Project Presentation

Detection of Development Trends in the National Forest Inventory Data for WEHAM- Forest Development and Timber Resource Modeling

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Introduction – Reseqarch Task

Project in the Thünen Insitute for Forest Ecology, WEHAM scenario project

- **Projection of forest development under consideration of management plans, reduced – and intensified timber use**

-> Need for a additional scenario from the past NFI- data trends („Business as usual“) !

Introduction – Research Task

Detection of Development Trends in the National Forest Inventory Data for WEHAM- Forest Development and Timber Resource Modeling

Introduction – Research Task

WEHAM - Forest Development and Timber Resource Modeling

- Designed for data of the National Forest Inventory (NFI)
- Distance- independent single-tree model
- Large-scale projections
- 3 different modelling components for growth, forest management and assortments

WEHAM

Individual projections for:

- **Federal state**
- **Type of ownership**
- **Tree species**

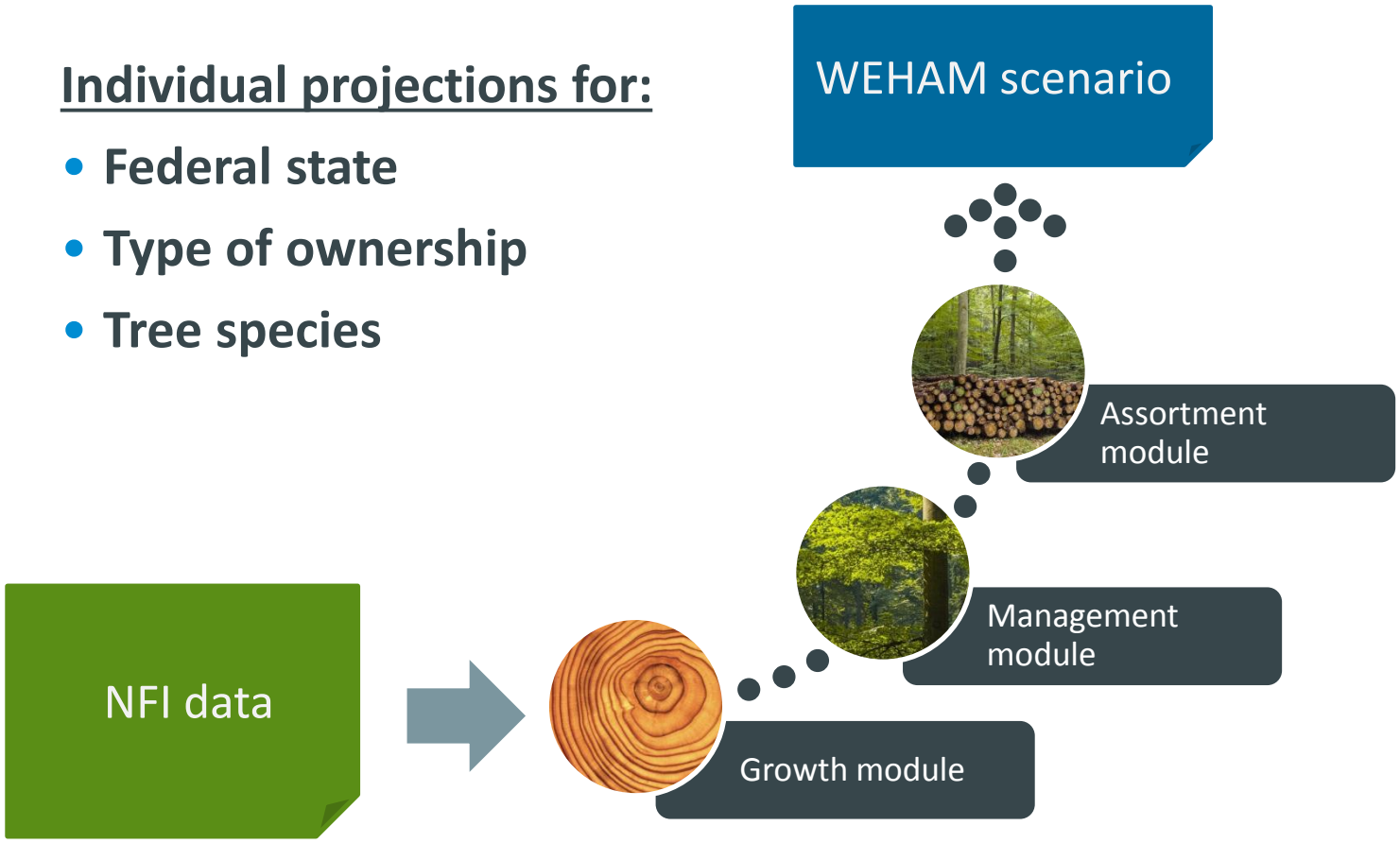

Figure: WEHAM Concept adaptaed from Dr. Joachim Rock

Introduction – Research Task

Growth module:

->functions derived from past inventory data

Management module:

->parameters to specify forest management and harvest: type of removal, intervals, stand age, average stand height, target dbh)

->amount of removal referenced to yield table values

Methods – Determination of the Rotation Age

Basal area index

- Identifies those stands removed in the inventory period (NFI)
- Index (GFI) : basal areas in 2012 and in 2002

$$\text{GFI} = G(NFI2012)/G(NFI2002) < 0{,}25$$

- Threshold of 0,25 adapted from previous studies
- Count of stand removals in each age class
- Decision for the age class with most counts

Results

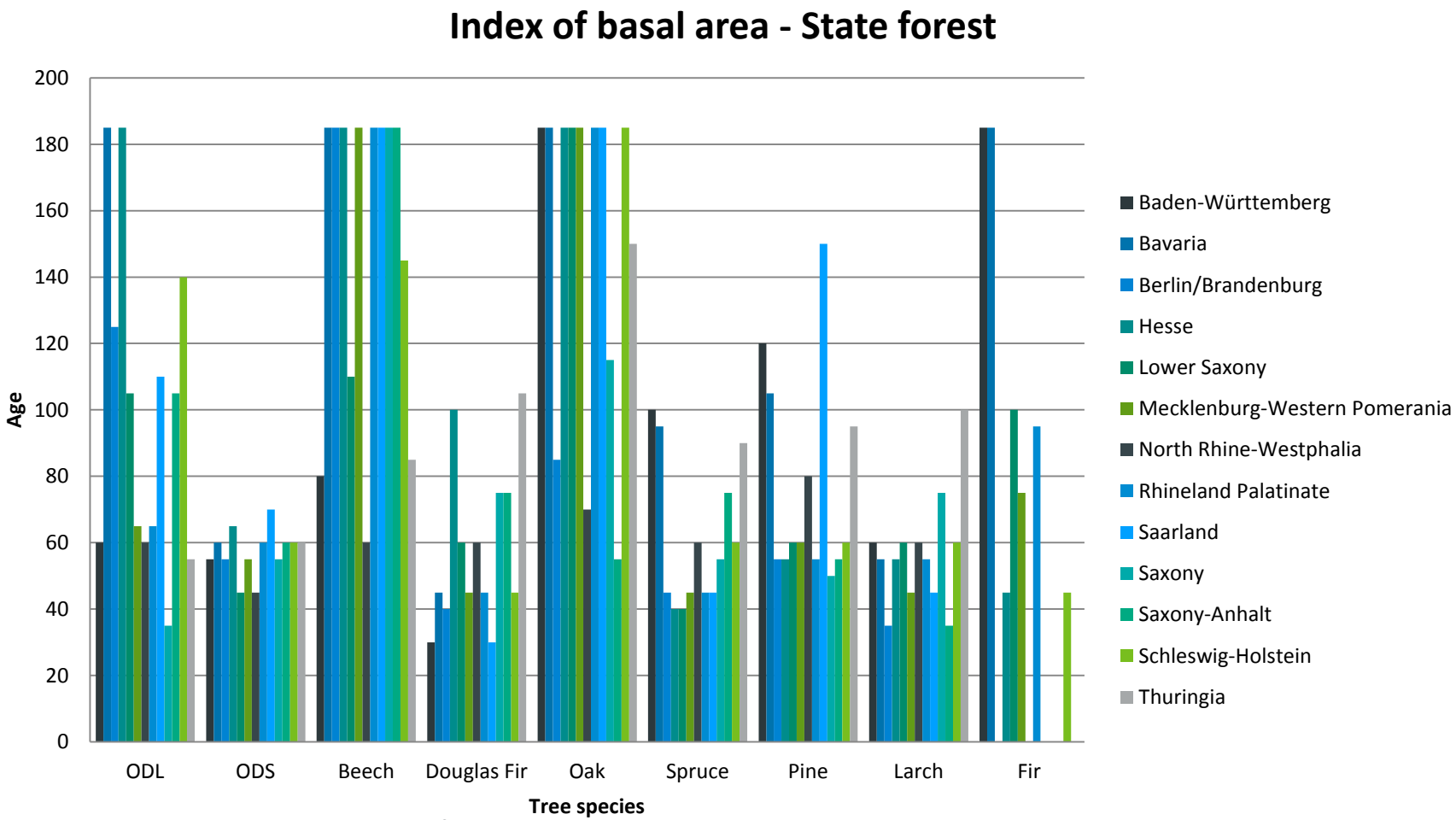

Figure: Age with maximum number of indices below 0,25

Results

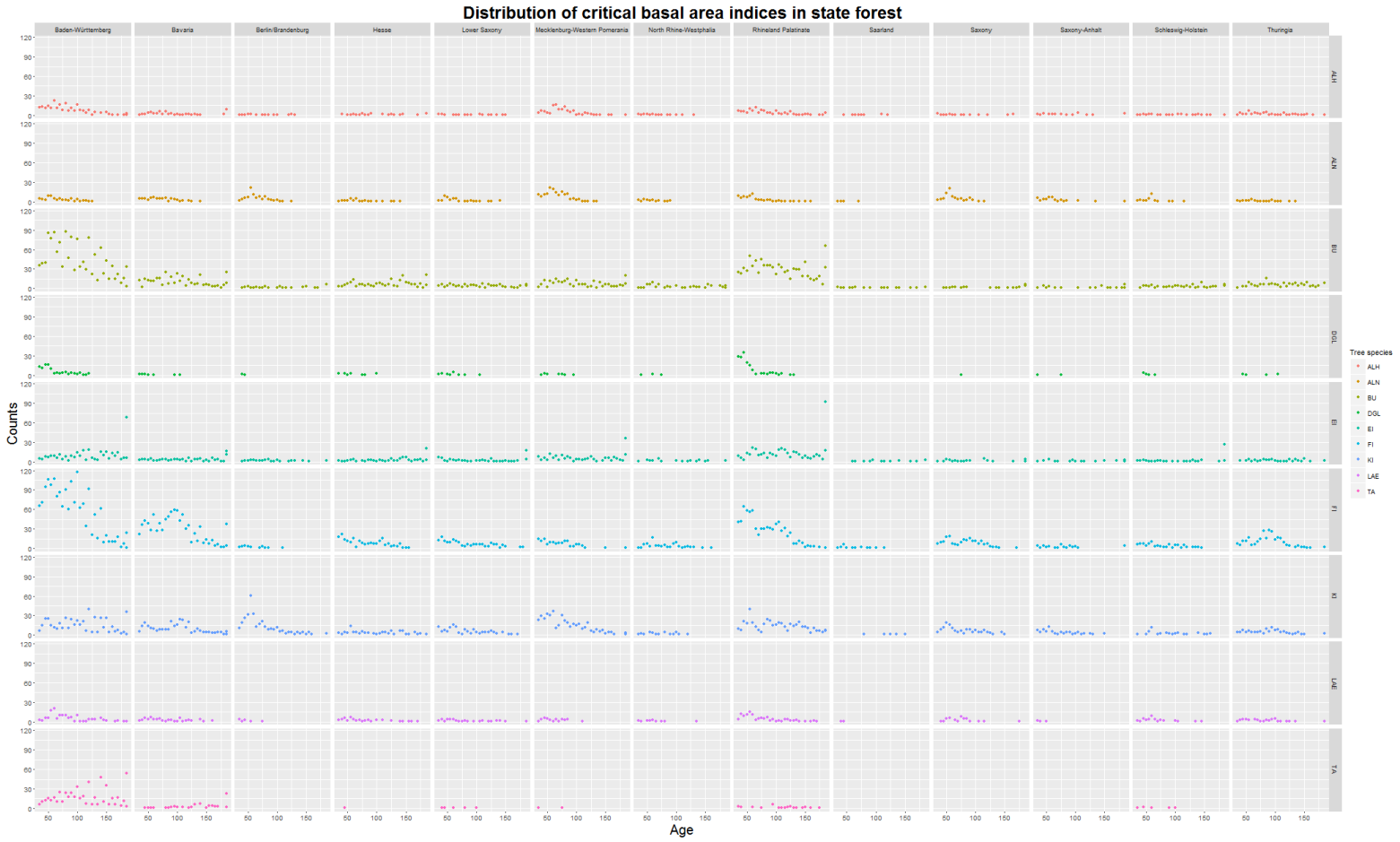

Figure: Counts of removed stands by age

Results

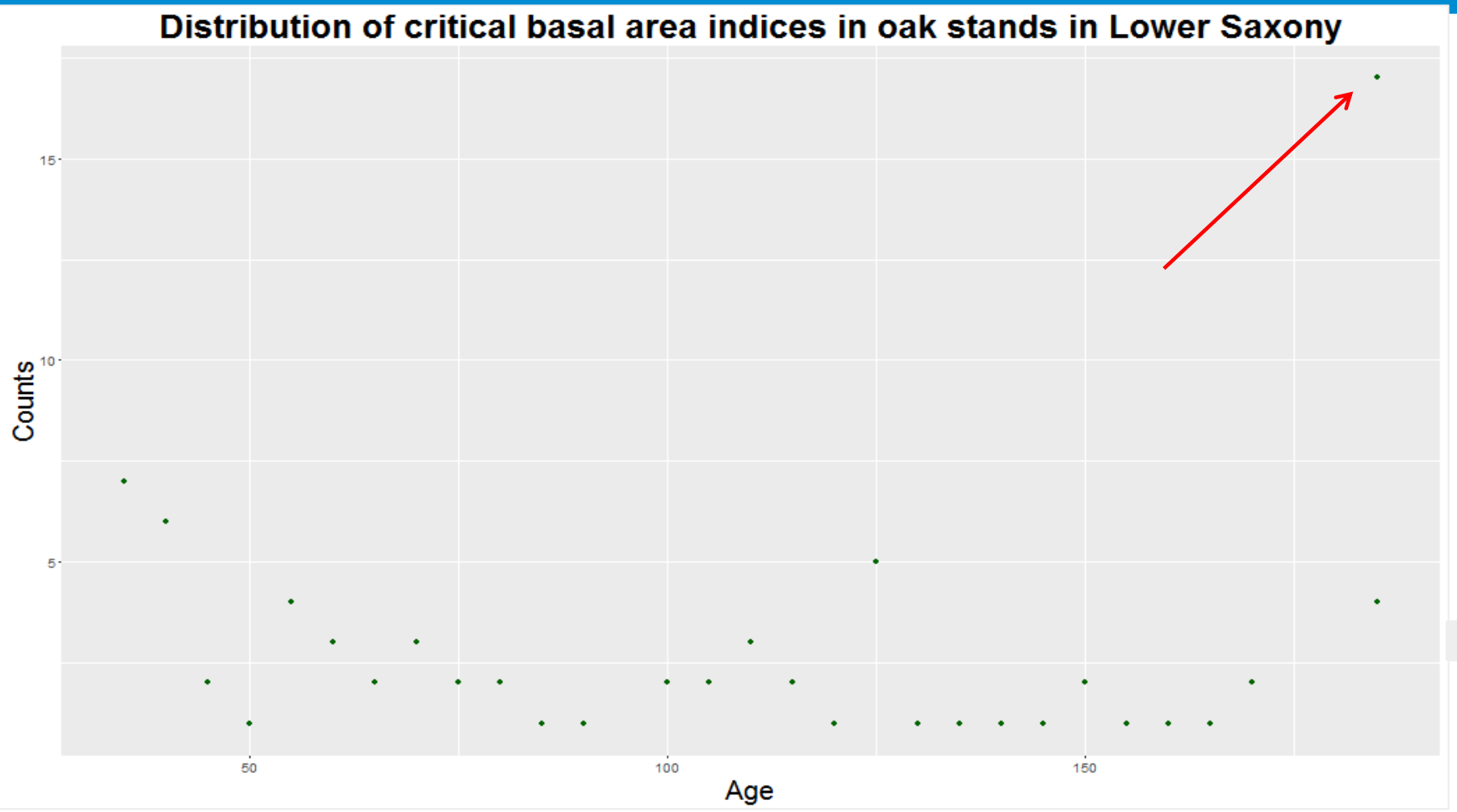

Figure: Counts of removed stands by age, example state forest, Lower Saxony, oak

Results

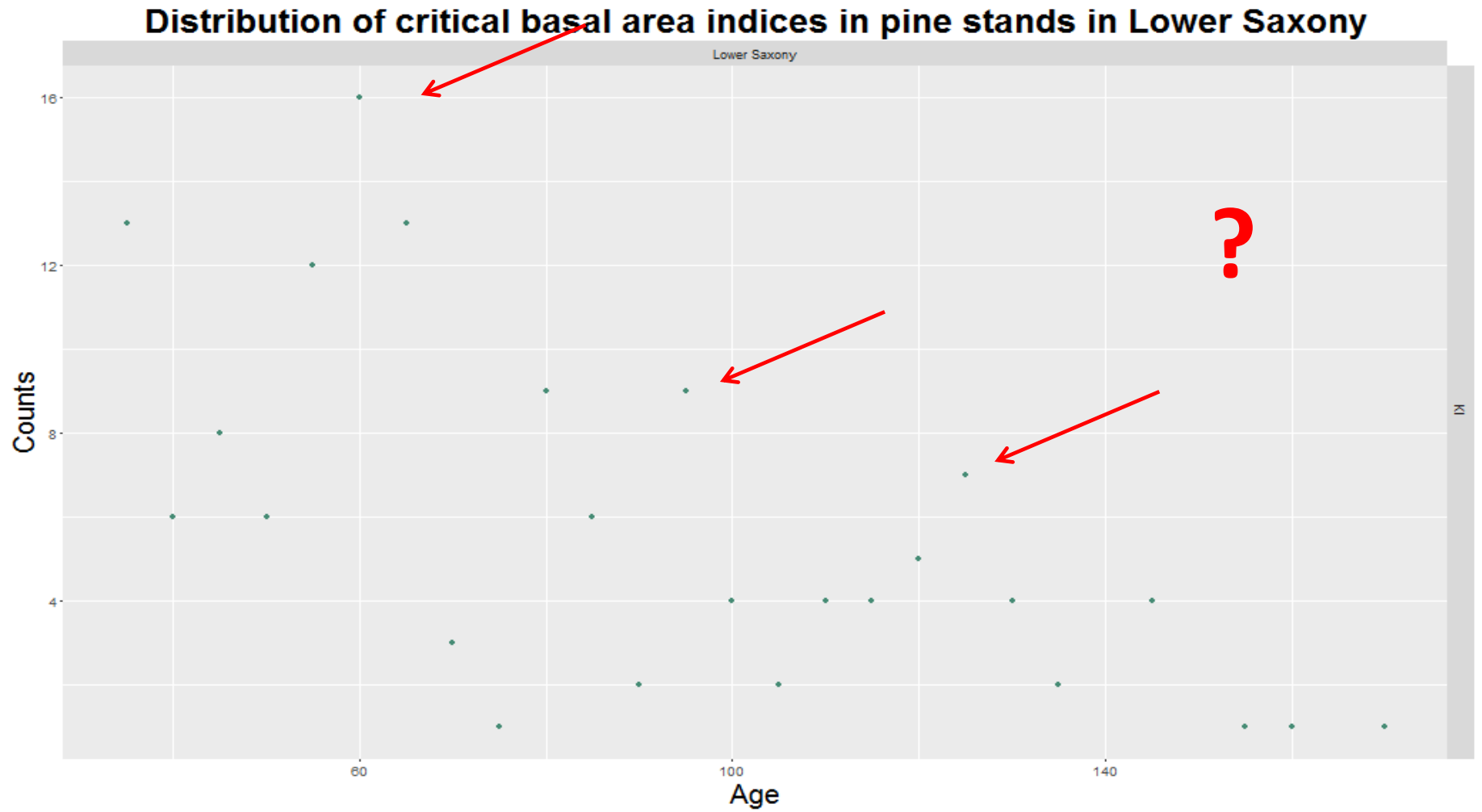

Figure: Counts of removed stands by age, example state forest, Low Saxony, Pine

Outlook

- ✓ Results for the rotation age

- ○ Expand with target diameter
- ○ Application in WEHAM
- ○ Comparison of the results

Thank you for your attention!

Sources

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