

# New Challanges for the Swedish NFI



Swedish National Forest Inventory

#### **Jonas Fridman**

Demands on data-quality and deliverables

#### **Anders Lundström**

Forest Resource Scenarios and Wood Balance 2008



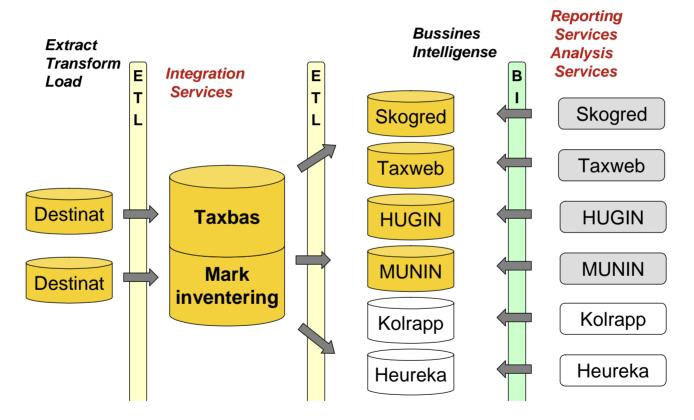
# A general increase in the demands on data quality, content and accessibility from non-traditional clients

- Detailed meta-data
- Estimates for arbitrary areas incl. CV as well as geo-referenced raw data
- Other types of deliverables such as thematic maps or GIS-layers
- Guidelines/algorithms for estimates and CV
- ✓ International, national and regional environmental monitoring
- SIII

✓ Researchers on other Universities than SLU



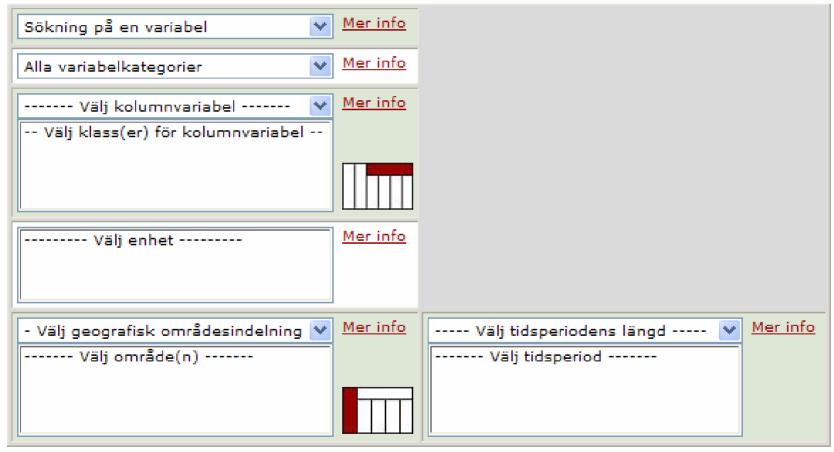
# Data-warehouse solution for the Swedish NFI and the Swedish Forest Soil Inventory



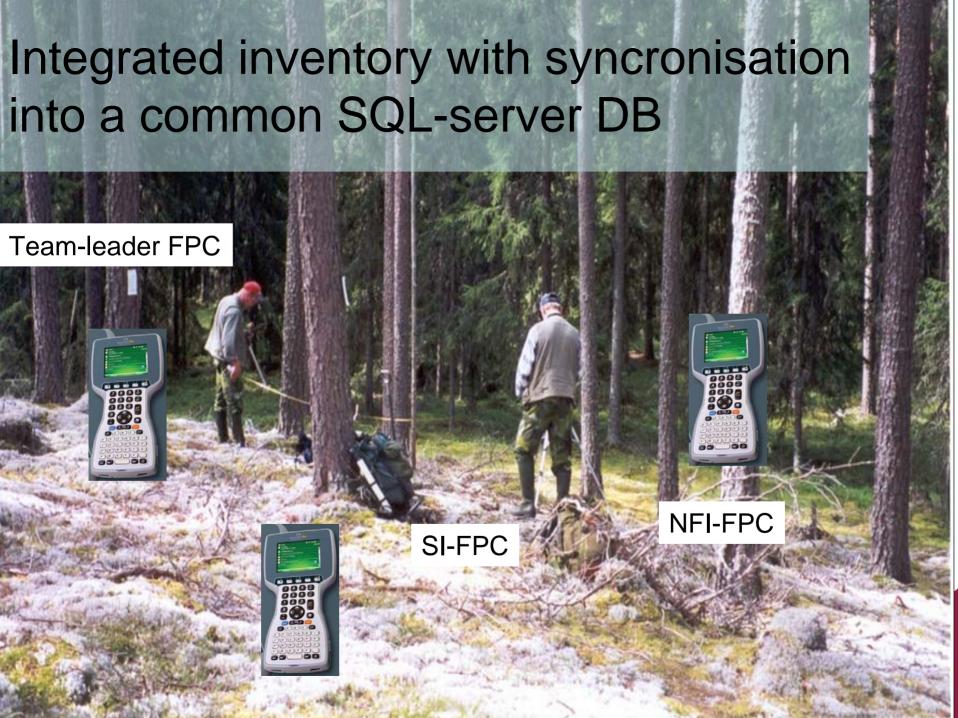




# TAX-webb: An application for customised estimates on NFI-data on the web



SLU



# Prioritization of data-collection in order to meet the demands

- 7) Raw-data for researchers
- 6) Customized estimates
- Data, estimates and analysis for "climate change" monitoring (e.g. LULUC F)
- 4) Data, estimates and analysis for evaluation of the Swedish forest policy
- 3) Data, estimates and analysis for evaluation of the National Environmental Objectives
- 2) Estimates for reporting of Official Forest Statistics
- 1) Data as input in national and regional long-term forestry consequence analysis





# Forest Resource Scenarios and Wood Balance 2008

**SKA-VB 08** 





## **Questions to answer:**

 Land use and balance between forest production, environment and other uses of forest land

 The roll of forest and forestry in energy supply and climate change

 Risk management regarding wind storms and climate change





#### **Scenarios in SKA-VB 08**

# National scenarios Effect analysis

#### Climate – adapted management

Aims to show the effects of an adapted forest management in response to the risks connected to climate change

#### Climate - vulnerability

Aims to quantify the risks which may occur with climate change

#### **Agricultural land**

Aims to identify and quantify the effects of the change from agricultural land to forest land within the Production scenario

#### Intensive fertilisation

Aims to identify and quantify the effects of intensive fertilisation of forest areas within the Production scenario

#### **Increased felling**

Aims to shows the effects on a 30-60 year time scale of an increase in felling during the first 20 years from the level assigned by the HUIGIN system

#### Climate

Aims to quantify the increase in growth from climate change within the Reference scenario

#### Reference

Describes development assuming current forest management practices and environmental legislation up to 2010 and with a reasonable, but optimistic view of climate change.

#### **Production**

Aims to highlight the potential for, and effects of, an increased timber production given significant but still reasonable investment in the forestry sector.

#### **Proposed targets**

Aims to describe the effects of the proposed targets for forest areas by 2020 which have been presented by the Swedish Environmental Protection Agency following their in-depth evaluation

#### **Environment**

The environmental scenario aims to describe the effects of the need to achieve the long term comprehensive environmental quality goals, based on our current understanding.

# **Environment + Production**

Aims to balance the effects of the conflicts which can arise from high ambitions in both production and environmental consideration

#### Scenarios in SKA-VB 08

#### National scenarios

#### **Effect analysis**

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# **Environment + Production**

Aims to balance the effects of the conflicts which can arise from high ambitions in both production and environmental consideration

### **Forest land use**

- NFI-data from 2002-2006
  - 23,4 milj ha
- Reference + Production
  - 3 milj ha protected
- Environment
  - 5 milj ha protected





### **Calculations**

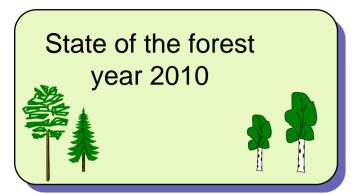
• HUGIN

- Improvements:
  - Effect of Climate change
  - Effect of Breeding

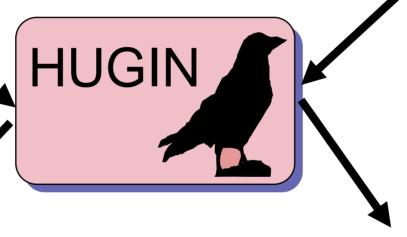




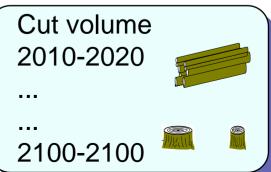
# The HUGIN system



Management program
Silviculture
Nature conservation

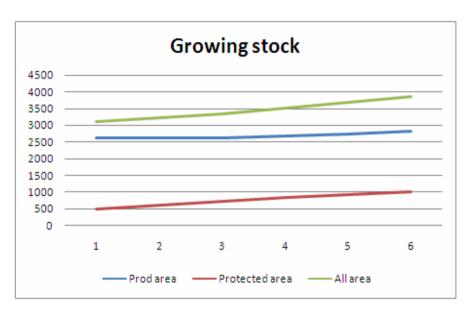


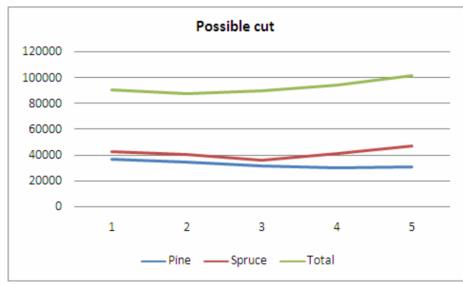
State of the forest year 2010 ... year 2110





# **Preliminary Results**









### **Presentation**

- Final report December 2008
  - Forest condition
  - Sustainable harvesting
  - Environmental aspects
  - Forest fuels
  - Carbon balances
  - Risk aspects



