



UNIVERSITY OF
EASTERN FINLAND



Landesforsten
Rheinland-Pfalz



Forstamt Johanniskreuz

Applied Period in Forest Institution 2015-2016

MSc. European Forestry - Koch H el ene

Plan

- *Forstamt* Johanniskreuz
- Activities
- Personal projects
 - Harvesting preparations
 - Natural regeneration evolution
 - Game management statistics
- Applied period conclusions



Forstamt Johanniskreuz



Forstamt Johanniskreuz

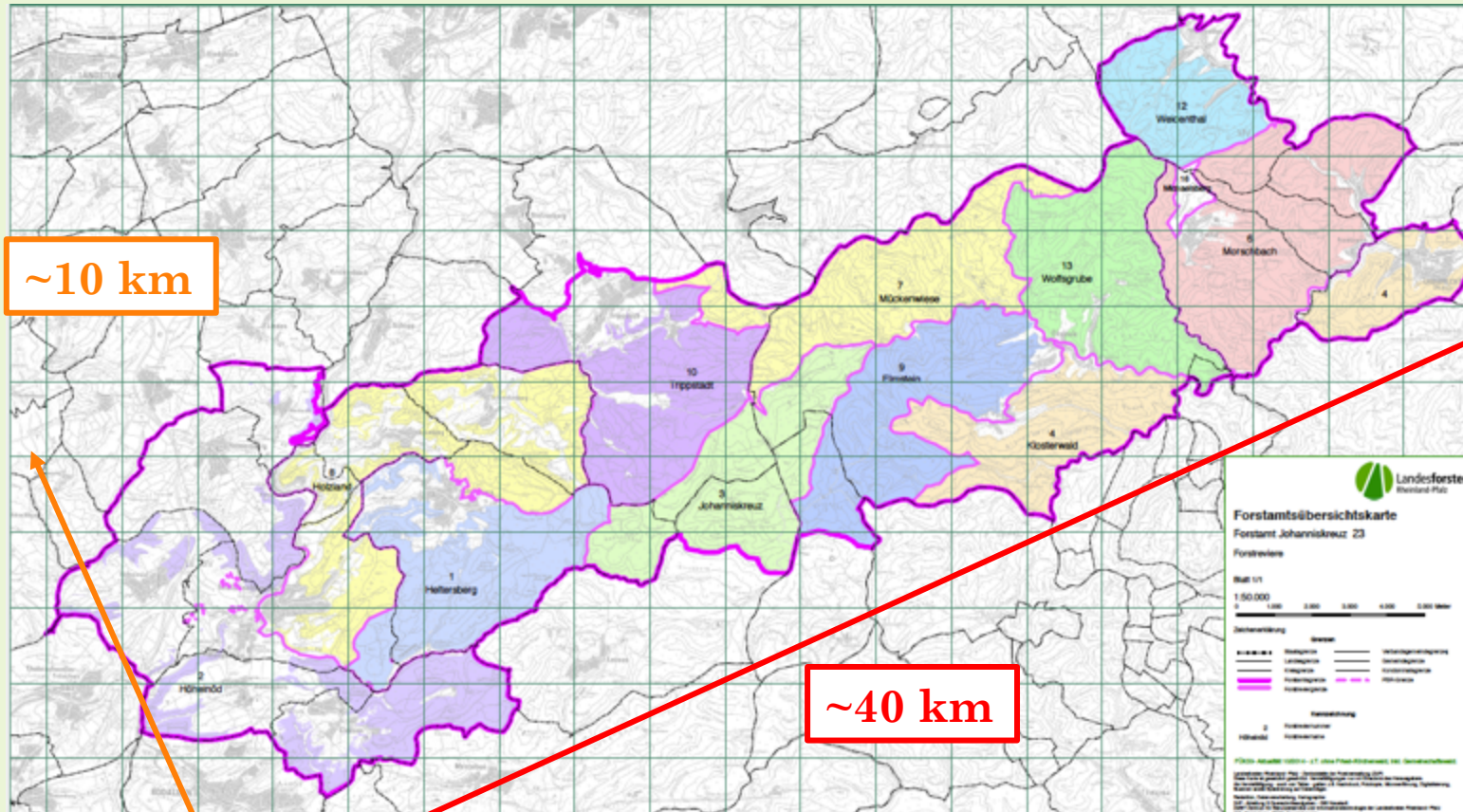


(Patricia.fidi 2006)



(Lencer 2008)

Forstamt Johanniskreuz



Forstamt area: 22 380,40 ha

Of which 16029,70 ha (almost **72%** of total area) are owned by the State

Main species	
<i>Fagus sylvatica</i>	32%
<i>Pinus sylvestris</i>	29%
<i>Quercus petraea</i>	15%
<i>Picea abies</i>	10%

(Landesforsten Rheinland-Pfalz 2016)

Activities



Activities

Oak barrel wood
grading

Essential as the 1 %
valuable oak volume
contributes for 10 %
of annual income



Activities

Selection of future
crop trees in mixed
beech-pine stand

One of the
Revierleiter duty



Activities

Visit at Vatter's
sawmill

To solve a
disagreement about
delivery quality and
quantity



Activities

Days with forest workers

Plantation



Activities

Days with forest workers

Learning the basis to use a chainsaw

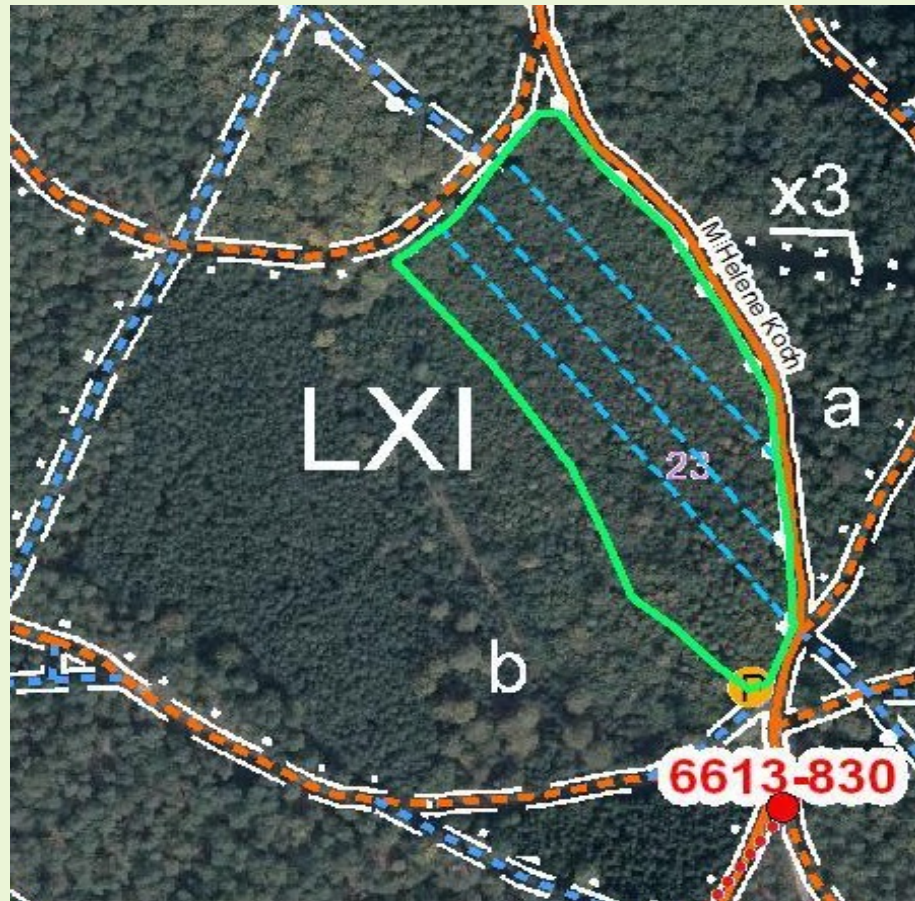


Activities

Zip-Line Park official opening in Iggelbach



Project 1 - Harvesting preparations



(WebGIF 2016)

Studied stand of 2ha. Light slope, with a direction North-West to South-East.

Natural regeneration initiated in 1967 and 1980

Species mixture:

Broadleaves	Conifers
<i>Quercus petraea</i>	<i>Larix decidua</i>
<i>Fagus sylvatica</i>	<i>Pseudotsuga menziesii</i>
<i>Populus tremula</i>	<i>Pinus sylvestris</i>
<i>Betula pubescens</i>	<i>Picea abies</i>

Project 1 - Harvesting preparations



1980 (36 years)

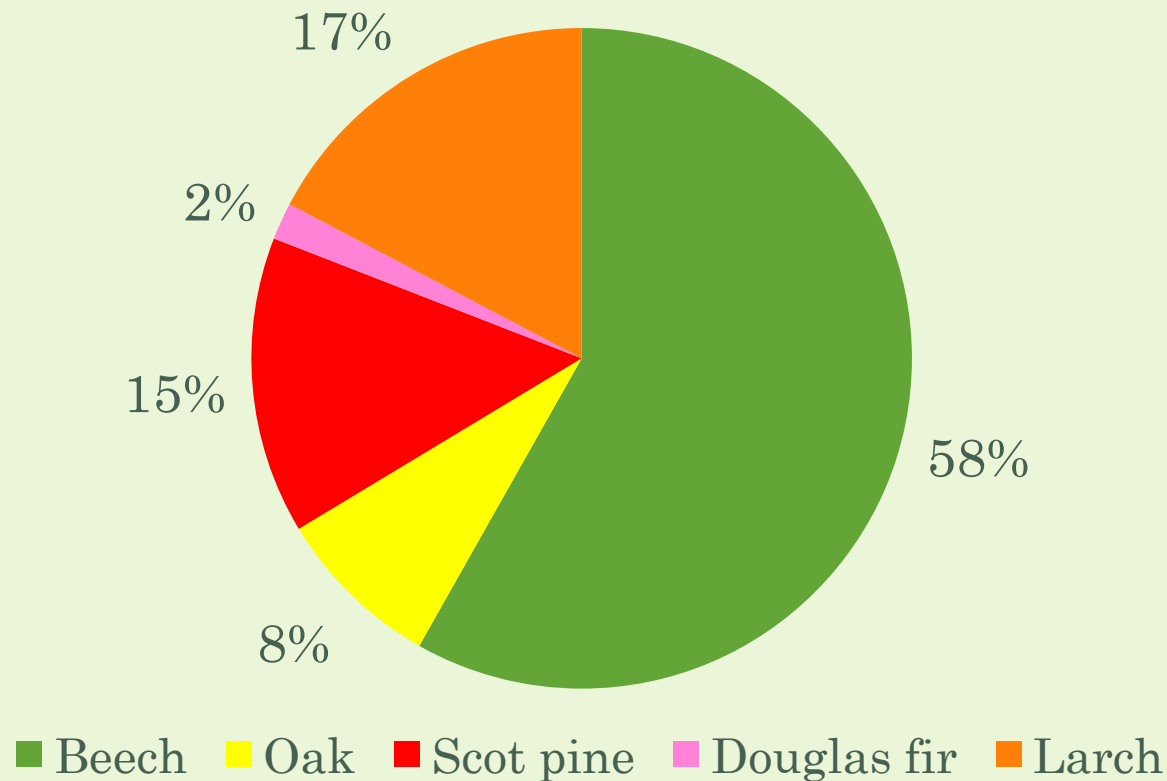
Natural regeneration initiated in



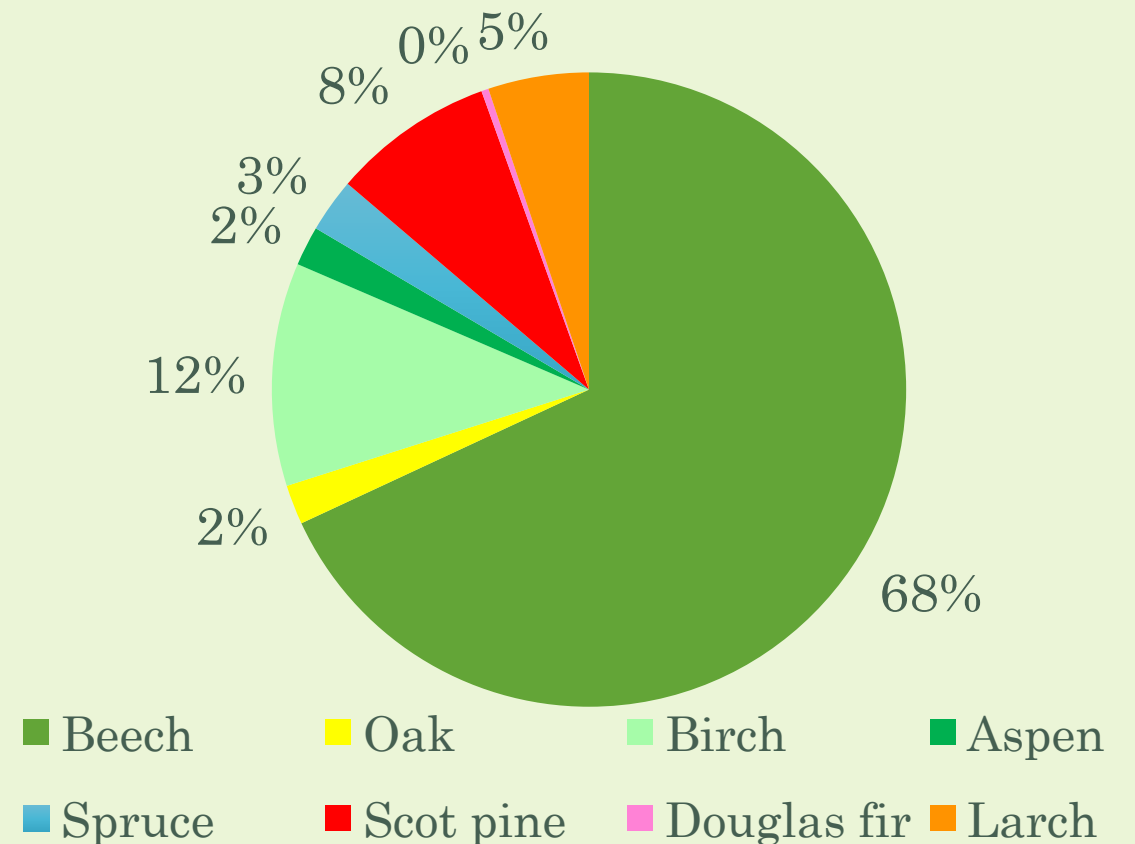
1967 (59 years)

Project 1 - Harvesting preparations

Future crop trees



Competitors and Opportunists



Project 1 - Harvesting preparations

Main long term management target are production of oaks and larches.

For 5 year rotation, canopies should have 1m distance between them.

Calculated spacing between each future crops trees: 13m. But real distance might not be so as, selection was uneven.

Selective thinning (high thinning) with slope being taken into account.

Results of the planned harvesting operation (volume of wood harvested per ha)

	Broadleaves				Coniferous			
Species	Beech	Oak	Birch	Aspen	Spruce	Scot pine	Douglas fir	Larch
E (fm/ha)	12,95	0,7	4,8	1,45	1,35	3,85	0,4	5,65

Project 2 – Natural regeneration evolution

Transect 5



Transect 4



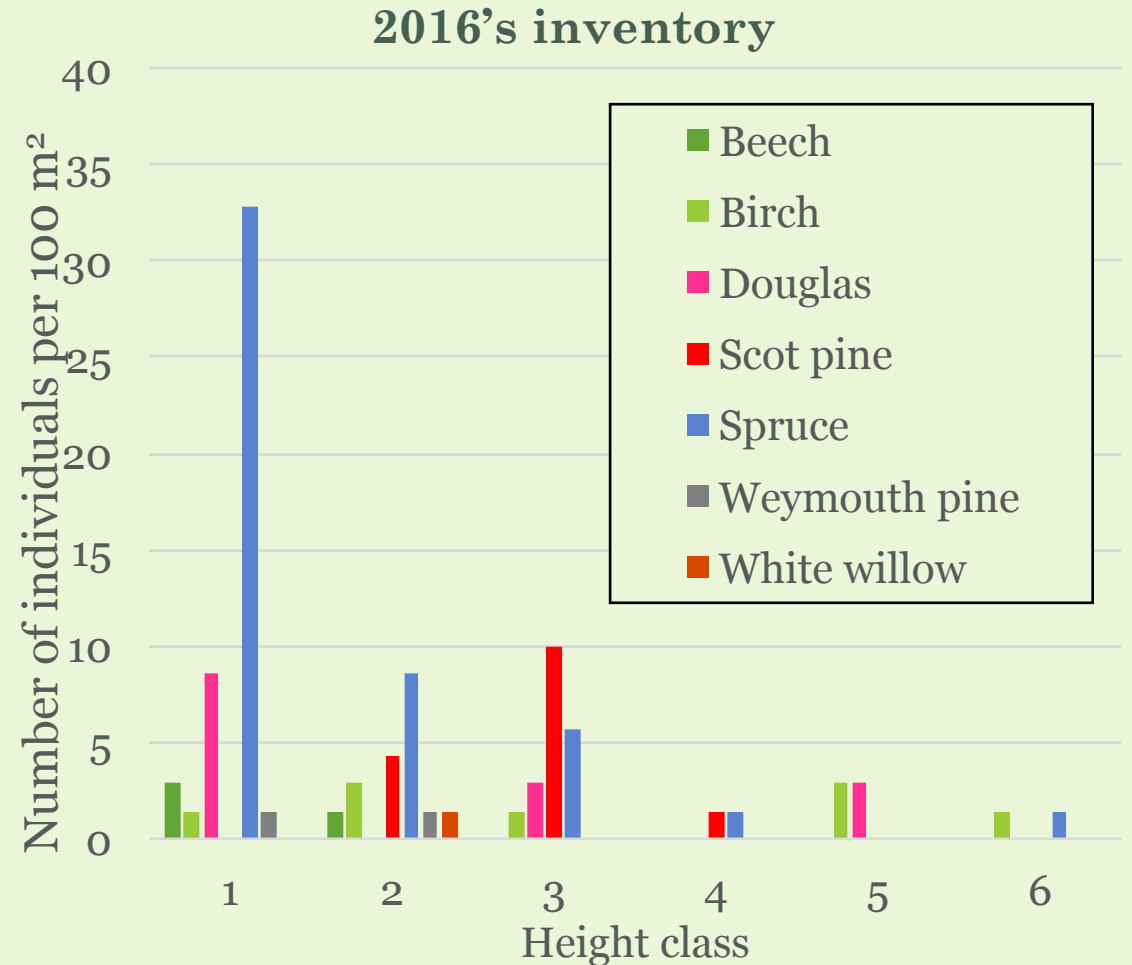
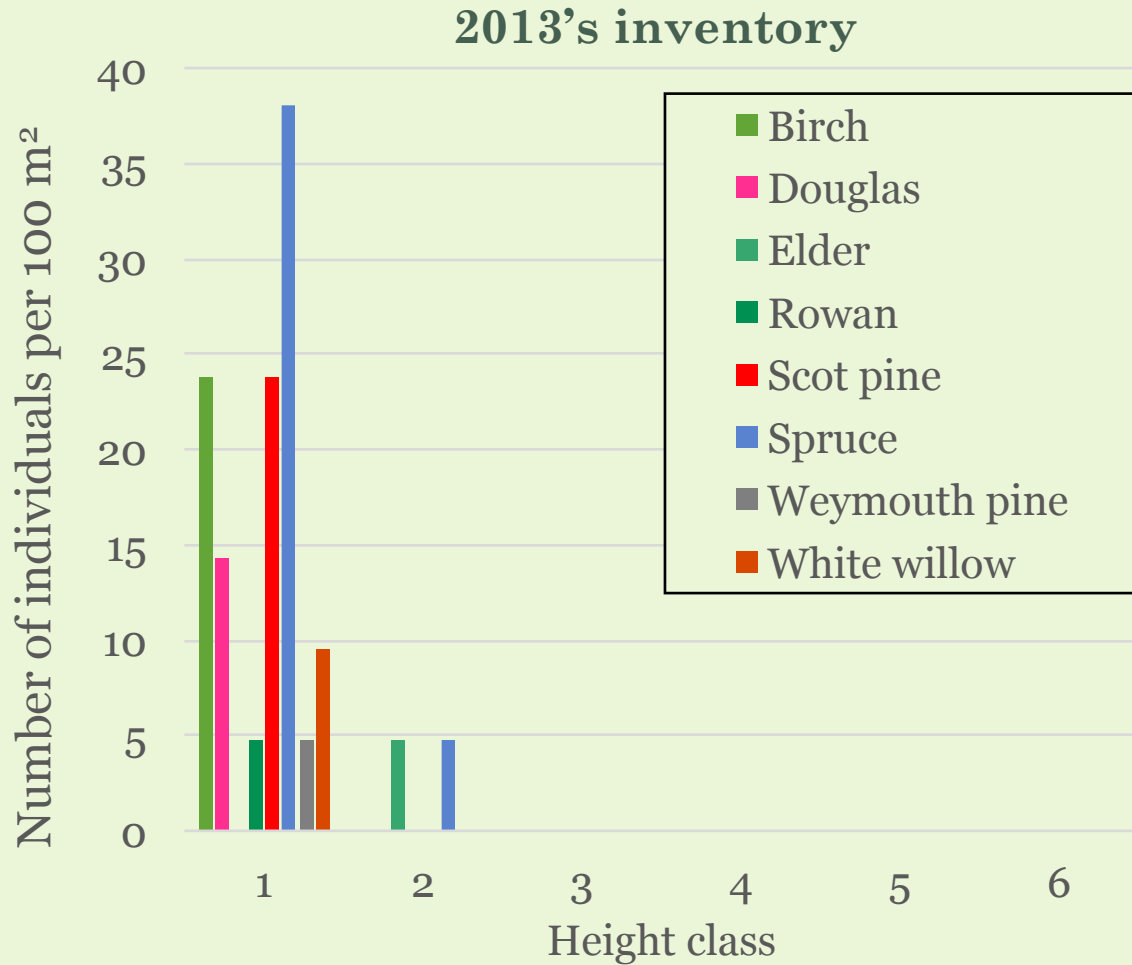
Transect 2



Project 2 – Natural regeneration evolution



Project 2 – Natural regeneration evolution within transect 4



Project 2 – Natural regeneration evolution, results

Common evolution pattern arises:

1. Decrease in total number of seedlings
2. Increase in species diversity, with a majority of spruces
3. Impact of competitors, including of adult beech
4. Few impact of game, maybe linked to age
5. Fit 2013's future pattern (spruce-dominated stand)

Project 3 – Game management

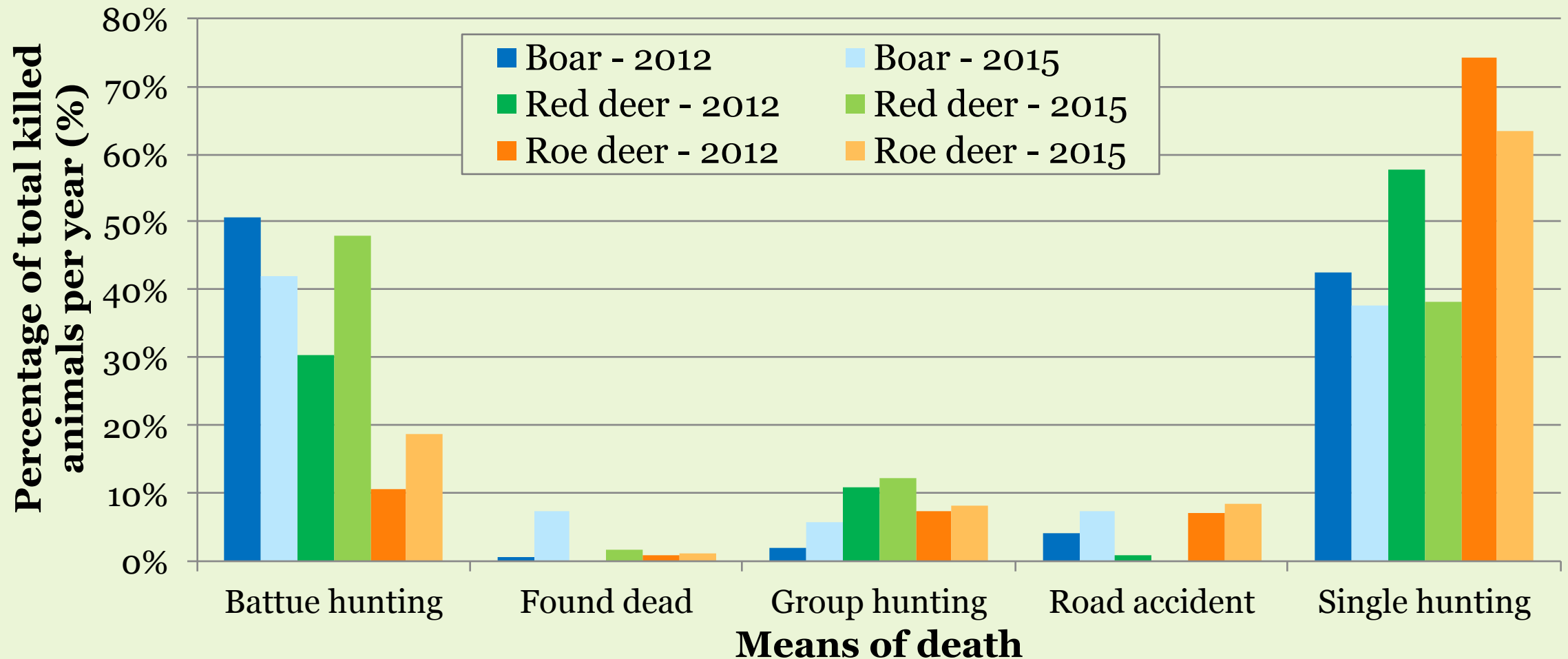


Comparison of *Abschlussliste* results from 2012 to 2015, for boars, roe and red deer.

Three types of hunting considered:

- Battue hunting (*Bewegungsjagd*)
- Single hunting (*Einzeljagd*)
- Group hunting (*Gemeinschaftsansitz*)

Project 3 – Game management



Project 3 – Game management

Observed trends

1. Single hunting represents 50% of global results
2. Fitness of single hunting to roe deer summer behaviour
3. Increased efficiency of battue for roe deer (change in male hunting season) and red deer (new method).
4. Significant impact of environmental conditions on population sizes

More investigations should be carried out, on a longer time period and more factors, to confirm this pattern

To sum up – SWOT analysis

Strength	Weakness
<ul style="list-style-type: none">▪ Multifunctional forestry▪ Total area and condensed forests▪ Long-term practical knowledge and good relationships with universities▪ High quality oak production▪ Forest roads quality and network	<ul style="list-style-type: none">▪ Topography (hills and slope)▪ Workforce age pyramid▪ Top-down hierarchy, with decision makers away from local conditions▪ Long term road storage
Opportunities	Threats
<ul style="list-style-type: none">▪ New functions (e.g. local/global ecotourism)▪ Payments for ecosystem services▪ Production of high value timber (oak, Scot pine, Douglas fir)▪ Wood customer/buyer relationship	<ul style="list-style-type: none">▪ Market competition with foreign wood supply▪ Decreased quality of oak regeneration▪ Increased areas with of single-management forestry (conservation) and risk of biodiversity loss▪ Game management conflicts

To sum up

Overview of the Institution

- Long term knowledge in forest management and specialisation in high quality oak timber
- Importance of the hierarchy within the workflow
- Impact of multi-functional management, and threats toward it (e.g. single management zones)
- Integration within local socio-economic context

Personal outcomes

- Improved knowledge on German in forestry, as well as uneven-aged stand management
- Enhanced critical look toward results
- Development of good working and personal relationships – Integration within a team
- Practise of German language



Thank you for your attention

For further information: helnko@student.uef.fi