



Swedish case: Intensifying the intensive

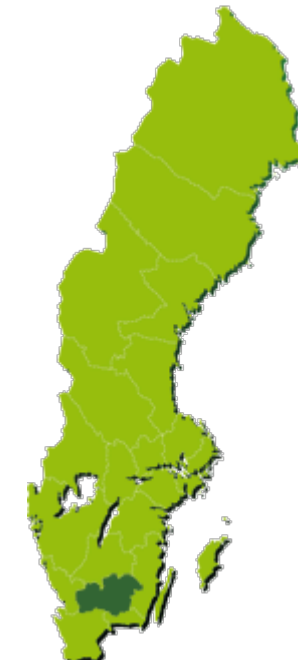
Isak Lodin, Ola Eriksson and Vilis Brukas
The Swedish University of Agricultural Sciences

The Swedish case study

- 13,700 private forest owners own approx. 80 % of the productive forestland (45 ha).
- One of the regions in Europe with the highest utilization intensities (harvest/growth)

Even-aged stands with Scots pine and Norway spruce, often with a small admixture of birch. Average clearcut size approx. 2 ha.

Species	Proportion, %
Norway spruce	48
Scots pine	29
Betula spp.	11
Noble broadleaves	7
Other broadleaves	6



Kronoberg County, approx. 650 000 ha productive forestland.

Challenges (1)

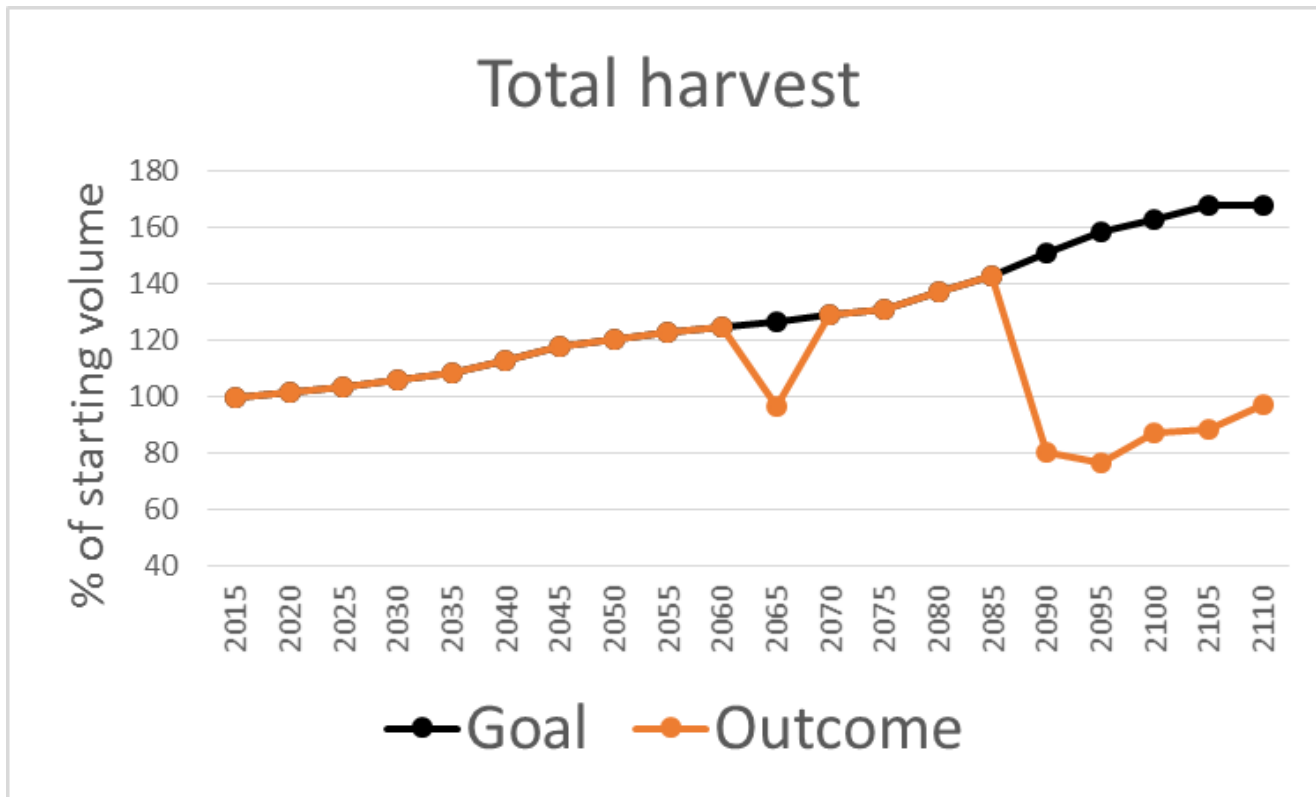
- Difficult to regenerate Scots pine and valuable broadleaves due to browsing
- Little variation in forest management implies high risks (e.g. storms, bark beetles) and narrow range of habitats in production forests
- Biodiversity conservation: lack of valuable forests, lack of landscape level coordination, fragmentation, a long list of threatened species



Mimmi Blomquist

Challenges (2)

Results: current management in GLOBAL BIOENERGY scenario



- Big increase in demand



- The demand cannot be satisfied with current forest management methods.
- Further intensification of forest management is needed to increase growth and harvest.

Focus area 1: Enhance the nature values of the production forest

- Collaboration with the County Administrative Board in Kronoberg.
- Organizing a green infrastructure workshop.
- Alternative FMMs: Border zones, Oak, Birch-spruce mixture.
- Expected benefits from aFMMs: biodiversity, aesthetics, risk reduction.



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Focus area 2: measures to increase production

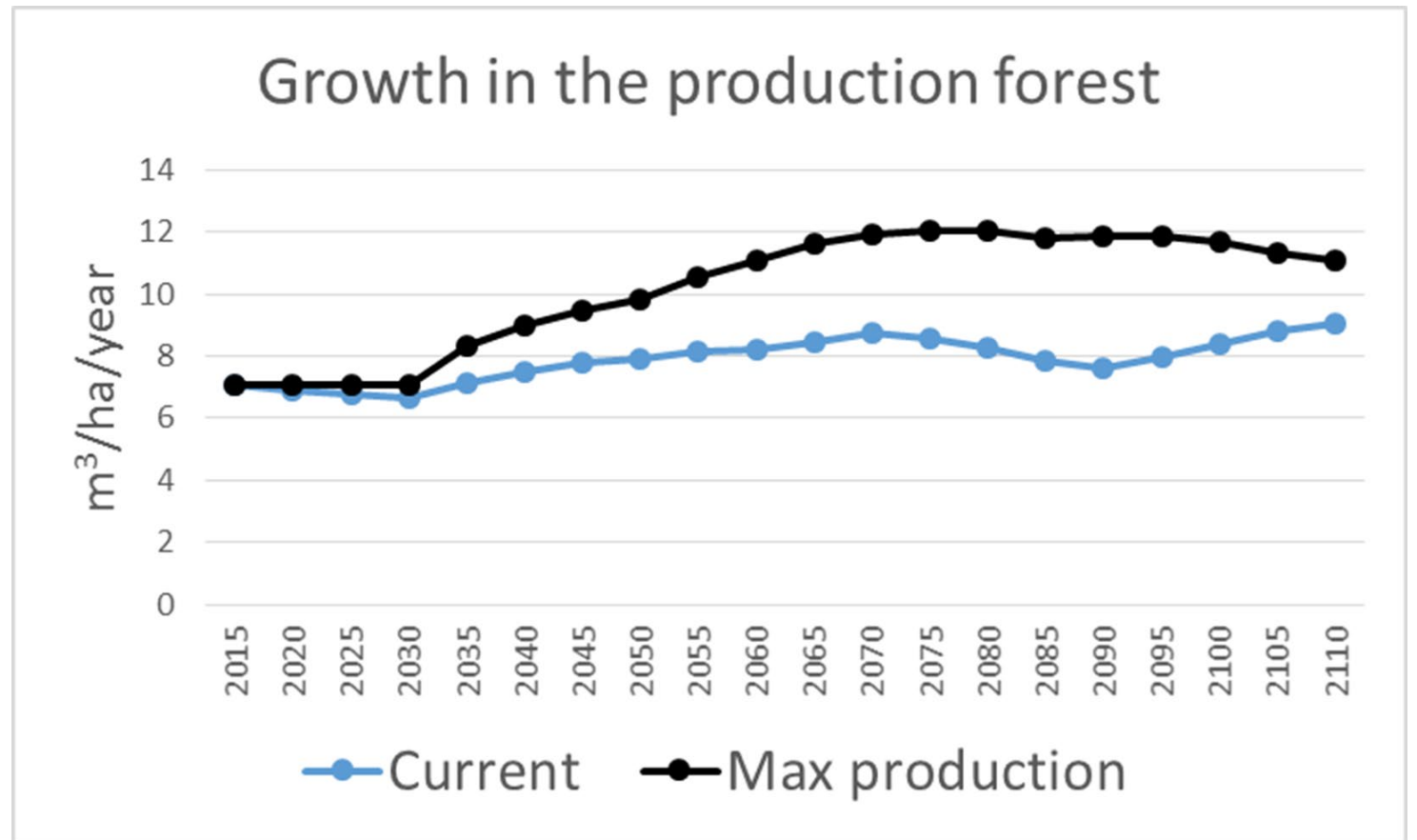
- Regenerations for maximum growth (no failure, 100 % planting with seedlings from breeding programs).
- Hybrid larch
- Repeated fertilization in all pine forests (10 year interval after 16 m)
- Spruce SE-seedlings = Reforestation with the best spruces that been mass-produced through somatic embryogenesis.

Focus area 2

Production workshop with



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Barriers to aFMMS

Focus area 1 with “Green” aFMMS:

- Border zones: quite feasible, already accepted by forestry actors
- Oak+ mixed forest: Higher costs, lower production, complicated management

Focus area 2 with production oriented measures:

- Fertilization - Certification
- Exotic tree species - Certification
- Spruce SE-seedlings - in the short term lack of seedlings
- Better regenerations – preferences, ambitions and skills among private forest owners