

# Regional differences common challenges, unique opportunities

## Moderate engagement in NNT

relatively open, but generally promotion of native tree species

France, Germany, Austria, Switzerland, Belgium, Italy, Czech Republic, Sweden, Finland

Cost action survey summarized by Heinrich Spiecker, Freiburg, Germany

# Moderate engagement in NNT

## WHAT are the MAIN DRIVERS ?

**I History**

**II Ecological conditions**

**III Public perception**

## History

Two centuries ago forests were degraded through deforestation and exploitation. Huge efforts were made to reestablish and rehabilitate the forests.

## History

Non-native tree species were often planted .....

- just for ornamental purposes
- for curiosity
- by innovative forest owners (often from novel families)

## History

The most common species was Norway spruce.

In addition to a minor extend:

**Silver fir** in the mountains of Italy

**Scots pine** were planted on sand dunes in France and Austria  
and non-native tree species:

**Poplar** s.p. in flat areas of Italy

**Robinia** along railways in Switzerland

**Eucalyptus** on swamps in Italy

Even so some non-native tree species were planted, native species were generally preferred and **often planted outside of their natural range**.

## Forest plantations

The criteria for selecting tree species were:

- experience available
- simplicity of cultivation
- economic attractiveness
- in some cases: potential to improve site conditions

## Forest plantations

Some successful plantations with NNT were:

- Douglas-fir
- Grand fir
- Castanea
- Sitka spruce
- Red oak
- Lodgepole pine (in Sweden)
- Tree of heaven (e.g. in Austria)

Not very successful:

- Lodgepole pine (in Finland)

## Ecological conditions

Was there a lack of productive native tree species?

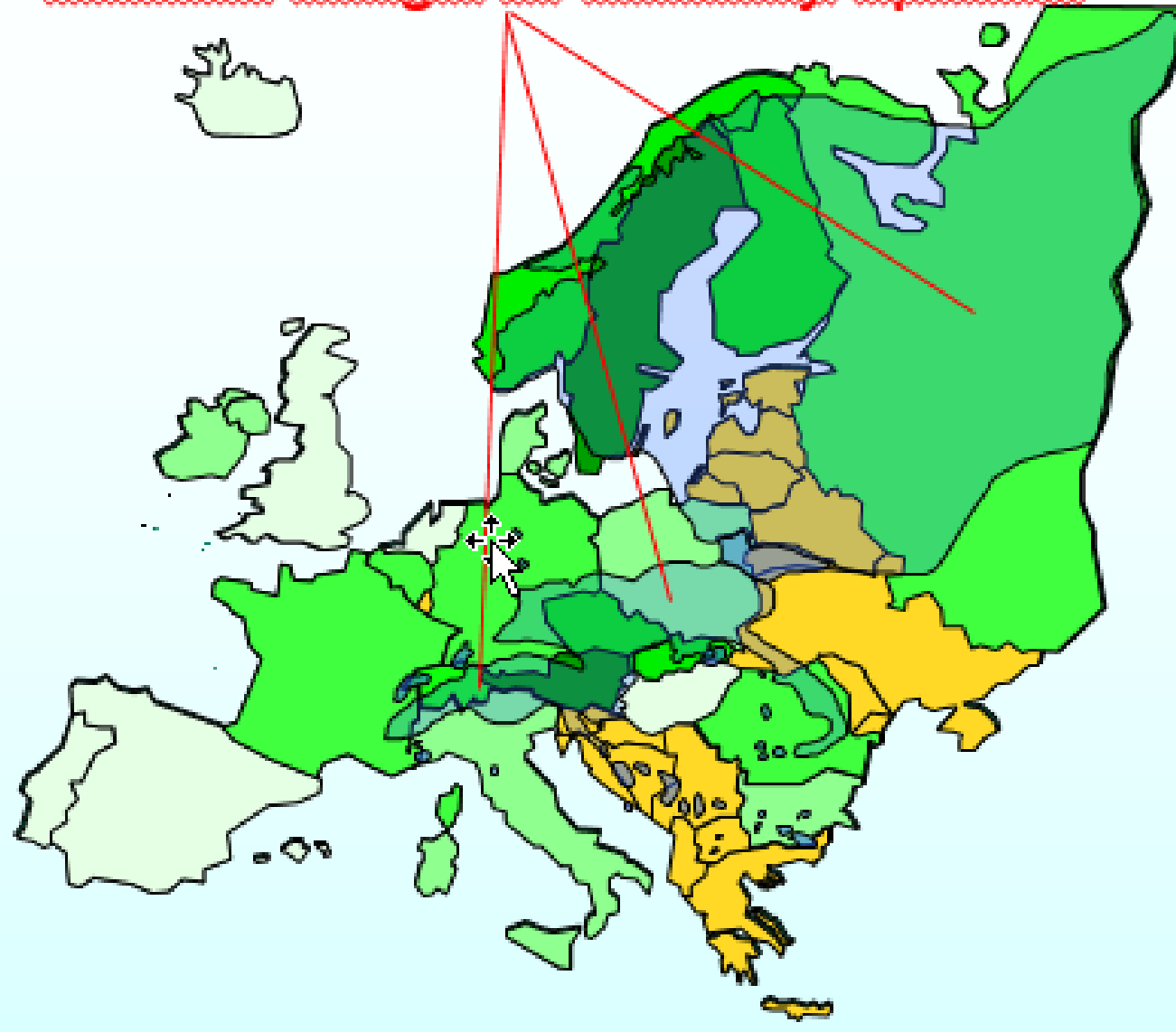
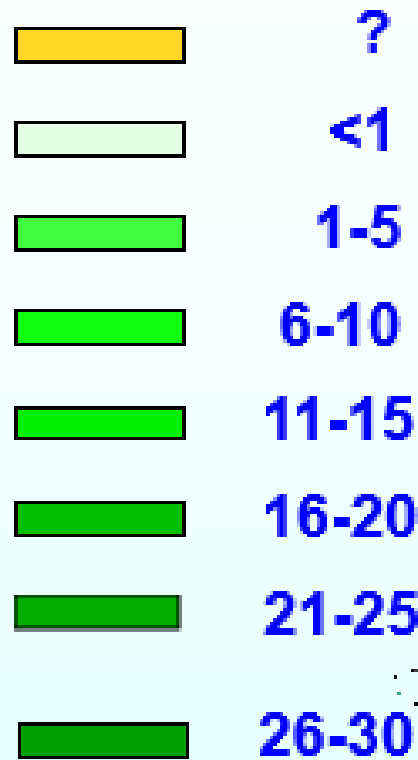
In the countries discussed here there was no such a lack!  
The sites were generally well suited for productive native tree species.

Norway spruce and Scots pine generally fulfilled the needs quite well.



# Area of N. spruce in % of the land area:

natural range of Norway spruce

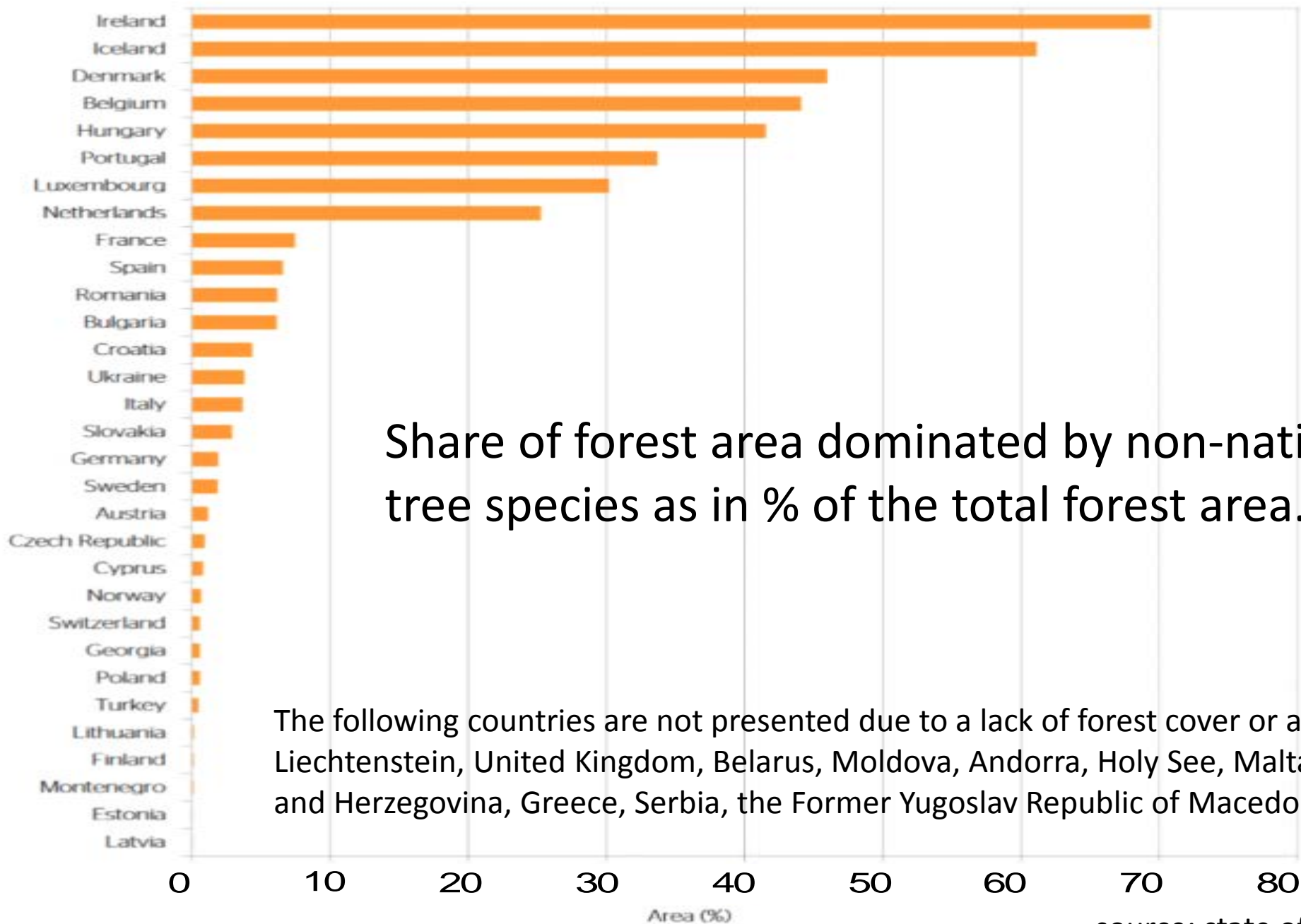


## Ecological conditions

However, a new driver came up recently: **climate change**

Extreme climate events especially drought and heat combined with insect infestations caused substantial damages and led to changes in species composition:

- reducing of the area of “native tree species” outside their natural range
- favoring native species adapted to the site conditions as well as planting non-native tree species which are adapted to the expected climate



Share of forest area dominated by non-native tree species as in % of the total forest area.

The following countries are not presented due to a lack of forest cover or available data: Liechtenstein, United Kingdom, Belarus, Moldova, Andorra, Holy See, Malta, Monaco, Albania, Bosnia and Herzegovina, Greece, Serbia, the Former Yugoslav Republic of Macedonia and Slovenia)

source: state of the European Forest 2015

## Perception and legal aspects

- Restrictions in certain areas
- in some countries the management plan (including species selection) has to be approved
- Certification schemes include restrictions in respect to non-native tree species
  - e.g. FSC asks for a certain maximum % of area covered by non-native tree species (e.g. Germany Douglas –fir < 20% in each stand)

# Area of introduced tree species in individual European regions

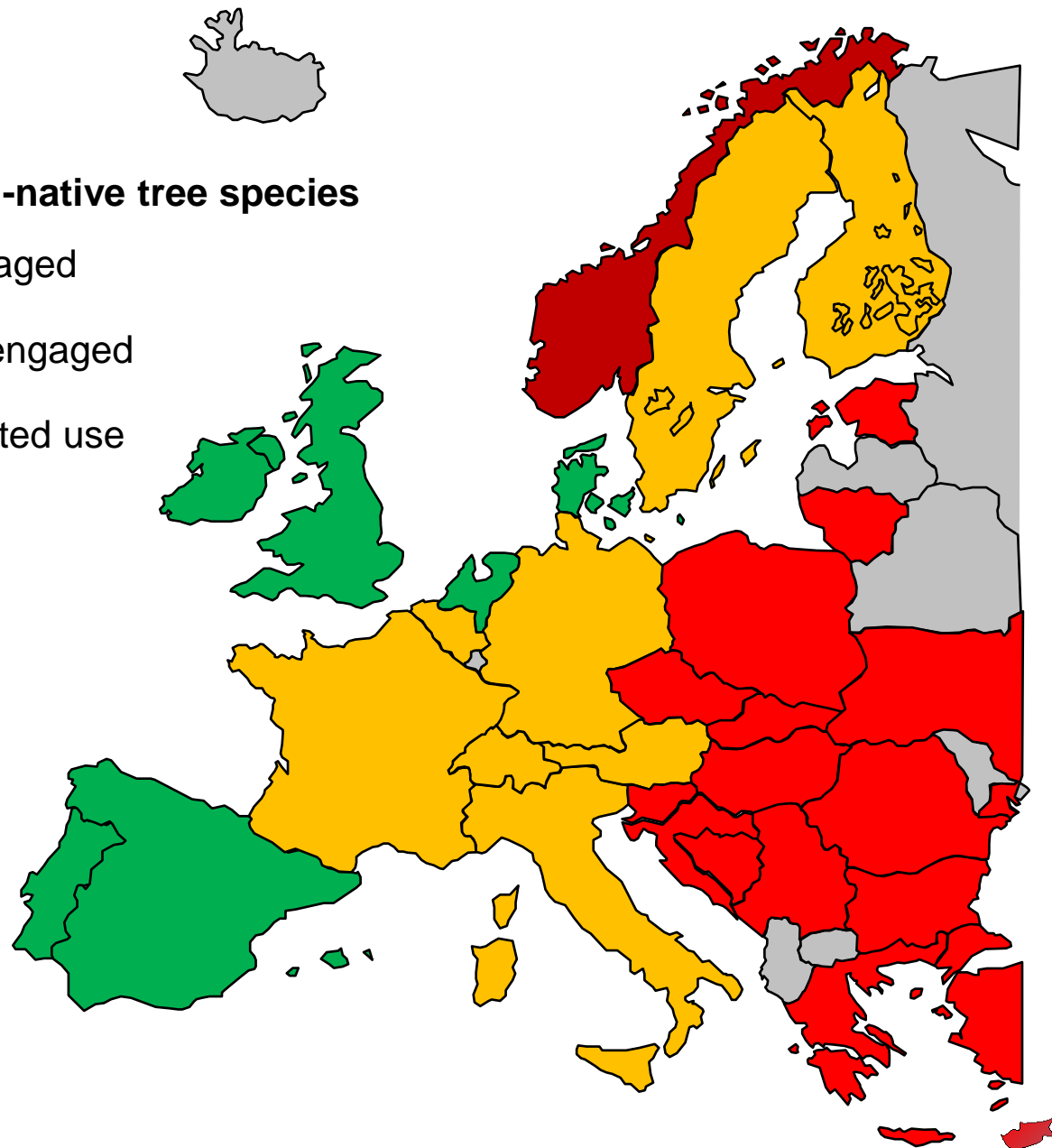
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source: state of the European Forest 2015

### Engagement in non-native tree species

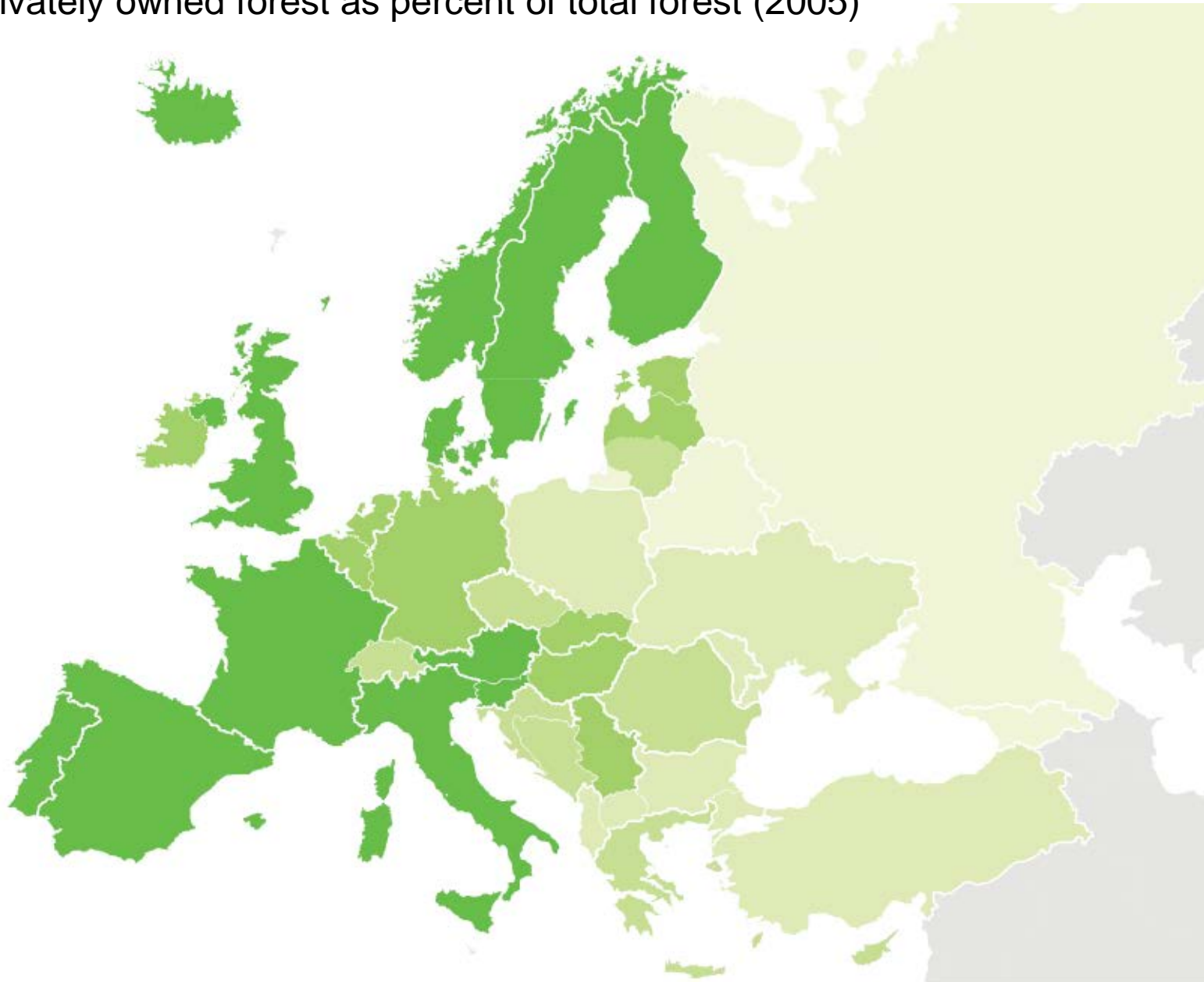
- strongly engaged
- moderately engaged
- rather restricted use
- no use



# Area of privately owned forest as percent of total forest (2005)

Private ownership (%)

- 0-15
- 16-30
- 31-45
- 46-60
- 60-100



source:  
State of Europe's  
forest 2012

# Conclusion

The engagement in NNT seems not only be based on scientific knowledge about silviculture and forest management. It is very much inspired by history and traditions. The land owner's attitudes and the perception of the society play a mayor role.