

The Unit for Environmental accounts and natural resource
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Towards ecosystem accounts in Sweden

Statistics Sweden has been interested in the area of ecosystem and especially biodiversity accounts for some time. In 2009 a study brought forward some ideas on how to combine environment statistics, GIS tools and the environmental accounts. Unfortunately the policy makers didn't find the results interesting enough to put in the necessary funding for further development at that time.

In more recent years there has been a shift towards the concept of ecosystem services and there are now more and more institutions and government authorities working with this topic.

In 2013, Statistics Sweden conducted on behalf of the Ministry of the Environment, an investigation as to which data sources are available for quantification of ecosystem services. One important point of departure for this inventory was the work done by Defra UK in 2007.

As a result from this inventory a few new ideas for projects were developed. One idea, to link specific environmental databases on habitats to land use and ownership of that particular land was decided to pursue in collaboration with the Swedish University of Agriculture Sciences (SLU).

A new statistical model for accounting land important for biodiversity was developed, financed by the Ministry of the Environment. The project was undertaken as a joint venture between experts in environmental accounts, land use statistics and Swedish habitats, encompassing methods from environmental accounting in combination with extensive spatial analysis in order to respond to the new need of data on ecosystems.

The model resembles traditional land accounting, in which ownership of land is classified by industry (NACE classification). However, in this case selected habitats such as e.g. western taiga, wetlands and some important types of grasslands fulfilling the requirements of the EU Habitats directive have been subject to the analysis.

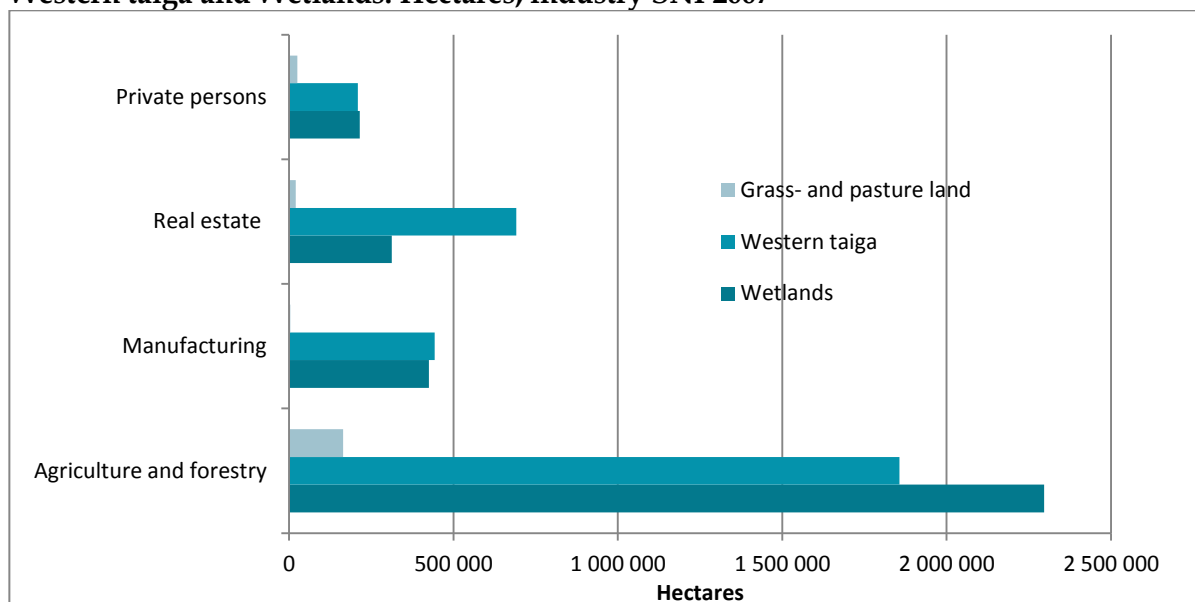
Eight different registers and inventories were utilised in the project. Data from Statistics Sweden, the Mapping, cadastral and land registration authority (Lantmäteriet), the Swedish Board of Agriculture, the Swedish Environmental Protection Agency and from the Department of Forest Resource Management at SLU were required.

Figure 1 shows the four largest landowners of habitats important for biodiversity, by NACE in Sweden. It is evident that the agriculture and forestry industry owns the majority of the three types of habitats,



Grass- and pasture land, Western taiga (as delineated in the Art-and Habitat directive) and Wetlands.

Figure 1
The four largest landowners of the habitats Grass- and pasture, Western taiga and Wetlands. Hectares, industry SNI 2007



Note to the figure: observe that it is not possible to add habitats as they are partly overlapping categories. E.g. Grass- and pasture land might occur also as wetlands.

The result is considered experimental, however it clearly demonstrates the potential of spatial analysis when merging economic data with land use information to better understand causes and forces behind environmental change.

During 2015 Statistics Sweden will develop a full scale land account in order to put the results of the study in proportion, but the situation after that is uncertain due to the lack of funding. Statistics Sweden will develop a future strategy on how to proceed after the results of the new land accounts are known.

MIR 2015:3 Land accounts for biodiversity – a methodological study
[www.scb.se/ Statistik/ _Publikationer/ MI1301_2014A01_BR_MI71BR1503.pdf](http://www.scb.se/Statistik/_Publikationer/MI1301_2014A01_BR_MI71BR1503.pdf)

MIR 2013:3 Inventory of data source for quantification of ecosystem services
[www.scb.se/ statistik/ _publikationer/ MI1301_2013A01_BR_MI71BR1303.pdf](http://www.scb.se/statistik/_publikationer/MI1301_2013A01_BR_MI71BR1303.pdf)

MIR 2009:1: Biodiversity – maps and statistics (Summary in English)
[www.scb.se/ statistik/ _publikationer/ MI1301_2009A01_BR_MI71BR0901.pdf](http://www.scb.se/statistik/_publikationer/MI1301_2009A01_BR_MI71BR0901.pdf)