation but transferred or sold along with the associated private holdings, but the forest is jointly managed by an elected board and a professional manager (staff). Moreover, shareholders in the Swedish forest commons could not only be the individuals but also the companies, church or the State as long as they own the property linked to the share in the commons (Holmgren et al., 2004).

The owners receive a dividend on their share and have hunting and fishing rights on the land. Forest management is decided through boards elected by shareholders and supervised by county administration and forestry boards according to county by-laws. This is based on adherence to the approved management plans and is a view challenged by recent research (Holmgren, 2010b). Holmgren et al. (2004) found considerable diversity in the management of commons in different districts. The same authors also examined and compared biodiversity indicators on forest land owned by commons and by other ownership types (Holmgren et al., 2010a). They found 'no evidence that forests managed in common have been conducted in ways promoting biodiversity more effectively than other ownership categories'. Other research concludes that other interests, including reindeer husbandry, tourism and nature conservation have reduced the owners' control of the forest commons and limited the range of action they can take (Lisberg Jensen, 2002; Holmgren, 2009).

## 5. Forest management approaches for new forest owner types

The Action is interested if there are any new forest management approaches that specifically address new forest owner types, or that could be particularly relevant for new forest owner types. We are aware that there is not much awareness for this and that there is not much literature available, however, we are convinced that this is an issue: if owners have different goals for their forests there must be new kinds of management, if they have not the skills any more to do it themselves then there must be new service offers, etc. There are assumingly implications in silviculture, technology, work organisation, business models, etc. Such new approaches may be discussed under the key word of new ownership types but often not.

### 5.1. Forest management in Sweden

Management decisions are normally decided by the individual owner on their forest holdings. For commons and companies these decisions are taken by management board/assembly and for municipality forests by the municipal executive board.

Today, individual private forest owners outsource majority of the forestry operations, especially the harvesting, to large-scale companies and timber merchants. The self-activity in small scale forestry has decreased a lot from 1993 to 2012. The share of felling (weighted by volume) made by forest owners was 11 % in 2012 compared with 30% in 1993 (National Board of Forestry, 1995; Swedish Forest Agency, 2013), but even today more than 50 % of regeneration (mainly planting) and cleaning were performed by self-active forest owners, see table 3. Even if a forest management plan is not compulsory many forest owners have a plan as an important source of information when deciding management activities. There are many different players offering forest owners plans such as Swedish Forest Agency, FOAs, companies and specialized enterprises. The owners have to pay themselves for the service to get a plan. See chapter 6.3 for more information.

The most common types of delivery of timber from private forest owners to buyers are (Swedish Forest Agency, 2013);

- 1) *Felling by purchaser.* The purchaser carries out the felling, after which measurement and pricing are carried out in the same manner as for standing forest timber. The purchaser's felling costs are then deducted from the gross price. The costs may be those actually incurred, or established by agreement in advance.
- 2) *Delivery stumpage.* The trees are sold as standing forest timber, but with a fixed net price per cubic meter of felled timber for each assortment category measured at a scaling station. This eliminates uncertainty about the volume of standing forest timber and costs for timber scaling in the forest. The agreed upon price applies to all assortments and tree species. Prices sometimes vary by assortment.
- 3) *Delivery timber* - Timber which the forest owner delivers by lorry, with or without the assistance of employees or contractors. In most cases, volume and quality are assessed upon delivery in accordance with the Timber Measurement Act as applied by the regional timber measurement councils. The amount of payment is determined by price lists.
- 4) *Standing forest timber.* Total price is determined prior to felling. Estimated volume is based on trunk diameter at breast height. The heights of a random sample of trees are also measured. After the trees to be felled are marked and their volume estimated, they are offered for sale, usually by tender.

Professional contractors working with timber procurement for forest companies, FOAs, forest industry and Sveaskog performs to a large extent the management of forests when it comes to fellings. The buyers contact the sellers in different ways as direct business proposals, direct advertising, advertising in newspapers and information events.

An important actor on the market is the FOAs. The forest owner's association tasks are to;

- Look after the individual forest owners' economic interests.
- Work towards an active and environmentally responsible forestry.
- Convey members' timber to the Swedish forest industry.

- Offer their members comprehensive forestry service, advice and training

Usually, the FOA are represented in reference groups when it comes to major investigations dealing with issues connected to forest as ownership rights, environmental goals of Sweden, etc.

Table 3: Self-activity in small-scale forestry in 1993 and 2012. Amount of felling and terrain transport in 1000 m<sup>3</sup> stand volume, of silviculture in hectares, beeting in 1000 of seedlings. Proportion in percent of total volume

Activity	1993		2012	
	Amount	Proportion	Amount	Proportion
Final felling (FF)	2 432	15	690	3
Thinning (Th)	3 501	44	1 906	16
Other felling (OF)	2 861	63	2 309	31
Terrain transport FF	2 346	14	889	4
Terrain transport Th	3 110	39	1 768	15
Terrain transport OF	2 413	53	2 266	31
Site preparation	6 000	12	5 265	7
Planting	41 000	63	32 333	37
Pre-commercial thinning	113 000	84	156 280	55
Beeting	17 835	74	14 833	47

Source: National Board of Forestry 1995 and Swedish Board of Forestry 2013.

## 5.2. New or innovative forest management approaches relevant for new forest owner types

There are no new or innovative forest management approaches specifically addressing new ownership types or new owners.

## 5.3. Main opportunities for innovative forest management

Authorities, organisations and companies within the forest sector are very interested to get in contact with new owners. Reasons can be to build up long-term customers' relationship (companies and FOA) and implementation of the forest policy and knowledge development of forest owners (Swedish Forest Agency).

Internet has increased the opportunities to make educational material easily available for forest owners. An example is the web portal

“Kunskap Direkt” (Skogforsk, 2015) financed by the research institute Skogforsk, the central organisation for Forest owners associations, Swedish Forest Agency and some other research foundations.

The portal includes different modules (topics) where forest owners and also professionals and others can get information and practical advice on different management actions. There are also many computer based tools for calculations of when and how to apply different management actions and cost and income from these actions.

Another service freely available for all forest owners are a handbook mainly written by researchers with advice on forest silviculture Swedish Forest Agency (2015).

On “Mina Sidor”, administrated by the Swedish Forest Agency (2015b) the forest owner can see his/her forest estate with background maps (road map or aerial-photo maps). There are also tools for planning and sending in compulsory notifications for final felling to the Swedish Forest Agency, see example in figure 3.

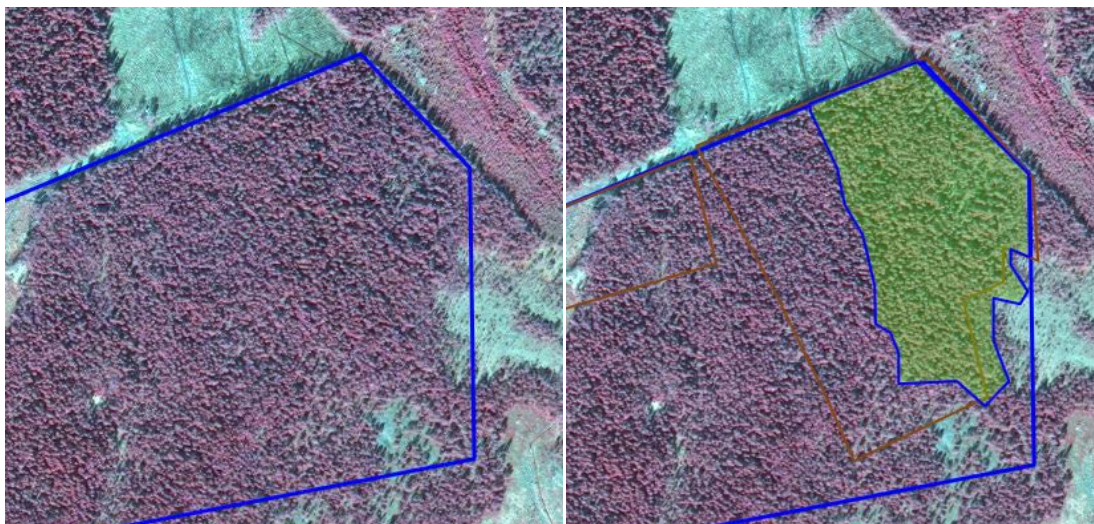


Figure 3: Example of planned final felling made by a forest owner in the web-based tool for forest owners.

#### 5.4. Obstacles for innovative forest management approaches

New attitudes and motivation among new forest owners should be taken care of by professionals because they execute the main part of the forest management. It is not always the case that professionals' motives and attitudes coincide with forest owners. According to Kindstrand et al. (2008) there were differences between these groups as professionals' value timber production higher and recreation and environmental values lower compared to forest owners.

Forest owners' peer-to-peer learning is an innovative concept, in Sweden mainly

practiced in the form of study circles. A recent study concludes that peer-to-peer learning among forest owners cannot replace the guidance given by forest professionals; however it can support and complement the prevailing extension practices when the aim is to inform, engage and inspire forest owners. (Hamunen et al. 2014).

It will probably be a slow process to change the predominant forest management approaches if desirable. This because many professions are involved and have to change attitudes and be educated, for example managers, timber buyers, forest officers and forest workers as well as forest owners themselves.

#### CASE STUDY 7: ATTITUDES TOWARDS VARIOUS FOREST FUNCTIONS

Kindstrand, et. al., (2008) compared the attitudes of the forest owners with how forest officers perceive those attitudes. The data in the study originated from a postal questionnaire survey from 2002 primarily focused on how important various research areas were to forest owners and forest officers. The result indicates differences between these groups. The forest owners consider timber production as the most important function followed by recreation and biodiversity. The share of forest officers considering timber production very important was significantly higher and for biodiversity and recreation significantly lower than what forest owners consider to be very important. The authors conclude that a deeper understanding of these differences is important for successful implementation of a forest policy.

## 6. Policies influencing ownership development / Policy instruments for new forest owners

Policy and ownership are related in various ways: Policies directly or indirectly influence ownership development or even encourage or create new forms of ownership; and policy instruments are emerging that answer to ownership changes, including instruments addressed to support new types of owners e.g. through advisory services, cooperative or joint forest management, etc.

### 6.1. Influences of policies on the development of forest ownership

The Forestry including the forest and wood industries as well as the potential for nature tourism, hunting and fishing, create employment in rural areas and are very important for the rural economy. In order to strengthen and promote decentralisation and rural development, the government has launched the Rural Development Programme (Government Offices of Sweden, 2012). The programme provides various forms of support such as counselling and subsidies for different areas, for example improved competitiveness in forestry and agriculture and improvement in the environment and landscape. The target group are mainly private individual forest owners engaged in forestry and rural businesses. The previous programme was in force in 2007 to 2013 and comprised three different measures for forestry including knowledge transfer, support and subsidies for biodiversity and hardwood. The current Rural Development Programme extends from 2014 to 2020 and it is not yet clear what kind of support it will imply for the forest sector.

There are regulations today that hinder fragmentation of forest holdings and incentives promoting merging of holdings into larger units, see 4.3.1. The provision of how real estate is formed and registered is contained in the Real Property Formation Act (1970:988). Before agricultural land can be afforested, the land owner must apply to the County Administrative Board, and a consultation with authorities and relevant stakeholders must be held according to the

Environmental Code (Swedish Government, 1998) ch 12, sec 6. In Sweden, there are no policies creating new legal forms of ownership.

### 6.2. Influences of policies in forest management

The change of Swedish forest policy in 1993 (Swedish Government, 1993), see more in chapter 6.5, with a revised and deregulated Forestry Act brought on two radical changes. First of all environmental goal was written into legislation, explicitly made to be of equal importance to the former production goal and secondly previous policy instruments – detailed regulation, economic incentives, command and control enforcement and monitoring – were abandoned in favour of 'softer' means and instruments.

### 6.3. Policy instruments specifically addressing different ownership categories

In Sweden there are no policy instruments specifically addressing different ownership categories. The Forestry Act is valid for all owners irrespective of ownership category. Still, there are some differences dependent on size of holding where smaller holdings have fewer obligations. For example obligation to have consultation with Sami villages related to forest management (compulsory if holding > 500 ha) and restrictions of maximum share (should be less than 50 % of the holdings forest area) of stands younger than 20 years (compulsory if holding > 20 ha).

### 6.4. Forest management plans

Today, forest management plans are not mandatory for forest owners. It was mandatory according to the Forestry Act between 1983 and 1993. This was largely a result of the forest industry's inability to obtain sufficient amounts of raw timber. Forest

owners with management plans had proven to be more active (and supplied more timber). Many private forest owners had high marginal taxes (>70%) on incomes from the forest and therefore unwilling to sell timber. Forest management plans and rules forcing the forest owner to cut were introduced as well as a lot of detailed rules forcing the forest owner to cleaning and thinning of the forest. During this period there were many subsidies for management activities, road construction and also for making forest management plans. The mandatory requirement to have a plan as well as the subsidies was removed in the changed Forestry Act in 1993. Reasons were critics of the low quality of the plans, and too much focus on timber production.

A Forest and Environment Declaration was required from 2003 to 2007 according to the Forestry Act (Swedish Riksdag, 1979a). The owner was obliged to have information about his or her forest corresponding to the data that you find in a forest management plan. Also some data about environmental variables were included (area with broadleaved hardwood, nature reserves, protected biotopes, wetlands with special value, the presence of archaeological sites, and other valuable areas). This regulation made at least a simple forest management plan necessary. The information was for the benefit of the forest owner and there were in practice no follow-up of that regulation from the Swedish Forest Agency.

In an official forest report from 2006 (SOU, 2006) it was suggested that a forest management plan should be mandatory. In the general election later same year a new government was elected and they did not approve the suggestion. Also, they withdrew the regulation about the compulsory Forest and Environment Declaration from 2008, and changed the definition of forest land to be in accordance with the FAO's definitions.

There are only minor subsidies for forest management today. Most of the money goes to authorities giving advice to forest owners, or to inventories with a focus on nature values. "The forest kingdom" (Sw: Skogsriket) gave subsidies for different purposes in four topics: Sustainable management, processing and innovations, experience and recreation and Sweden in the world. The program was decided by the Ministry for rural affairs and

the budget was 10 Million € per year 2011 to 2014 (Ministry for Rural Affairs, 2011a)

#### **6.4.1. Tools for policy implementation**

An important source of information for the Swedish Forest Agency's when controlling and following up of the Forestry Act is the mandatory harvesting notifications (if final felling area > 0.5 ha). In 2013 there were almost 58 000 notifications of planned final fellings. Control can roughly be divided into two parts, before and after harvesting. Control before harvest priorities the cases where the planned harvesting can involve a risk for lack of nature considerations or bad regeneration results. After harvesting the control focus on performed logging and regeneration measures (Swedish Forestry Agency, 2013).

Individual forest owners can get free advice from the Swedish Forest Agency. Free advice can be given on these subjects; Management of broad-leaved deciduous forests, measures that favour natural and cultural values of the forest, cleaning and use of continuous cover forestry.

The total budget for subsidies is small and mainly directed to measures connected to environmental and cultural goals.

It is possible for forest owners to get subsidies for some measures in forest as;

- Support to creating conditions for jobs related to forest.
- Support to natural and cultural measures in the forest to enrich the forest environments of public interest.
- Subsidies for regeneration of hardwood forest to compensate for higher cost compared to regeneration of conifer forests.

#### **6.5. Factors affecting innovation in policies**

The Swedish forestry sector has a number of properties that can help us understand the proposed shift from government to governance, and thus the increased use of soft law instruments. Firstly, it is a central policy arena with a tradition of a 'laissez-faire policy' with wide administrative discretion which means that the governmental agency,



the Swedish Forest Agency, has a quite unclear role and a growing uncertain existence. Secondly, the forest arena contains many actors and conflicting interests, where especially the conflict between production and environmental goals has been of great importance when organizing the sector. The two 'paradigms' we see today – one that sees the forest as a raw natural resource, and the other that emphasizes the forest as an experiential and recreational place with nature conservation as a central value, has a long historical tradition. In this context the implied conflict between public and private interest is broached, first in terms of the *state's* interest in and need to direct production and returns from forestry versus the individual forest owner's right to decide over his or her own forest, then later in terms of the state's promotion of the general public interest via environmental goals.

As a catalyst, in line with the deregulation trend in the Nordic countries during the 1990s, the Swedish forest policy of 1993 brought on two radical changes. On the one hand, an *environmental goal* was placed in parity with the former production goal. In other words, the environmental goal was written into legislation, explicitly made to be of equal importance to the production goal. The second radical change was that the previous policy instruments – detailed regulation, economic incentives, command and control monitoring and enforcement – were abandoned in favour of 'softer' means and instruments. In this sense one can speak of

deregulation in regard to the 1993 policy, but not absolute deregulation. The political aim of the environmental goal was very ambitious, well above the legal demands, and the expectation was that the forest owners should be more active in attaining this goal, take a greater voluntary responsibility to protect valuable core sites on their land, by formal protection as well as by voluntary set-asides. In such a rather clear-cut situation of expected beyond-compliance outcomes, the famous slogan "Freedom with responsibility" is an appropriate summary of the intent behind these radical changes. This move from direct legal steering to softer, inclusive modes of steering requires adequate resources, financial as well as the public authorities having enough personnel to carry out their duties. This is especially important in a rapidly changing forestry sector where different target groups of forest owners needs different steering-approaches. Today it is obvious that the resources are not sufficient to meet the demands of a shift to the softer, voluntary steering approach that the new policy implies. The lack of state funding and financial support for nature conservation is a shortcoming in regard to the environmental goal and the attempts to stimulate forest owners to take voluntary efforts for protecting valuable nature areas. Nor is the demand for increased information and knowledge transfer - and in part new ways of working in public administration - met by sufficient personnel resources at the Swedish Forest Agency (Appelstrand, 2012; 2007).

#### **CASE STUDY 8: THE ÖSTRA VÄTTERBRANTERNA PARTNERSHIP**

An example of a successful application of the new, softer means of the Swedish forest policy is the Östra Vätterbranterna (ÖVB) project in the southern part of Sweden (Jönköping). The ÖVB-project started in 1998 as a top-down initiative initiated by the County Administrative Board (CAB) due to conflicts and lack of trust between various groups of forest owners, public authorities and local NGOs. Conflicts took place over the establishment of new nature reserves and an ongoing inventory of woodland key habitats. With the intention of creating a dialogue forum as a first step in resolving the conflicts, representatives of the authorities' concerned and other stakeholders were gathered in the project ÖVB. Since this founding, a group comprised of the CAB, Swedish Forest Agency, the municipality of Jönköping as well as representatives of the Federation of Swedish Farmers, the FOA SÖDRA, the World Wide Fund for Nature and the local branch of the Swedish Society for Nature Conservation has been in operation. Initially there was a great degree of resistance from land owners and their organizations against protecting land for conservation purposes. The local NGO protested against felling plans, and the conflicts were both deep and difficult to resolve. A first step was to create trust and common goals amongst the members of the project group, to find the 'social key habitats'. An important condition for creating trust was that both the landowners and the NGOs demanded that 'all cards be laid on the table' with regard to the mapping and inventory of the area's natural values. Through these activities even the interest of land owners for conservation was awakened, and a dialogue was initiated with authorities and the other actors. As the ÖVB area is characterized by small-scale and fragmented holdings a combination of tools were proven to be most effective. Formal, legal instrument such as nature reserves and habitat protection were combined with voluntary, softer instruments such as nature conservation agreements, forest certification and green forest management plans (Appelstrand 2012). A long process has taken place, going from conflict to successive understanding to constructive collaboration in turning the ÖVB into the successful partnership it is today. To reach this end great effort has been made in anchoring decisions and eliciting participation from the local community. This way of working has led to a great deal of attention, both locally, regionally and nationally. Some of the preconditions for the success and applicability of the soft steering approach in the ÖVB-case have been described in terms of social resilience, pointing out some decisive factors for creating a common arena that functions as a tool in itself (Berglund 2010; Käll 2007).

## 7. Literature

### Referenced literature

- Andersson, B., Häckner, J., & Lönnstedt, L. (1980) Skogsägareföreningarna i ett historiskt perspektiv. [History of the Forest Owner Associations in Sweden] SSR. ISBN 91-7446-017-X Borås, Sweden.
- Appelstrand, M. (2012) Developments in Swedish forest policy and administration – from a 'policy of restriction' towards a 'policy of cooperation'. *Scandinavian Journal of Forest Research*, 2012; 27: 186-199.
- Appelstrand, M. (2007) *Environmental goals for forestry – governing and voluntariness*. Lund: Lund Studies in Sociology of law 26. Lunds University. (In Swedish with Summary in English)
- Berglund, B. (2010) *A matter of trust : social interaction in a nature conservation issue in the Eastern slopes of Lake Vättern*. Second cycle, A1E. Uppsala: SLU, Dept. of Urban and Rural Development
- Bergman, F. (2002) Häradsallmänningar - omtvistat land. *Populär historia* nr 6. <http://www.popularhistoria.se/artiklar/haradsallmanningar-%E2%80%93-omtvistat-land/>
- Carlsson, L., (1999) Still going strong, community forests in Sweden, *Forestry* 72(1):11-26.
- FAO (2010) *Global Forest Resources Assessment 2010*, Country Report, Sweden. FRA2010/202.
- Forest statistics (2013) *Official Statistics of Sweden*. Swedish University of Agricultural Sciences, Umeå 2013.
- Fridman J., Holm S., Nilsson M., Nilsson P., Ringvall A. H., Ståhl G. (2014) Adapting National Forest Inventories to changing requirements – the case of the Swedish National Forest Inventory at the turn of the 20th century. *Silva Fennica* vol. 48 no. 3 article id 1095. <http://dx.doi.org/10.14214/sf.1095>.
- Glete, J.(1987) *Ägande och Industriell omvandling* [Ownership and Industrial Development]. Kristinstads Boktryckeri AB, Stockholm, Sweden. ISBN 91-7150-300-5
- Government Bill. (2010) *Regeringens proposition 2009/10:169* Förändrat uppdrag för Sveaskog AB.
- Gummesson O. (1983) *Utan kamp ingen seger - om Gösta Edström och Södra Skogsägarna* , Trydells Tryckeri AB, Laholm, Sweden. ISBN 91-971414-9-6 (inb.)
- Hamunen, K, Appelstrand, M, Hujala, T, Kurttila, M, Sriskandarajah, N, Vilkriste, L, Westberg, L and Tikkanen, J. (2014) Defining Peer-to-peer Learning – from an Old 'Art of Practice' to a New Mode of Forest Owner Extension? *The Journal of Agricultural Education and Extension*: 1-15.
- Holmgren, E., Lidestav, G. and G. Kempe (2004) Forest Conditions and Management in Swedish Forest Commons. *Small-scale Forest Economics Management and Policy*, 3:453-468.
- Holmgren, E. (2009) *Forest commons in boreal Sweden: aims and outcomes on forest condition and rural development*. Doctoral Thesis No 2009:96. Acta Universitatis Agriculturae Sueciae
- Holmgren, L., Holmgren, E., Fridman, J. and Lidestav, G. (2010a) Biological diversity indicators - A comparison of northern Swedish forest commons and other forest ownership categories. *Scandinavian Journal of Forest Research* 2010: (25) 61-68).
- Holmgren, E., Keskitalo, E.C.H. & Lidestav, G. (2010b) Swedish forest commons — A matter of governance? *Forest Policy and Economics* 12 (6): 423-31.
- Håkansson, M. & Persson, O. (1992) *Privatskogsbruk för framtid : fem års forskning i sammandrag* / [ed: Michael Håkansson & Ola Persson ISBN 91-971201-7-0 Täby : Tryckeriförl., 1992 Svenska 302 p.
- Häggström, C., Kawasaki, A. and Lidestav, G. (2013) Profiles of forestry contractors and development of the forestry-contracting sector in Sweden. *Scandinavian Journal of Forest Research*, 2013 Vol. 28, No. 4, 395-404.
- Johansson, J. and Lidestav, G. (2011) Can voluntary standards regulate forestry? — Assessing the environmental impacts of forest certification in Sweden. *Forest Policy and Economics* 13, 191–198.
- Johansson, J, Keskitalo, E.H.C (2014) Coordinating and implementing multiple systems for forest management: implications of the regulatory framework for sustainable forestry in Sweden. *Journal of Natural Resources Policy Research* 6(2-3):117-133.

- Keskitalo, E.C. H., Liljenfeldt, J. (2014) Implementation of forest certification in Sweden: An issue of organisation and communication. *Scandinavian Journal of Forest Research* 29(5):473-484.
- Kindstrand, C., Norman, J., Boman, M., & Mattsson, L. (2008) "Attitudes towards various forest functions: a comparison between private forest owners and forest officers", *Scandinavian Journal of Forest Research* 23(2), 133-136.
- Käll, K. (2007) *Combining knowledge for biodiversity - A study on information exchange based on local ecological knowledge and scientific knowledge*. Natural Resource Management, Governance and Globalisation Master's Thesis 2007:19
- Lidestav, G. (1994) *Municipal Forests - Extent, Use and Planning*. Dissertation. Dept of Operational Efficiency, Swedish University of Agricultural Sciences. Garpenberg. ISBN 91-576-4850-6. (Doctoral thesis. In Swedish with English summary).
- Lidestav, G. (1997) *What do we do with the municipal forest - sell, keep or enhance?. History and case study*. Research Notes No. 299. Dept of Operational Efficiency, The Swedish University of Agricultural Sciences, Umeå. ISSN 0282-2377. (In Swedish with English summary).
- Lindgren, J. (2013) *Sveaskogs försäljning av skogsmark i Vilhelmina och Dorotea : målsättning och utfall ur ett glesbygdsperspektiv*. Second cycle, A2E. Umeå: SLU, Dept. of Forest Resource Management
- Lisberg Jensen, Ebba (2002) *Som man ropar i skogen: Modernitet, makt och mångfald i kampen om Njakafjäll och i den svenska skogsbruksdebatten 1970-2000*. ISBN 91-628-5100-4. Human Ecology Division, Lund University.
- Lundquist, J. (2005) *Municipality owned forest in Sweden – a questionnaire and interview study of social and economic values of the urban forests*. Inst f skogens produkter, Swedish University of Agricultural Sciences. Examensarbeten Nr 42: 2005. ISSN (Master thesis).
- Ministry for Rural Affairs. (2011a.) *The Forest Kingdom – with values for the world*. Action plan. Stockholm, Sweden: Ministry for Rural Affairs
- Ministry for Rural Affairs. (2011b) *Konkurrenskraft kräver jämställdhet - jämställdhetsstrategi för skogsbrukssektorn [Competitiveness requires gender equality - A brief presentation of the gender equality strategy for the forestry sector]*. Stockholm, Sweden: Ministry for Rural Affairs. (In Swedish.) <http://www.regeringen.se/content/1/c6/16/56/49/f7091ed1.pdf>
- National Board of Forestry (1995) *Swedish Statistical Yearbook of Forestry 1997*. Jönköping.
- National Board of Forestry (1997) *Swedish Statistical Yearbook of Forestry 1997*. Jönköping.
- Nilsson, J. & Björklund, T. (2003) *Kan Kooperationen klara konkurrensen?* Report / Swedish University of Agricultural Sciences (SLU), Department of Economics (149). Institutionen för ekonomi, Sveriges lantbruksuniversitet, Uppsala.
- Nordlund, A. & Westin, K. (2011) Forest Values and Forest Management Attitudes among Private Forest Owners in Sweden. *Forests* 2011(2), 30-50.
- Nordström E-M., Eriksson L.O., Öhman K. (2010) Integrating multiple criteria decision analysis in participatory forest planning: Experience from a case study in northern Sweden. *Forest Policy and Economics* 12: 562–574. <http://dx.doi.org/10.1016/j.forpol.2010.07.006>
- Nordström E.-M., Holmström H., Öhman K. (2013) Evaluating continuous cover forestry based on the forest owner's objectives by combining scenario analysis and multiple criteria decision analysis. *Silva Fennica* 47(4) article id 1046. " <http://dx.doi.org/10.14214/sf.1046>
- Stjernström O., Karlsson S., Pettersson Ö. (2013) *Skogen och den kommunala planeringen PLAN 1 2013*.
- Skår, J. (1981) *Kooperativa företag. En studie av det kooperativa företaget och dess sårart utförd på uppdrag av kooperationsutredningen*. SOU 1981: 54 Stockholm, AB ISBN 91-38-06309-3.
- Statistics Sweden (1979) *Ägareförhållandena inom skogsbruket*. Statistics Sweden. Statistiska meddelanden J 1979:14
- SOU (2006) *Slutbetänkande av skogsutredningen 2004*. Statens offentliga utredningar. SOU 2006:81
- Swedish Forest Agency (2003) *Swedish Statistical Yearbook of Forestry 2003*. Jönköping.

- Swedish Forest Agency (2013) *Swedish Statistical Yearbook of Forestry 2013*. Jönköping.
- Swedish Forest Agency (2013b) *Skogstyrelsens Årsredovisning 2013* (Annual report of Swedish Forest Agency 2013) In Swedish.
- Swedish Code of Statues (1993) *Konkurrenslag*. SFS 1993:29 (Competition Act), Government of Sweden, Stockholm ISSN 0346-5845
- Swedish Government (1992/93) Government Bill, 1992/93:56, *Ny Konkurrenslagstiftning (A New Competition Act)*, Preparatory work for Swedish Competition Act, Stockholm ISSN 99-1211253-9
- Swedish Government (1999/2000), Government Bill, 1999/2000:140, *Konkurrensolitik för förnyelse och mångfald (Competition Policy for renewal and multitude)*, Preparatory work for Swedish Competition Act, Stockholm. ISSN 99-1211253-9
- Swedish Government (1993) Prop 1992/93:226 *En ny skogspolitik. (A new forest policy)*.
- Swedish Government (1998) *The Swedish Environmental Code*. DS 2000:61
- Swedish Government (2005) *Jordförvärvsförordningen*. SFS 2005:522
- Swedish Riksdag (1979a) *Skogsvårdslag* SFS1979:429 (Swedish Forest Act).
- Swedish Riksdag (1979b) *Jordförvärvslag* SFS 1979:230. (*Land Acquisition Act 1979:230 and modifications until 2010:266* <http://www.notisum.se/rnp/sls/fakta/a9790230.htm>)
- Swedish Riksdag (1998) *Miljöbalk*. SFS 1998:808 (Environmental Code).
- Swedish Riksdag (2004) *Det går långsamt fram – jämställdheten inom jord och skogsbrukssektorn*. Ds 2004:39.
- Törnqvist, T. (1995) *Skogsrikets arvingar: en sociologisk studie av skogsägarskapet inom privat, enskilt skogsbruk* (Inheritors of the woodlands; a sociological study of the ownership in private forestry). Uppsala: Report No. 41. Department of Forest-Industry-Markets Studies Swedish University of Agricultural Sciences.
- Ziegenspech, S., Härdter, U. & Schraml, U. (2004) Lifestyles of private forest owners as indication of social change. *Forest Policy and Economics* 6, 447-458.

#### Internet references

- LRF (2011) The Federation of Swedish Farmers. <http://www.lrf.se/om-lrf/in-english/> [8 sept 2011].
- LRF (2014) Swedish family forestry. <http://www.lrf.se/globalassets/dokument/om-lrf/in-english/lrf-forestry/swedishfamilyforestrymars2014l.pdf> [February 3, 2014]
- Government Offices of Sweden (2012) The Rural Development Programme for Sweden the period 2007-2013. [www.government.se/sb/d/10158/a/82727](http://www.government.se/sb/d/10158/a/82727) [Sept 8 2014].
- Riksrevisionen. (2010) Sveaskog AB och dess uppdrag. [www.riksrevisionen.se/PageFiles/1958/RiR\\_2010\\_8.pdf](http://www.riksrevisionen.se/PageFiles/1958/RiR_2010_8.pdf) [Sept 9 2014]
- Skogforsk (2015) Kunskap direkt. <http://www.kunskapdirekt.se/> [Jan 30, 2015]
- PEFC (2015) PEFC. <http://www.pefc.se> [Jan 30, 2015]
- FSC (2015) Forest Stewardship Council. <http://se.fsc.org> [Jan 30, 2015]
- NILS (2015) National Inventory of Landscapes in Sweden. <http://www.slu.se/Nils>
- SFSI, 2015) The Swedish Forest Soil Inventory. <http://www.slu.se/markinventeringen>.
- Swedish Environmental Protection Agency (2015) Miljömål. <http://www.miljomal.nu>,
- Swedish Forest Agency (2015) Skogsskötselserien. [www.skogsstyrelsen.se/skogsskotselserien](http://www.skogsstyrelsen.se/skogsskotselserien)
- Swedish Forest Agency (2015b) Mina Sidor. <http://www.skogsstyrelsen.se/Aga-och-bruka/Mina-sidor1/Mina-sidor1/>

## Related literature

- Andersson, Mats (2010) *Non-industrial private forest owners' management decisions*. Diss. (sammanfattning/summary) Umeå : Sveriges lantbruksuniv., *Acta Universitatis agriculturae Sueciae*, 1652-6880 ; 2010:57 ISBN 978-91-576-7470-8 [Doktorsavhandling]
- Andersson, M. & Gong, P. (2010) Risk Preferences, Risk Perceptions and Timber Harvest Decisions – An Empirical Study of Non-industrial Private Forest Owners in Northern Sweden. *Forest Policy and Economics* 12:5 330-339.
- Andersson, Mats, Håkansson, Cecilia, Holmgren, Lina, (2010) Non-industrial private forest owners' financial risk taking: Does gender matter? *Scandinavian Journal of Forest Research* 25, 6-13.
- Appelstrand, M. (2009) Bridging entrepreneurial innovation and public environmental values in small-scale forestry with the "New Public Service" model of public administration. In McGill, D. (Ed.) *Seeing the Forest Beyond the Trees: New possibilities and expectations for products and services from small-scale forestry*. Peer reviewed Proceedings. Morgantown: University of West Virginia. IUFRO 3.08
- Ask, P. & Carlsson, M. (2000) Nature conservation and timber production in areas with fragmented ownership patterns. *Forest Policy and Economics* 1, 209-223.
- Berg Lejon, S, Holmgren, L. Lidestav, G. (2011) A Swedish Data Base for Forest Owner Analysis. *Small-scale Forestry* (2011) 10:199–210
- Berlin, C., Lidestav, G. & Holm, S. (2006) Values placed on Forest Property Benefits by Swedish NIPF Owners; Differences between Members in Forest Owner Associations and Non-members. *Small-scale Forest Economics, Management and Policy* 5(1), 83-96
- Berlin, C. and Erikson, L.O. 2007. A Comparison Of Characteristics Of Forest and Farm Cooperative. *Journal of Cooperatives*. Volume 20 2007 Page 50-63
- Blennow, K., Sallnas, O., (2002) Risk perception among non-industrial private forest owners. *Scandinavian Journal of Forest Research* 17, 472-479.
- Bohlin, F., Roos, A., (2002) Wood fuel supply as a function of forest owner preferences and management styles. *Biomass & Bioenergy* 22, 237-249.
- Brukas, V., Sallnäs, O., (2012) Forest management plan as a policy instrument: Carrot, stick or sermon? *Land Use Policy* 29, 605-613.
- Carlén, O. (1990) *Private Nonindustrial Forest Owners' Management Behaviour : An economic analysis based on empirical data*. Report 92, Dissertation 12. Umeå: . Department of Forest Economics, Swedish University of Agricultural Sciences.
- Carlsson, L. (1997) *The Swedish Forest Commons: a common property resource in an urban, industrialised society*. Rural Development Forestry Network Paper 20e (Winter 1996/97):1-13.
- Chuanzhong, L. (1990) *A behaviour model of non-industrial private forest owners and the effect on timber supply*. Arbetsrapport Institutionen for Skogsekonomi, Sveriges Lantbruksuniversitet No. 108, 16 pp.
- Eriksson, L. (2004) Development strategies for privately owned forestry in the mountainous region of Sweden. *Small-scale forest economics, management and policy*, 3(1): 1-15.
- Eriksson, L. (2012) Exploring Underpinnings of Forest Conflicts: A Study of Forest Values and Beliefs in the General Public and Among Private Forest Owners in Sweden. *Society & Natural Resources* 25, 1102-1117.
- Eriksson, L., Nordlund, A. & Westin, K. (2012) The general public's support for forest policy in Sweden: a value belief approach. *Journal of Environmental Planning and Management* 1-18.
- Eriksson, L., Nordlund, A., Olsson, O. & Westin, K. (2012) Recreation in different forest settings: A scene preference study. *Forests* (3), 923-943.
- Fischer, P., Bliss, J., Ingemarson, F., Lidestav, G., and Lönnstedt, L. (2010) From the small woodland problem to ecosocial systems: The evolution of social research on small-scale forestry in Sweden and the USA. *Scandinavian Journal of Forest Research* 25 390-398.

- Fällman, K., Albrektson, A & Karlsson, A. (2005) *Private forest owners in Sweden and their attitude towards precommercial thinning*. In Fällman, K. *Aspects of Precommercial Thinning – Private Forest Owners' Attitudes and Alternative Practices*. Umeå: Acta Universitatis Agriculturae Sueciae. Doctoral Thesis No.2005:90. Swedish University of Agricultural Sciences.
- Götmark, F. (2009) Conflicts in conservation: Woodland key habitats, authorities and private forest owners in Sweden. *Scandinavian Journal of Forest Research*.24 (3), 504-514.
- Hannerz, M., Boje, L. & Löf, M. (2010) The role of internet in knowledge-building among private forest owners in Sweden. *Ecological Bulletins* 53, 000-000.
- Hemstrom, K, Mahapatra, K, Gustavsson, L, (2013) Swedish private forest owners' perceptions and intentions with respect to adopting exotic tree species. *European Journal of Forest Research* 132, 433-444.
- Holmgren, E., Holmgren, L. & Lidestav, G. (2007) Comparison of harvesting and business activities of non-shareholders and shareholders in a forest common in Västerbotten, Sweden. *Scandinavian Journal of Forest Research* 22:582-592
- Hugosson, M. (1999) *Constructing cultural Patterns from Actors's Views on Industrial Forestry in Sweden*. Uppsala: Acta Universitatis Agriculturae Sueciae Silvestria 113, Swedish University of Agricultural Sciences.
- Hugosson, M. & Ingemarson, F. (2004) Objectives and motivations of small-scale forest owners; theoretical modelling and qualitative assessment. *Silva Fennica* 38(2),217-
- Häggqvist, P., Berg Lejon, S. and Lidestav, G. (2010) Forest days as an educational method in Swedish family forestry. *Scandinavian Journal of Forest Research* 25:Suppl No.9 25-32.
- Hörnfeldt, R., Ingemarson, F., 2006. Evaluation of silvicultural practices from a multipurpose perspective. *Baltic Forestry* 12, 82-93.
- Ingemarson, F. (2004) *Small-scale forestry in Sweden – owners' objectives, silvicultural practices and management plans*. Uppsala: Acta Universitatis Agriculturae Sueciae Silvestria 318. Department of Forest Products and Markets, Swedish University of Agricultural Sciences.
- Ingemarson, F., Lindhagen, A., Eriksson, L., (2006) A typology of small-scale private forest owners in Sweden. *Scandinavian Journal of Forest Research* 21, 249-259.
- Kittredge, D.B. (2005) The cooperation of private forest owners on scales larger than one individual property: International examples and potential application in the United States. *Forest Policy and Economics* 7(4), 671-688.
- Kleinschmit, D, Ingemarson, F. & Holmgren, S. (2011) Research on forest policy in Sweden – Review. *Scandinavian Journal of Forest Research* 27, 120-129.
- Kronholm, T. & Staal Wästerlund, D. (2013) District Council Members and the Importance of Member Involvement in Organization Renewal Processes in Swedish Forest Owners' Associations. *Forests* 2013, 4, 404-432
- Lidestav, G. (1998) Women as Non-industrial private forest landowners in Sweden. *Scandinavian Journal of Forest Research* 13, 66-73.
- Lidestav, G & Ekström, M. (2000) Introducing gender in studies on management behaviour among NIPF owners. *Scandinavian Journal of Forest Research* 15, 378-386.
- Lidestav, G. & Nordfjell, T. (2005) A Conceptual Model for Understanding the Social Practices in Family Forestry. *Small-scale Forest Economics, Management and Policy*. 4(4),391-408.
- Lidestav, G. 2010. In competition with a brother: Women's inheritance positions in contemporary Swedish family forestry', *Scandinavian Journal of Forest Research* 25:Suppl No.9 14-25.
- Lidestav, G. and Berg Lejon, S. (2011) Forest certification as an instrument for improved forest management within small-scale forestry. *Small-scale Forestry* 10:401–418
- Lidestav, G and Arvidsson, A-M (2012) *Member, Owner, Customer, Supplier? - The Question of Perspective on Membership and Ownership in a Private Forest Owner Cooperative*. INTECH, Forestry / Book 2", ISBN 978-953-308-572-2. P 75-94

- Lidestav, G. and Berg Lejon, S. (2013) Harvesting and silvicultural activities in Swedish family forestry – behavior changes from a gender perspective. *Scandinavian journal of forest research* 28:2, 136-142
- Lidestav, G., Poudyal, M., Holmgren, E. & Keskitalo, E.C.H. (2013) Shareholder perceptions of individual and common benefits in Swedish forest commons. *International Journal of the Commons* Vol. 7, no 1 February 2013, pp. 164–182.
- Lindroos, O. Lidestav, G. & Nordfjell, T. (2005) Swedish Non-industrial Private Forest Owners: a Survey of Self-employment and Equipment Investments. *Small-scale Forest Economics, Management and Policy* 4(4), 409–425.
- Lindkvist, A., Mineur, E., Nordlund, A., Nordlund, C., Sandström, C., Westin, K. & Keskitalo, C. (2012) Attitudes to Intensive Forestry: An Investigation of Perceptions of Increased Production in Swedish forestry. *Scandinavian Journal of Forest Research*, 27(5) 1-11.
- Lönnstedt, L (1989) Goals and cutting decisions of private small forest owners, *Scandinavian Journal of Forest Research* 4(1 – 4), 259 - 265
- Lönnstedt, L. (1997) Non-industrial private forest owners' decision process: A qualitative study about goals, time perspective, opportunities and alternatives. *Scandinavian Journal of Forest Research* 12(3), 302 – 310.
- Lönnstedt, L (1998) Calculating non-industrial private forest owners' cuttings. *Scandinavian Journal of Forest Research* 13(1 – 4), 215 - 223
- Lönnstedt, L. (2013) Swedish Forest Owners' Associations: Establishment and Development After the 1970s. *Small-scale Forestry*: 1-17.
- Lönnstedt, L. & Svensson, J. (2000) Non-industrial Private Forest Owners' Risk Preferences. *Scandinavian Journal of Forest Research* 15, 651-660.
- Mattila, O., Roos, A., (2012) A comparative assessment of the forestry services in Finland and Sweden. *Scandinavian Forest Economics*, 104-114.
- Pulla, P. Schuck, A., Verkerk, P.J, Lasserre, B., Marchetti, M. & Green, T. (2013) *Mapping the distribution of forest ownership in Europe*. European Forest Institute.
- Sennblad, G. (1988) *Survey of logging and silviculture in non-industrial private forestry in Sweden 1984*. Garpenberg: Report 175. Dept of Operational Efficiency, Swedish University of Agricultural Sciences, In Swedish with Summary in English).
- Törnqvist, T. (1997) The socio-economic structure of small-scale forest ownership in Sweden. *Commonwealth Forestry Review* 76(1), 37-42.
- Uliczka, H. (2003) Nature Conservation Efforts by Forest Owners – Intentions and Practice in a Swedish Case Study. *Silva Fennica*. 37(4), 459-475.
- Uliczka, H., Angelstam, P., Jansson, G. & Bro, A. (2004) Non-industrial Private Forest Owners' Knowledge of and Attitudes Towards Nature Conservation. *Scandinavian Journal of Forest Research* 19, 274-288
- Umaerus, P., Lidestav, G., Eriksson, O. and Högvall Nordin, M. (2013) Gendered business activities in family farm forestry: From round wood delivery to health service. *Scandinavian Journal of Forest Research* 28 (6) 596-607.
- Westholm, E. (1988) *Mark och människor i Gagnefs socken. Om markägandets betydelse i en ägosplittrad bygd*. DFR-rapport 1988:3. Dalarnas Forskningsråd.
- Westholm, E. (1992) *Mark, människor och moderna skiftesreformer i Dalarna*. (Modern Land Reforms in Dalarna, Sweden.) Uppsala: Geografiska Regionstudier 25. Dept of Social and Economic Geography, Uppsala University.



**Bibliography - 10 most relevant publications (in Annexes)**

1. Appelstrand, M. (2007) *Environmental goals for forestry – governing and voluntariness*. Lund: Lund Studies in Sociology of law 26. Lund University.
2. Berg Lejon, S., Holmgren, L., Lidestav, G. (2011) A Swedish Data Base for Forest Owner Analysis. *Small-scale Forestry* (2011) 10:199–210.
3. Fischer, P., Bliss, J., Ingemarson, F., Lidestav, G., and Lönnstedt, L. 2010. From the small woodland problem to ecosocial systems: The evolution of social research on small-scale forestry in Sweden and the USA. *Scan. J. For. Res.* 2010: (25) 390-398.
4. Holmgren, E., Lidestav, G. and G. Kempe. 2004. Forest Conditions and Management in Swedish Forest Commons. *Small-scale Forest Economics Management and Policy*, 3:453-468.
5. Keskitalo, E. C. H. & J. Liljenfeldt (2014): Implementation of forest certification in Sweden: an issue of organisation and communication, *Scandinavian Journal of Forest Research* 29(5): 473-484.
6. Lidestav, G. 2010. In competition with a brother: Women's inheritance positions in contemporary Swedish family forestry', *Scan. J. For. Res.* 25: Suppl No.9 14-25.
7. Lidestav, G & Arvidsson, A-M. (2012) *Member, Owner, Customer, Supplier? - The Question of Perspective on Membership and Ownership in a Private Forest Owner Cooperative*, *Global Perspectives on Sustainable Forest Management*, Dr. Dr. Clement A. Okia (Ed.), ISBN: 978-953-51-0569-5, InTech, DOI: 10.5772/34115.
8. Nordlund, A. & Westin, K. (2011) Forest Values and Forest Management Attitudes among Private Forest Owners in Sweden. *Forests* 2011(2), 30-50.
9. Törnqvist, T. (1995) *Skogsrikets arvingar: en sociologisk studie av skogsägarskapet inom privat, enskilt skogsbruk (Inheritors of the woodlands; a sociological study of the ownership in private forestry)*. Uppsala: Report No. 41. Department of Forest-Industry-Markets Studies Swedish University of Agricultural Sciences.
10. Mattila, O. & Roos, A. 2012. A comparative assessment of the forestry services in Finland and Sweden. *Scandinavian Forest Economics*(44):104-114.

## 8. Annexes

### 8.1. Tables with detailed description of 10 most important publications

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	<b>Appelstrand, M. (2007). Environmental goals for forestry – governing and voluntariness. Lund: Lund Studies in Sociology of law 26. Lund university 323 pp.</b>
English language summary/abstract	This dissertation analyses the changes in the way Swedish forest policy has been developed and implemented in the past few decades. Its primary focus is on the period from the adoption of new legislation governing forestry in 1993 to date, though the historical antecedents of the more recent developments are also discussed. The dissertation focuses primarily on the interplay between changes in the policy priorities enshrined in forest legislation and the changes in the steering and implementation means and resources available to achieve the aims of the recent forest policies. Various perspectives on public administration/public management are used to analyse the preconditions and opportunities available to state authorities to meet the environmental goals in forest policy. Furthermore, norm theory as developed within the sociology of law is applied to analyse how various categories of forest owners can be motivated to shoulder a greater responsibility for nature conservation and development and environmental activities. The tension between private forest owners' interests and public (both of the state and the public in general) interests, and possible ways around the tension also figure prominently in this study. Central to the opportunities for success in obtaining the more ambitious environmental goals in a "regulatory" setting characterized by a levelling of the status between authorities and forest owners and decreased resources and coercive capacities on part of the authorities, is the prospects for "soft regulation." Here we see an emphasis on bringing new actors into the policy formulation, interpretation and implementation arena, the development of new networks, the role of information and advisement in producing "enlightened self-interest" and common frames of understanding. Ultimately what is aimed at is "smart regulation" via the use of various forms of flexible instruments in a context where a greater number of stakeholders are involved. Thus the role of "regulatory" authorities moves towards becoming a facilitator, or a "motor" that as a partner promotes collaborative structures and cooperation.
Language of the study/publication	In Swedish with Summary in English.
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	<input checked="" type="checkbox"/> University <input type="checkbox"/> Public Research Institute <input type="checkbox"/> Private Research Institute <input type="checkbox"/> Other (please name below) <input type="text"/>
Type of funding used (multiple answers allowed)	<input type="checkbox"/> Private Industry <input type="checkbox"/> Private other <input checked="" type="checkbox"/> National <input type="checkbox"/> Public Sub-National <input type="checkbox"/> Public EU/cross-national Europe <input type="checkbox"/> Public International beyond Europe <input type="checkbox"/> Public other

Regional scope	<input type="checkbox"/> Sub-national <input checked="" type="checkbox"/> National <input type="checkbox"/> Cross-national Europe <input type="checkbox"/> International beyond Europe
Theoretical approach	Norm theory as developed within the sociology of law is applied to analyses how various categories of forest owners can be motivated to shoulder a greater responsibility for nature conservation and development and environmental activities.
Methodical approach	Qualitative interviews, policy analysis
Thematic focus	ownership change (incl. on changes in <input type="checkbox"/> quantitative terms, emerging new ownership types, etc.) <input type="checkbox"/> motives and behaviour of ownership types <input type="checkbox"/> new management approaches <input checked="" type="checkbox"/> policy instruments addressing ownership
Main results should be given here if not yet included in the summary.	
Weblink	<a href="http://www.avhandlingar.se/avhandling/39a8852fe1/">http://www.avhandlingar.se/avhandling/39a8852fe1/</a>

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	<b>Berg Lejon, S, Holmgren, L. Lidestav, G. (2011). A Swedish Data Base for Forest Owner Analysis. Small-scale Forestry (2011) 10:199–210.</b>
English language summary/abstract	In Sweden, as in other countries with a growing and increasingly diverse population of forest owners, there is an apparent need for more detailed quantitative data of high quality in order to describe and understand present forest conditions and predict and explain future trends. Therefore, the Swedish University of Agricultural Sciences has developed a Data Base for Forest Owner Analysis (DBFOA) by combining existing forest measurement statistics, gathered on a regular basis by the Swedish Forest Agency since 1992, with records of the individual forest owners. The database consists of self-reported measurement statistics in terms of cuttings, cleaning, scarification and planting from about 30,000 forest management units. It includes information on the owner age, gender, residential proximity to the management unit and the extent of work undertaken by the owner. From 1999 it also indicates whether the forest is certified. This paper demonstrates the use of the database by presenting results from (1) a comparison of management practices on properties that are certified with those that are not, and (2) an examination of how the area of planting and final felling have changed from 1999 to 2006 in total and between male and female forest owners. Results from the first analysis show that the willingness to certify increases with the size of the forest property and also that harvesting activities are more frequent on certified than non-certified properties. The second analysis, show a higher ratio of final felling during 2003–2006 on properties owned by women than properties owned by men.
Language of the study/publication	English
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	<input checked="" type="checkbox"/> University <input type="checkbox"/> Public Research Institute <input type="checkbox"/> Private Research Institute <input type="checkbox"/> Other (please name below) <input type="text"/>
Type of funding used (multiple answers allowed)	<input type="checkbox"/> Private Industry <input type="checkbox"/> Private other <input checked="" type="checkbox"/> National <input type="checkbox"/> Public Sub-National <input type="checkbox"/> Public EU/cross-national Europe <input type="checkbox"/> Public International beyond Europe <input type="checkbox"/> Public other
Regional scope	<input type="checkbox"/> Sub-national <input checked="" type="checkbox"/> National <input type="checkbox"/> Cross-national Europe <input type="checkbox"/> International beyond Europe
Theoretical approach	Monitoring management behavior
Methodical approach	Data base study

<p>Thematic focus</p>	<p>ownership change (incl. on changes in  <input type="checkbox"/> quantitative terms, emerging new ownership types, etc.)  <input checked="" type="checkbox"/> motives and behaviour of ownership types  <input type="checkbox"/> new management approaches  <input type="checkbox"/> policy instruments addressing ownership</p>
<p>Main results should be given here if not yet included in the summary.</p>	
<p>Weblink</p>	<p><a href="http://link.springer.com/journal/11842/10/2/page/1">http://link.springer.com/journal/11842/10/2/page/1</a></p>

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	<b>Fischer, P., Bliss, J., Ingemarson, F., Lidestav, G., and Lönnstedt, L. 2010. From the small woodland problem to ecosocial systems: The evolution of social research on small-scale forestry in Sweden and the USA. Scan. J. For. Res. 2010: (25) 390-398.</b>
English language summary/abstract	This review article deals with the evolution of academic small-scale forestry research in Sweden and the USA from its early focus on timber supply to present-day interest in stewardship objectives, characteristics and attitudes. Aiming at identifying fresh opportunities for research on small-scale forestry, it reflects on the questions that have dominated the literature over the past quarter of a century, the socioeconomic conditions under which those questions arose, and their influence on the evolution of the field. The goal was to explore key drivers for research over the past 25 years and identify emerging research themes, and by that provide insight into what developments may make the research enterprise more fruitful. With some exceptions, it is based on articles in refereed journals and to academic theses covering the time span 1985–2010. It reflects a reappraisal of the subject of the research and corresponding policies. Similar research tendencies are evident in both countries. Research historically focused on the practical problem of efficient production using a weak theoretical foundation. More recently, researchers have focused on understanding diverse motivations and roles that can be played. It is argued that the field of small-scale forestry research is ripe for new multidisciplinary approaches.
Language of the study/publication	English
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	<input checked="" type="checkbox"/> University <input type="checkbox"/> Public Research Institute <input type="checkbox"/> Private Research Institute <input type="checkbox"/> Other (please name below) <input type="text"/>
Type of funding used (multiple answers allowed)	<input type="checkbox"/> Private Industry <input type="checkbox"/> Private other <input type="checkbox"/> National <input type="checkbox"/> Public Sub-National <input type="checkbox"/> Public EU/cross-national Europe <input type="checkbox"/> Public International beyond Europe <input checked="" type="checkbox"/> Public other
Regional scope	<input type="checkbox"/> Sub-national <input type="checkbox"/> National <input type="checkbox"/> Cross-national Europe <input checked="" type="checkbox"/> International beyond Europe
Theoretical approach	Sociology
Methodical approach	Literature review

<p>Thematic focus</p>	<p>ownership change (incl. on changes in  <input checked="" type="checkbox"/> quantitative terms, emerging new ownership types, etc.)  <input type="checkbox"/> motives and behaviour of ownership types  <input type="checkbox"/> new management approaches  <input type="checkbox"/> policy instruments addressing ownership</p>
<p>Main results should be given here if not yet included in the summary.</p>	<p><a href="#">Click here to enter text.</a></p>
<p>Weblink</p>	<p><a href="http://www.tandfonline.com/doi/abs/10.1080/02827581.2010.498386">http://www.tandfonline.com/doi/abs/10.1080/02827581.2010.498386</a></p>

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	<b>Holmgren, E., Lidestav, G. and G. Kempe. 2004. Forest Conditions and Management in Swedish Forest Commons. Small-scale Forest Economics Management and Policy, 3:453-468.</b>
English language summary/abstract	Forest commons are regarded as a means to support local development and sustainable forest conditions. To evaluate the development impact of Swedish forest commons, comparative surveys have been undertaken in three regions, and the differences in forest condition and management between categories of commons as well as their relation to other forest ownerships have been assessed. Regional differences between the by-laws, historical development and geographical conditions are apparent. It is concluded that two of three regions have an overly restrictive harvesting policy given the purpose of the forest commons and the official forest policy. The study results underline the importance of evaluation of the performance of forest management in relation to management objectives, to ownership alternatives and to the impact of local variations in preconditions.
Language of the study/publication	English
Type of organization conducting the study	<input checked="" type="checkbox"/> University <input type="checkbox"/> Public Research Institute <input type="checkbox"/> Private Research Institute <input type="checkbox"/> Other (please name below)
Type of funding used (multiple answers allowed)	<input type="checkbox"/> Private Industry <input checked="" type="checkbox"/> Private other <input type="checkbox"/> National <input type="checkbox"/> Public Sub-National <input type="checkbox"/> Public EU/cross-national Europe <input type="checkbox"/> Public International beyond Europe <input type="checkbox"/> Public other
Regional scope	<input type="checkbox"/> Sub-national <input checked="" type="checkbox"/> National <input type="checkbox"/> Cross-national Europe <input type="checkbox"/> International beyond Europe
Theoretical approach	Forest management
Methodical approach	Data base analysis
Thematic focus	ownership change (incl. on changes in <input type="checkbox"/> quantitative terms, emerging new ownership types, etc.) <input checked="" type="checkbox"/> motives and behaviour of ownership types <input type="checkbox"/> new management approaches <input checked="" type="checkbox"/> policy instruments addressing ownership
Main results should be given here if not yet included in the summary.	
Weblink	<a href="http://rd.springer.com/article/10.1007/s11842-004-0031-0">http://rd.springer.com/article/10.1007/s11842-004-0031-0</a>



SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	<b>Keskitalo, E. C. H. and Liljenfeldt, J. (2014): Implementation of forest certification in Sweden: an issue of organisation and communication, Scandinavian Journal of Forest Research 29(5): 473-484.</b>
English language summary/abstract	<p>The goal of nature conservation is often implemented on productive forest land largely by means of forest certification – a market-driven, voluntary system of third-party verification of the fulfilment of specific goals. This study assesses how certification requirements are being implemented in various organisations in the forest sector at various levels, and the problems and opportunities identified at each level in order to implement the requirements of the standard. Based on interviews with stakeholders in Sweden, the study demonstrates that forest certification is a communication issue: it places great demands on communication or “information logistics” between different parts of the felling and forest management chain, from top management to the contractor in the field. Integration with environmental performance systems, clarity in the division of responsibility, formalisation of requirements for forest planning, and further integration of a culture of continuous improvement and internal reporting could support the implementation of the certification system. The study notes that “interviewees highlight that an inequality of knowledge between forest owners and forest sector representatives. The individual forest owner today is rarely involved in forest management full-time, but is often a non-resident owner or someone who does not work with forestry in their daily life. For many individual forest owners, contact with forest management measures and planting takes place through the forest owners' associations. The forest owners' associations provide advice to individual forest owners, but also frequently serve as a purchasing organisation when forest owners sell forest or timber, something which constitutes a dual relationship. The actual environmental consideration that is taken here is a result of a discussion between the association's officials and the individual forest owner and of the level of ambition and willingness that these have. However, the forest owners' associations have different approaches and a different focus on the importance of certification, varying both at association level and individual level. As one of the interviewees describe it, this raises the issue that the inspectors at the forest owners' associations have a special position with respect to the environmental consideration and also a particular responsibility to communicate with the forest owners at the same time as they have the role of wood purchasers</p>
Language of the study/publication	English
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	<input checked="" type="checkbox"/> University <input type="checkbox"/> Public Research Institute <input type="checkbox"/> Private Research Institute <input type="checkbox"/> Other (please name below) <input type="text"/>
Type of funding used (multiple answers allowed)	<input type="checkbox"/> Private Industry <input type="checkbox"/> Private other <input checked="" type="checkbox"/> National <input type="checkbox"/> Public Sub-National <input type="checkbox"/> Public EU/cross-national Europe <input type="checkbox"/> Public International beyond Europe <input type="checkbox"/> Public other

Regional scope	<input type="checkbox"/> Sub-national <input checked="" type="checkbox"/> National <input type="checkbox"/> Cross-national Europe <input type="checkbox"/> International beyond Europe
Theoretical approach	Political science
Methodical approach	Data base and questionnaire
Thematic focus	<p>ownership change (incl. on changes in</p> <input type="checkbox"/> quantitative terms, emerging new ownership types, etc.) <input checked="" type="checkbox"/> motives and behaviour of ownership types <input checked="" type="checkbox"/> new management approaches <input checked="" type="checkbox"/> policy instruments addressing ownership
Main results should be given here if not yet included in the summary.	
Weblink	<a href="http://www.ingentaconnect.com/content/tandf/sfor">http://www.ingentaconnect.com/content/tandf/sfor</a>

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	<b>Lidestav, G. 2010. In competition with a brother: Women's inheritance positions in contemporary Swedish family forestry', Scan. J. For. Res. 25: Suppl No. 9 14-25.</b>
English language summary/abstract	Swedish family forestry is characterized by traditional perceptions of the farm as a project that spans generations and a strong desire to preserve family ownership in accordance with a paternal inheritance tradition. In this study women's inheritance positions in contemporary family forestry in Sweden were examined using three different sources: (1) a national register of all forest owners; (2) an inquiry study; and (3) narrative accounts from female forest owners. An asymmetrical ownership pattern was exposed in the analysis of all three materials. Gender had an impact on who, what and how family owned forest land was transferred from one generation to another. Furthermore, analysis of the narrative accounts showed that a minority of the women corresponded to the concept transitive element. A typology with three additional concepts, namely transitive agent, transformative element and transformative agent, is therefore suggested and discussed.
Language of the study/publication	English
Type of organization conducting the study	<input checked="" type="checkbox"/> University <input type="checkbox"/> Public Research Institute <input type="checkbox"/> Private Research Institute <input type="checkbox"/> Other (please name below)
Type of funding used (multiple answers allowed)	<input type="checkbox"/> Private Industry <input type="checkbox"/> Private other <input checked="" type="checkbox"/> National <input type="checkbox"/> Public Sub-National <input type="checkbox"/> Public EU/cross-national Europe <input type="checkbox"/> Public International beyond Europe <input type="checkbox"/> Public other
Regional scope	<input type="checkbox"/> Sub-national <input checked="" type="checkbox"/> National <input type="checkbox"/> Cross-national Europe <input type="checkbox"/> International beyond Europe
Theoretical approach	sociology
Methodical approach	register analysis, questionnaire, interviews and narratives
Thematic focus	ownership change (incl. on changes in <input checked="" type="checkbox"/> quantitative terms, emerging new ownership types, etc.) <input checked="" type="checkbox"/> motives and behaviour of ownership types <input checked="" type="checkbox"/> new management approaches <input type="checkbox"/> policy instruments addressing ownership
Main results should be given here if not yet included in the summary.	
Weblink	<a href="http://www.tandfonline.com/doi/abs/10.1080/02827581.2010.506781">http://www.tandfonline.com/doi/abs/10.1080/02827581.2010.506781</a>

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	<b>Nordlund, A. &amp; Westin, K. (2011). Forest Values and Forest Management Attitudes among Private Forest Owners in Sweden. Forests 2011(2), 30-50.</b>
English language summary/abstract	The present study focused on how forests will be managed in the future in light of the increased emphasis being put by the public on the ecological and recreational values of forests, the trend towards an increased share of non-resident forest owners, and the increased female forest ownership. The value and belief basis of forest management attitudes was explored using a questionnaire sent to a sample of private forest owners residing on (n = 995, return rate = 51.3%) and not residing on the forest property (n = 997, return rate = 50%). The results showed that a share of private forest owners strongly value both the view that the forest should predominately be used for timber production and the view that preservation is most important. The proposed hierarchical structure of influence, in which the forest management attitude was influenced by values and beliefs, was supported in the study. The ecological, recreational, and production forest values primarily influenced the most closely related forest management attitude, even if some cross-sectional effects and some effects of socio-demographics were found, showing that the view a private forest owner has on different forms of management styles is shaped by the perceived multiple values of the forest.
Language of the study/publication	English
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	<input checked="" type="checkbox"/> University <input type="checkbox"/> Public Research Institute <input type="checkbox"/> Private Research Institute <input type="checkbox"/> Other (please name below)
Type of funding used (multiple answers allowed)	<input type="checkbox"/> Private Industry <input type="checkbox"/> Private other <input checked="" type="checkbox"/> National <input type="checkbox"/> Public Sub-National <input type="checkbox"/> Public EU/cross-national Europe <input type="checkbox"/> Public International beyond Europe <input type="checkbox"/> Public other
Regional scope	<input type="checkbox"/> Sub-national <input type="checkbox"/> National <input checked="" type="checkbox"/> Cross-national Europe <input type="checkbox"/> International beyond Europe
Theoretical approach	(Forests) values and attitudes (environmental psychology)
Methodical approach	Questionnaire survey
Thematic focus	ownership change (incl. on changes in <input type="checkbox"/> quantitative terms, emerging new ownership types, etc.) <input checked="" type="checkbox"/> motives and behaviour of ownership types <input type="checkbox"/> new management approaches <input type="checkbox"/> policy instruments addressing ownership
Weblink	<a href="http://www.mdpi.com/1999-4907/2/1/30">http://www.mdpi.com/1999-4907/2/1/30</a>

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	<b>Törnqvist, T. (1995). Skogsrikets arvingar: en sociologisk studie av skogsägarskapet inom privat, enskilt skogsbruk (Inheritors of the woodlands; a sociological study of the ownership in private forestry). Uppsala: Report No. 41. Department of Forest-Industry-Markets Studies, Swedish University of Agricultural Sciences.</b>
English language summary/abstract	The purpose of this dissertation is to analyse private, non-industrial forest ownership in Sweden. Although great variation may be found in the situations of the approximately 400,000 individuals who own forests in Sweden, some common social and economic conditions may also be identified. Using an interdisciplinary approach, this analysis provides a view of the emergence and evolution of private forest ownership, the social and institutional frameworks for ownership, and the modes of action in which forest owners engage. The dissertation is divided into four main parts. Part I details the fundamental theoretical premises of the analysis. Part II examines forest ownership from a social perspective, emphasizing the institutional conditions which have influenced ownership over time. Beginning with the effects of the divergent views and rationales of agricultural and of industrial society on the emergence of forest ownership, this section analyses the negotiations and compromises enacted in the sectors of agriculture, forestry and forest industry. Part III identifies and elaborates the modes of action common among private forest owners. Stress is given to (1) the forest estate as a projected spans generations, (2) the forest owner as entrepreneur, and (3) the forest owner as forest manager. In the final section of this dissertation, Part IV, a socio-cultural interpretation of prevalent modes of action among Swedish forest owners is presented. Central to this interpretation is the concept of "mode of life". My conclusion is that the households of forest owners feature characteristics that bear a strong resemblance to those of family- and small businesses.
Language of the study/publication	Swedish with English summary
Type of organization conducting the study	<input checked="" type="checkbox"/> University <input type="checkbox"/> Public Research Institute <input type="checkbox"/> Private Research Institute <input type="checkbox"/> Other (please name below) <input type="text"/>
Type of funding used (multiple answers allowed)	<input type="checkbox"/> Private Industry <input type="checkbox"/> Private other <input type="checkbox"/> National <input type="checkbox"/> Public Sub-National <input type="checkbox"/> Public EU/cross-national Europe <input type="checkbox"/> Public International beyond Europe <input type="checkbox"/> Public other
Regional scope	<input type="checkbox"/> Sub-national <input checked="" type="checkbox"/> National <input type="checkbox"/> Cross-national Europe <input type="checkbox"/> International beyond Europe
Theoretical approach	sociology
Methodical approach	Case studies, questionnaires, qualitative interviews

<p>Thematic focus</p>	<p>ownership change (incl. on changes in  <input type="checkbox"/> quantitative terms, emerging new ownership types, etc.)  <input type="checkbox"/> motives and behaviour of ownership types  <input type="checkbox"/> new management approaches  <input type="checkbox"/> policy instruments addressing ownership</p>
<p>Main results should be given here if not yet included in the summary.</p>	
<p>Weblink</p>	<p><a href="http://www.jstor.org/stable/20850229">www.jstor.org/stable/20850229</a></p>

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	<b>Mattila, O., Roos, and A. 2012. A comparative assessment of the forestry services in Finland and Sweden. Scandinavian Forest Economics (44):104-114.</b>
English language summary/abstract	<p>Non-industrial private forest owners (NIPFs) are the most significant ownership group in Finland and in Sweden by owning more than half of the productive forest land. Emphasis on meeting the industry requirements for stable roundwood supply has traditionally dominated the service offerings targeted to NIPFs but the changing objectives of the private forest owners have also diversified their service needs. Therefore, it seems that the traditional 'roundwood supply approach' does no longer match the service needs among modern forest owners. More flexible service markets and a larger number of actors might improve conditions for those forest owners with more diverse service needs. Environmental and cultural similarities combined with the long common cultural traditions make the comparison of Finnish and Swedish forestry services markets reasonable: the good methods in each country could be adopted also by the 'neighbour'. The Finnish markets are facing structural changes when it comes to organising the service delivery system. In Sweden, especially the role of the forest owners' organisations and the present situation offers some clues of the way the Finnish system is possibly going to evolve. Changes in the financial base of the Finnish forest management associations towards the Swedish way of the voluntary membership system could affect the whole service markets. Simultaneously, the stronger interest groups of the independent forestry entrepreneurs in the Finnish markets are supporting entrepreneurship, compared with the Swedish where contractors struggle in a difficult market environment against strong industry. The theoretical objective is to examine and compare the market and institutional background for service innovation in the contexts of Finnish and Swedish forest clusters. Based on the concepts of service-dominant logic and dynamic capabilities, the empirical objective of the project is to describe the existing and potential service business models and their development possibilities. This research contributes to an improved service-dominant logic based system in which customer value is created at the level of the whole network of actors. Using qualitative approach and 16 thematic expert interviews in Swedish and Finnish service organizations, we will aim to identify potential barriers and opportunities for creating new services in the NIPF markets and, further, suggestions to develop new service innovations to fulfil emerging needs among forest owners.</p>
Language of the study/publication	English
Type of organization conducting the study	<input checked="" type="checkbox"/> University <input type="checkbox"/> Public Research Institute <input type="checkbox"/> Private Research Institute <input type="checkbox"/> Other (please name below) <input type="text"/>
Type of funding used (multiple answers allowed)	<input type="checkbox"/> Private Industry <input type="checkbox"/> Private other <input checked="" type="checkbox"/> National <input type="checkbox"/> Public Sub-National <input type="checkbox"/> Public EU/cross-national Europe <input type="checkbox"/> Public International beyond Europe <input type="checkbox"/> Public other

Regional scope	<input type="checkbox"/> Sub-national <input checked="" type="checkbox"/> National <input type="checkbox"/> Cross-national Europe <input type="checkbox"/> International beyond Europe
Theoretical approach	Service dominant Logic (SDL) framework was used as a starting point when designing the questionnaire for the thematic interviews
Methodical approach	Interviews
Thematic focus	<input type="checkbox"/> ownership change (incl. on changes in quantitative terms, emerging new ownership types, etc.) <input type="checkbox"/> motives and behaviour of ownership types <input checked="" type="checkbox"/> new management approaches <input type="checkbox"/> policy instruments addressing ownership
Main results should be given here if not yet included in the summary.	From the viewpoint of service innovations, the forestry sector has to change and be more open.
Weblink	<a href="http://www.metla.fi/org/ssfe/publications/Scandinavian_Forest_Economics_No_44.pdf">www.metla.fi/org/ssfe/publications/Scandinavian_Forest_Economics_No_44.pdf</a>



SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	<b>Lidestav, G and Arvidsson, A-M. (2012). Member, Owner, Customer, Supplier? - The Question of Perspective on Membership and Ownership in a Private Forest Owner Cooperative, In Okia (Ed.), Global Perspectives on Sustainable Forest Management. ISBN: 978-953-51-0569-5, In Tech, DOI: 10.5772/34115.1-0569-5.</b>
English language summary/abstract	The main function of a Swedish private forest owner cooperative is to work for an efficient timber market with the goal of optimizing the members' economic results from their forest property. However, many members have a variety of goals and benefits, some of which are connected to economic results, while others are not. For many forest owners, recreational values and the possibility to maintain contact with native locality are considered more important than forest incomes. This mismatch between the function and goal of the cooperative, and the members' goals and desired benefits, is something forest owner cooperatives should consider in order to satisfy present and future members. In this paper, we examine, compare and discuss the views of the members, inspectors and managers of Norra skogsägarna private forest owner cooperative (from here on referred to as Norra skogsägarna). Theoretically we look at the mismatch between goal of the cooperative and that of the members, to illustrate how the members, the inspectors and the managers look upon the private forest owner in terms of identity, benefits, and agreement. The forest owners' identities and benefits have been analysed through mode of life theory, while agreement is analysed through the theory of new institutional organizing and the theory of meaningful communication. Qualitative data has been gathered by focus groups discussion with members, inspectors and managers in Norra skogsägarna. Documents and literature published by the actual private forest owner cooperative have also been used. Results show that the identity is viewed differently by members, inspectors and managers. It is expressed distinctly by the way members are named: members, owners, customers and suppliers. Benefits are a variety of different issues, according to members and inspectors. They also want to highlight the difference between being a member and a non-member. The managers on the other hand, stress that good economic results for the members is what matters, and that there is no need to treat members in a particular way. Further, they claim, the members have no particular forest owner identity. Thus, agreement between the members, inspectors and managers show a discrepancy. It is suggested that improvements can be achieved by applying a new institutional way of organization, which will make it easier to create a meaningful communication. Further, by addressing the members as "members", will not only bring clarity to their real identity as members of the cooperative but it will also help to archive communication that is considered meaningful.
Language of the study/publication	EnglishEnglish
Type of organization conducting the study	<input checked="" type="checkbox"/> University <input type="checkbox"/> Public Research Insitiute <input type="checkbox"/> Private Research Institute <input type="checkbox"/> Other (please name below)

Type of funding used (multiple answers allowed)	<input type="checkbox"/> Private Industry <input type="checkbox"/> Private other <input type="checkbox"/> National <input type="checkbox"/> Public Sub-National <input type="checkbox"/> Public EU/cross-national Europe <input type="checkbox"/> Public International beyond Europe <input type="checkbox"/> Public other
Regional scope	<input checked="" type="checkbox"/> Sub-national <input type="checkbox"/> National <input type="checkbox"/> Cross-national Europe <input type="checkbox"/> International beyond Europe
Theoretical approach	.
Methodical approach	Focus group discussions
Thematic focus	<p>ownership change (incl. on changes in</p> <input type="checkbox"/> quantitative terms, emerging new ownership types, etc.) <input type="checkbox"/> motives and behaviour of ownership types <input type="checkbox"/> new management approaches <input type="checkbox"/> policy instruments addressing ownership
Main results should be given here if not yet included in the summary.	
Weblink	<a href="http://www.intechopen.com/books/global-perspectives-on-sustainable-forest-management/member-owner-customer-supplier-the-question-of-perspective-on-membership-and-ownership-in-a-fore">http://www.intechopen.com/books/global-perspectives-on-sustainable-forest-management/member-owner-customer-supplier-the-question-of-perspective-on-membership-and-ownership-in-a-fore</a>





EUROPEAN FOREST INSTITUTE  
CENTRAL-EAST AND SOUTH-EAST EUROPEAN  
REGIONAL OFFICE - EFICEEC-EFISEE

European Forest Institute Central-East and South-East European  
Regional Office (EFICEEC-EFISEE) c/o  
University of Natural Resources and Life Sciences, Vienna (BOKU)  
Feistmantelstrasse 4  
1180 Vienna, Austria

Tel: + 43-1-47654-4410  
[eficeec@efi.int](mailto:eficeec@efi.int)  
[www.eficeec.efi.int](http://www.eficeec.efi.int)

