

# FOREST MANAGEMENT PLAN WITH CARBON ACCOUNTING

## - decision support for the future

*Today there is a comprehensive discussion about the role of forests linked to climate change and what is the best way forward. In Sweden, about 315,000 individual private forest owners own half of the productive forest land and account for about 60% of timber production. This means that the individual forest owners' decisions for their use of the forest affect carbon storage in their own forest or tree products as well as the possibility of substitution.*

The majority of forest owners (about 70%) have a current forest management plan that includes a description of state of forest and proposals for treatments for next ten years. These plans provide an important basis for decision-making, but currently do not contain any data on stored carbon in trees and soil, in tree products and substitution effects.

### Purpose

This pilot investigates how carbon sequestration and emissions could be implemented in forest management plans to increase decision support. This by using ordinary plan data and data for tree products and substitution effects.

### Conclusions

Including carbon amounts and sequestration in forest management plans can be done in different ways. Form accounting of carbon only in the forest above ground to include the soil, tree products and substitution effects. Importantly, calculations should be possible to do at a low cost and mainly based on existing data. The results should also be easy to understand.

The pilot includes proposals for four alternative ways/levels of carbon accounting in forest management plans:

1. Storage of carbon in standing forests above ground, sequestration of carbon in trees and emissions of carbon from felling for a planning period of 10 years. This option involves calculations on only existing data but underestimates the role of forests in climate mitigation.
2. Storage of carbon in tree products is also included. Storage of carbon in tree products depends on the proportion of the harvested volume used for short- and long-lived products respectively. A part of the saw timber will produce long-lived products while pulpwood will produce short-lived products.
3. Carbon storage and sequestration in the stumps and roots of the trees and carbon in the soil are included. The carbon pool of the soil is large and requires model calculations with larger uncertainty.
4. Includes substitution effects and emissions linked to felling and transport. The substitution effect is debated, and its size depends on many factors such as how materials substituted are produced and how energy is produced.

The pilot shows that it is possible to include carbon accounting in existing plans and thus improve the plan as decision support for both individual forest owners as well as forest service companies and timber purchasing organizations. The level of accounting depends on the purpose and use of the carbon budget as decision support.

## PILOT SUMMARY



EUROPEAN UNION

**Interreg**  
Botnia-Atlantica

European Regional Development Fund



**Rikare skog**

Diversifiering genom Inkludering och Specialisering