

Value of better information for the forest sector

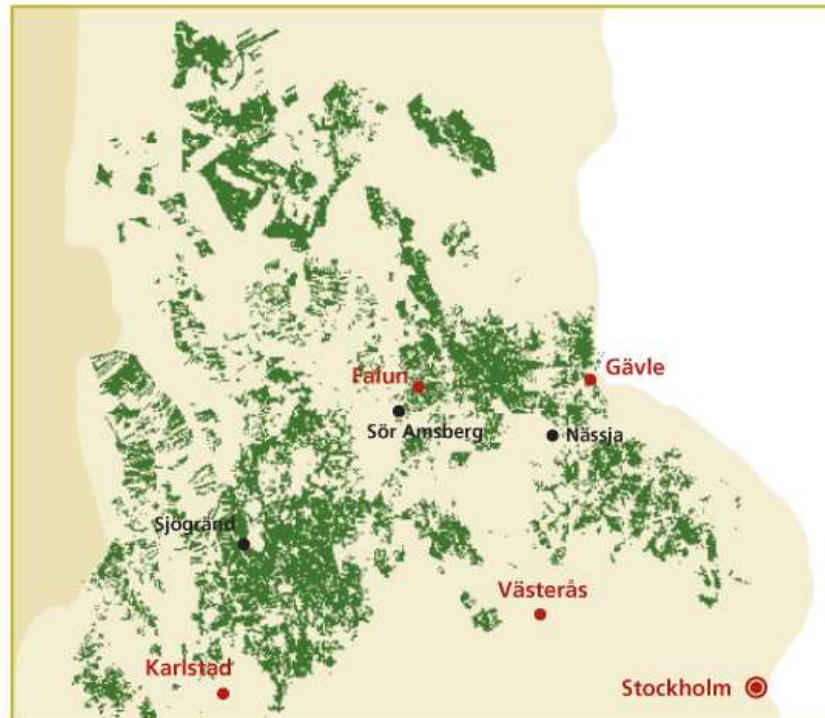
Elisabet Salander Björklund

CEO

Bergvik Skog AB

Bergvik Skog in Sweden

BERGVIK SKOG



■ Bergvik Skog ABs markinnehav
● Plantskolor

- ▶ 2,3 mill. ha land
 - ▶ 5,6 % of Sweden
 - ▶ 1,9 mill. ha forest land
 - ▶ 8,4 % of Swedish forest land
- ▶ Yearly growth about 9,3 million m³sub
- ▶ Yearly harvesting 7,0 million m³sub
- ▶ 3 nurseries
- ▶ Turnover about 3 billion SEK

Owners

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Industrial

48,3%

- Stora Enso
- Korsnäs

43,3%

5,0%

Financial

51,7%

- Länsförsäkringar 14,9%
- FAM 12,5%
- Storebrand 8,2%
- Kåpan Pensioner 5,0%
- Tredje AP-fonden 4,9%
- Other institutional and private owners 6,2%

About Bergvik Skog AB

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- Unique situation, interface to external contractors at the strategic-tactical-operational level.
 - Short term forest management agreement with Stora Enso and Korsnäs.
 - Long term wood sales agreement with Stora Enso and Korsnäs.

→ Good forest information at these levels are critical for our business.

Forest information sources

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- Stand register
 - + Comprehensive
 - + Low cost
 - Poor data quality
- Company-wide calliper inventory
 - + High data quality
 - + Detailed
 - High cost
 - Sample
- Airborne Laser Scanning (ALS) data
 - + Comprehensive
 - + Low cost
 - + High data quality
 - + Detailed

Example of data quality impact in one thinning stand

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Relative standard errors:
(internal information from one area)


95% confidence interval

Stand register

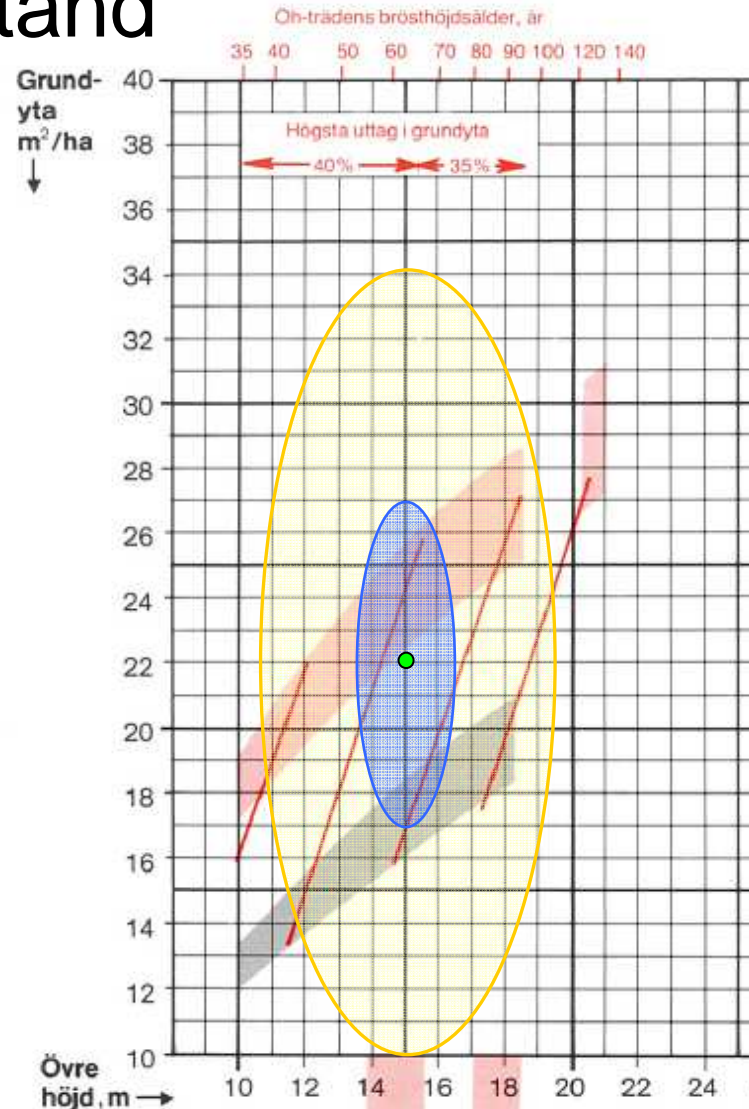
- Height 17%
- Basal area 35%

Laser inventory data

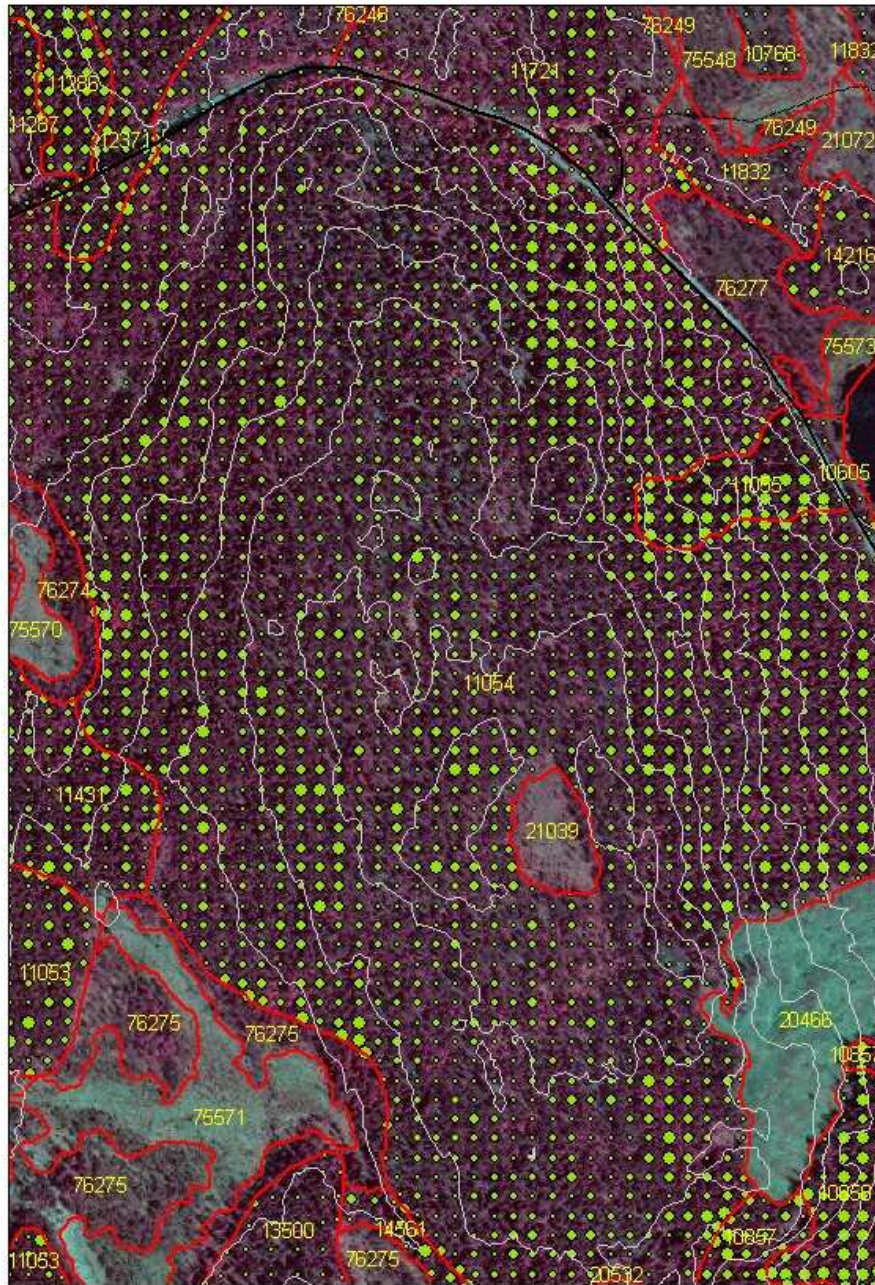
- Height 5%
- Basal area 12%

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Basal area



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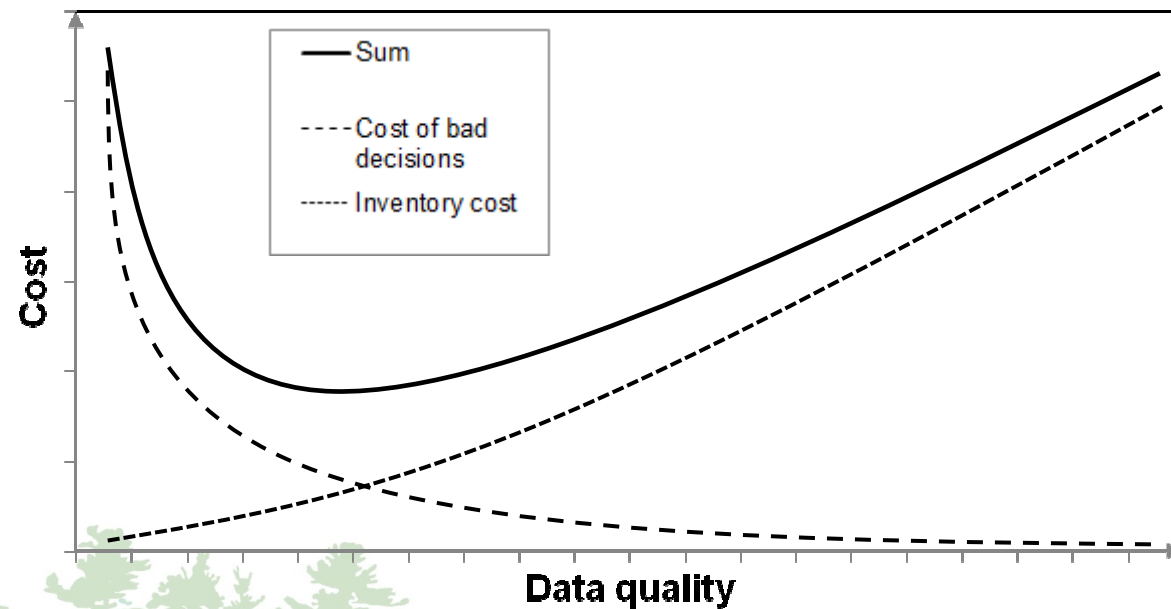


- Illustration of how information from airborne laser scanning can be used as base for planning of thinning.
- Big dot – need for thinning
- Small dot - little or no need for thinning

But...

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- Good data quality is not a goal in itself
- Cost-plus-loss approach:



Usage of forest information at BERGVIK SKOG Bergvik Skog AB

	Current data source (based on experience and simple cost-plus- loss reasoning)
Sales/contracting planning	Stand register
Forest management guideline making	Stand register
Forest land trading	Stand register + field controll
Strategic planning of forest management	Stand register + company- wide inventory
Financial valuation of the company assets	Company-wide inventory

Usage of forest information at BERGVIK SKOG Bergvik Skog AB

	New data source
Sales/contracting planning	ALS data
Forest management guideline making	ALS data
Forest land trading	ALS data
Strategic planning of forest management	ALS data + other measurements
Financial valuation of the company assets	ALS data + other measurements

Final words

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- Our decision is based on a number of identified advantages like
 - Lower costs in operative planning
 - Lower costs for updating of stand register
 - Better data quality in stand register
 - Better quality in decision making
 - Better timing
- The new ALS data will bring other still unknown advantages.

**WE WILL MAKE THE MOST
OUT OF OUR INVESTMENT
AND SUPPORT FURTHER
DEVELOPMENT!**

THANK YOU!

МММР