



# HOKKAIDO UNIVERSITY

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Author(s)	Auvinen, Ari-Pekka
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# GENERAL TRENDS IN FINNISH FOREST BIODIVERSITY

Ari-Pekka Auvinen  
Finnish Environment Institute

# THE BIG QUESTION: HOW IS NATURE DOING?

General interest – overview

Moral obligation to know our impact

Global, EU and national level political goals

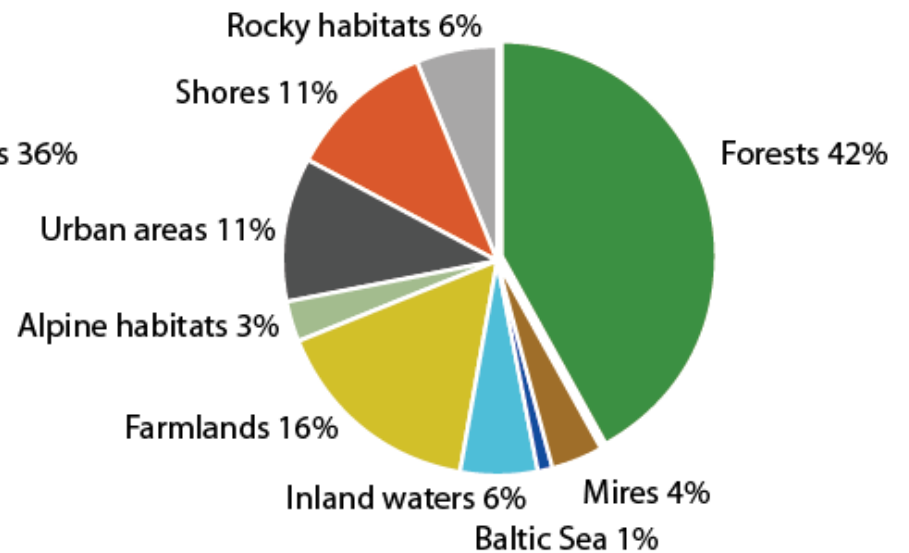
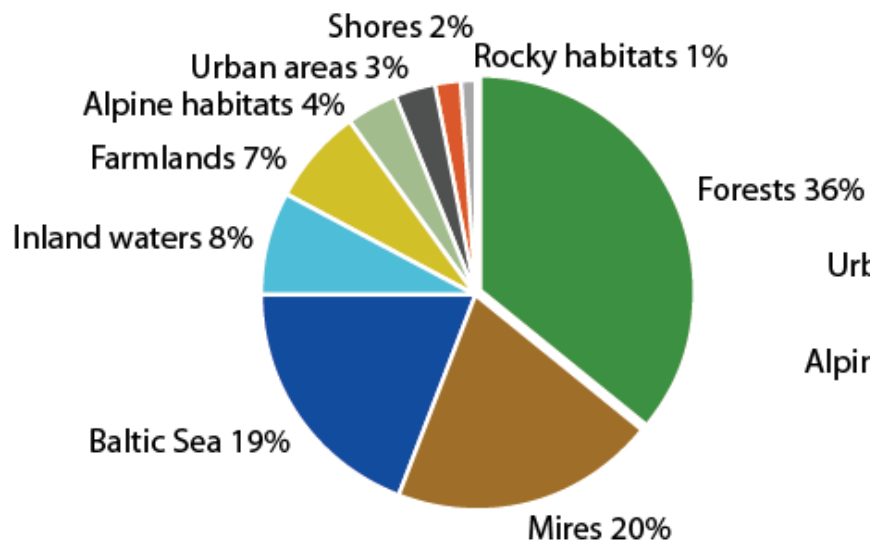
Practical data needs

- e.g. Fourth National Report to the United Nations Convention on Biological Diversity

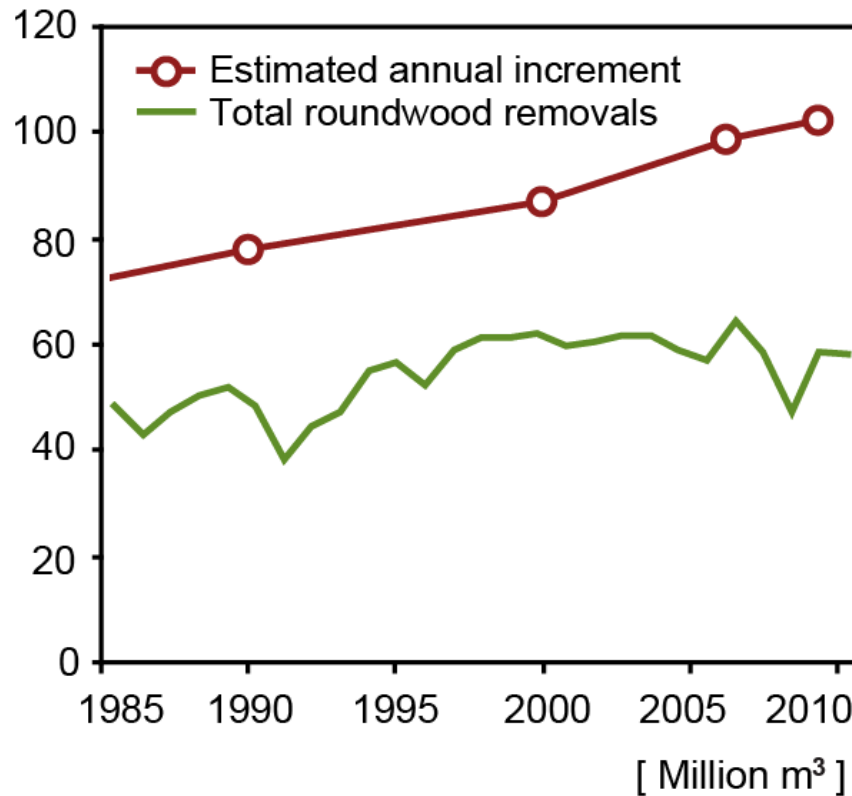


**TOTAL SURFACE AREA (420 000 KM<sup>2</sup>)**

**WELL-KNOWN SPECIES (N = 19 962)**



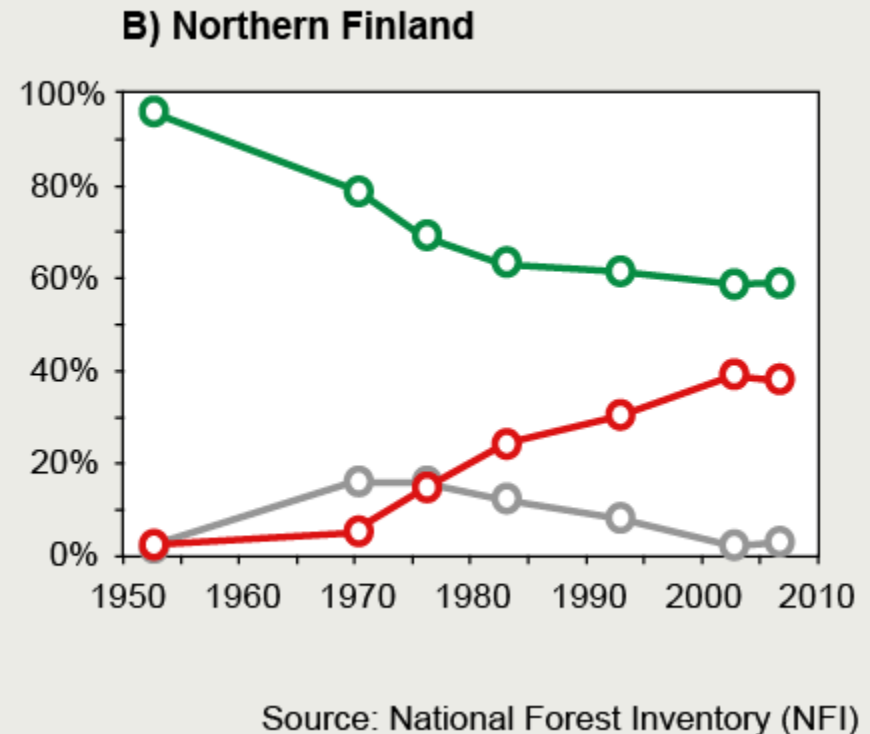
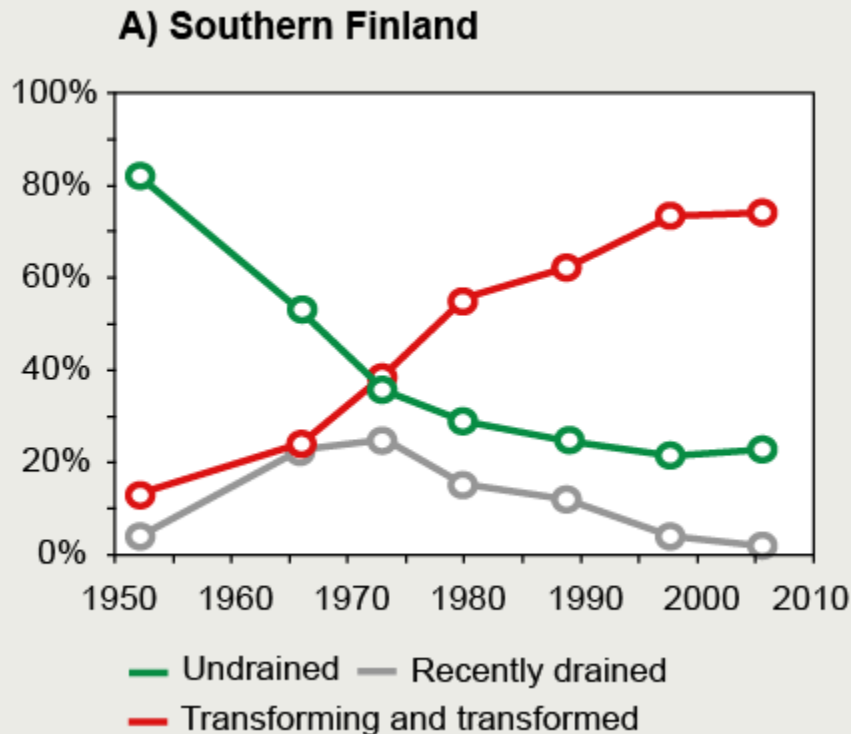
# BACKGROUND: FOREST USE



CUTTINGS CLEARLY LESS THAN GROWING STOCK INCREMENT

>> FINNISH FORESTRY IS SUSTAINABLE(?)

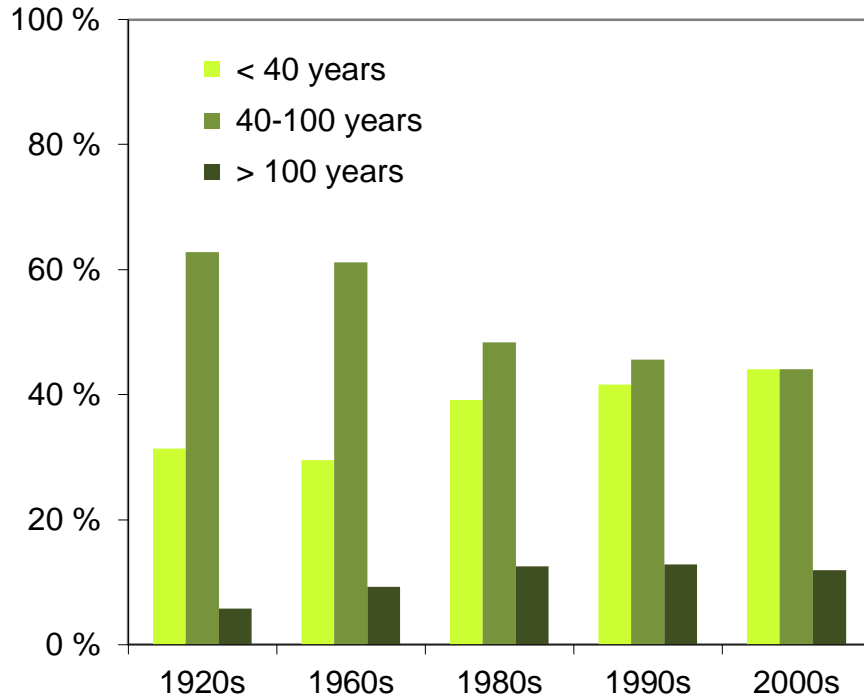
# OBJECTION NO. 1: MIRE DRAINAGE



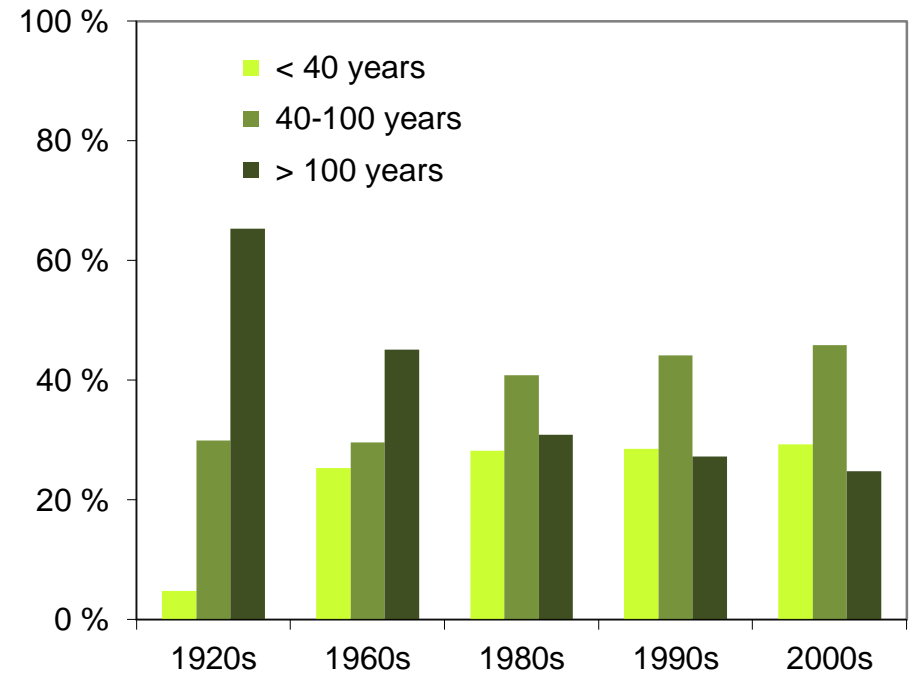
MUCH OF THE GROWTH OF GROWTH IS  
DUE TO THE DRAINING OF PEATLANDS

# OBJECTION NO. 2: AGE STRUCTURE

A) Southern Finland

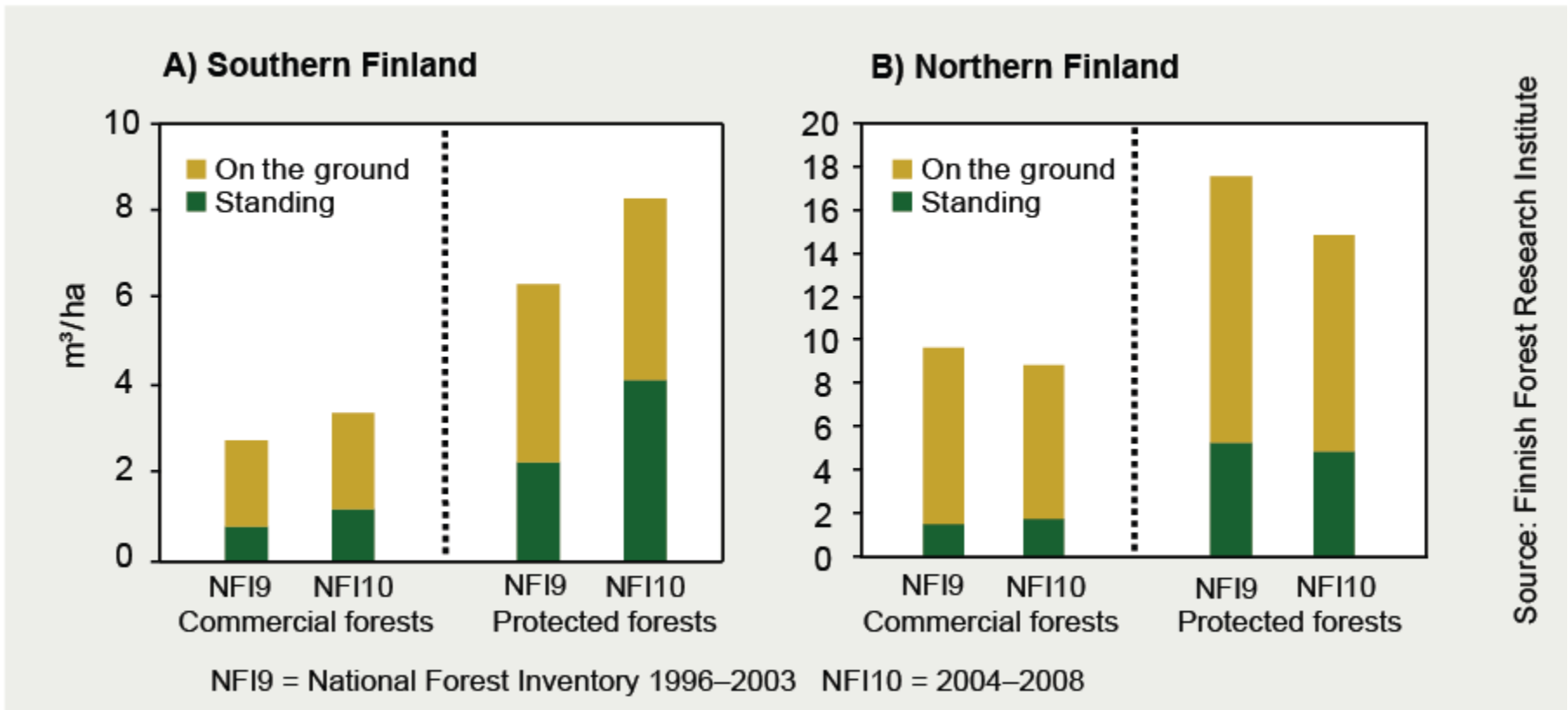


B) Northern Finland



YOUNG FORESTS GROW FAST

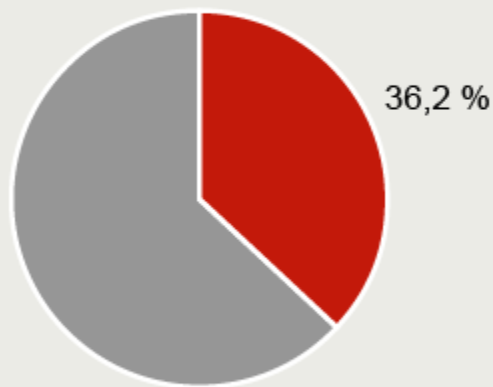
# GREATEST SINGLE STRUCTURAL CHANGE: DEAD WOOD



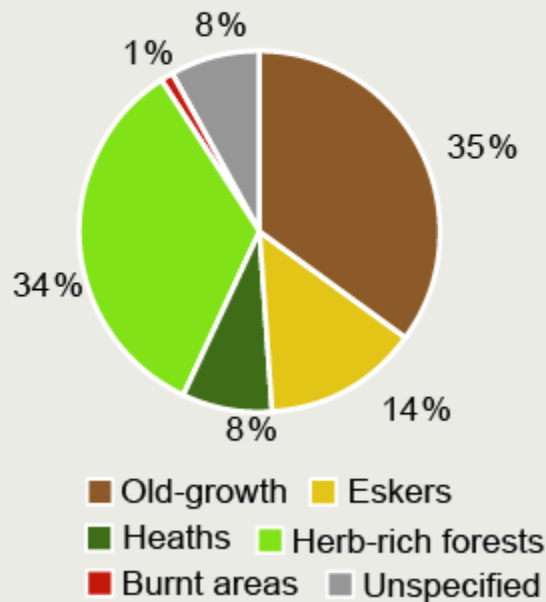
Minimum level required by many endangered species  $\approx 30 \text{ m}^3/\text{ha}$   
4 000—5 000 species depend on dead wood

# CONSEQUENCES: THREATENED SPECIES

A) Share of forest species of all threatened species in year 2010



B) Threatened forest species by primary habitat in year 2010



C) Trends in threatened forest species 2000–2010



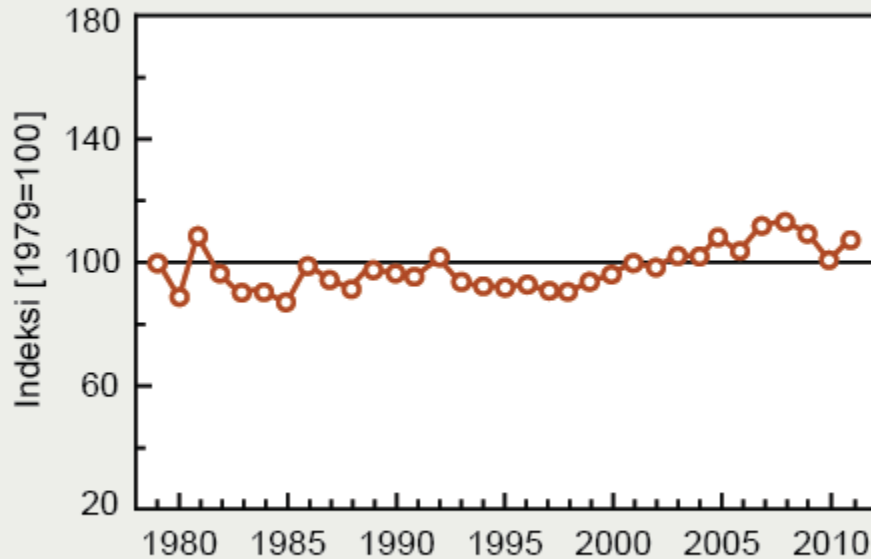
Source: Finnish Environment Institute

*“The development of 81 species living primarily in forests has been positive. Half of these are beetles. Many of the beetle species have benefited from retention trees left standing in clear-cut areas, especially aspens.”*

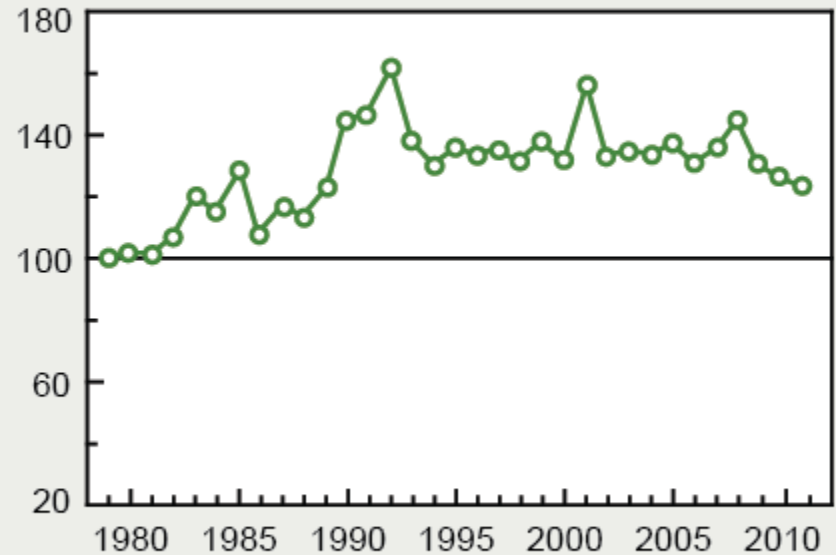


# BREEDING BIRDS

A) Forest generalists (n=20)



B) Coniferous forest species (n=17)



Source: Finnish Museum of Natural History

In general:

- birds seem to have adapted to changes in forest structure
- residents and short-distance migrants are faring better than long-distance migrants

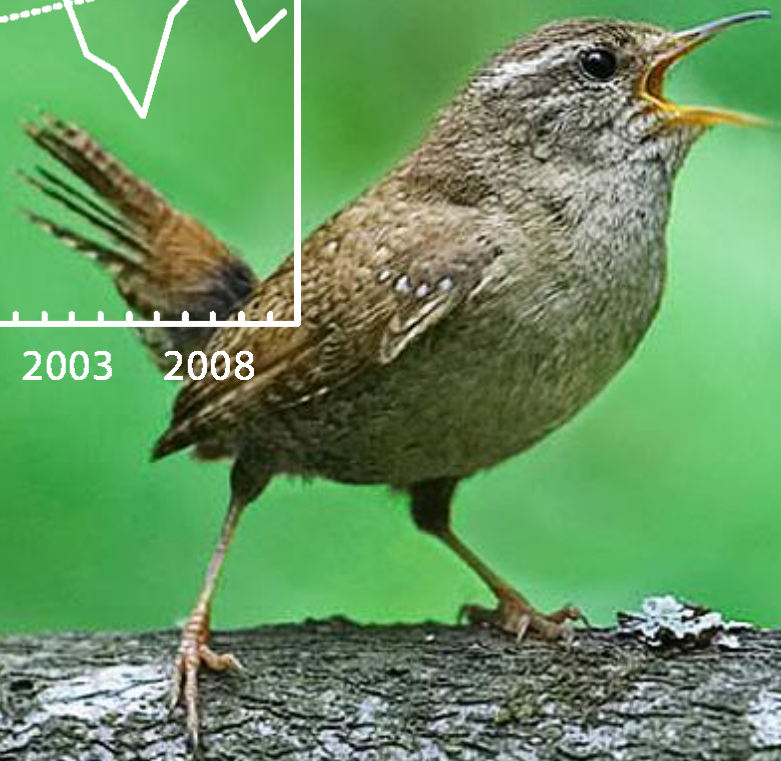
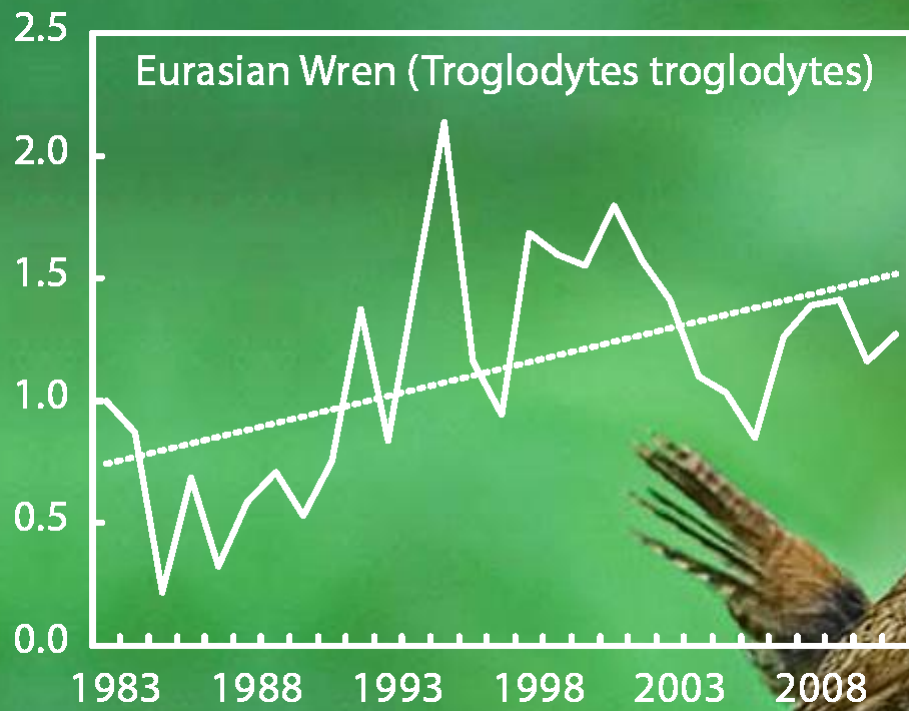
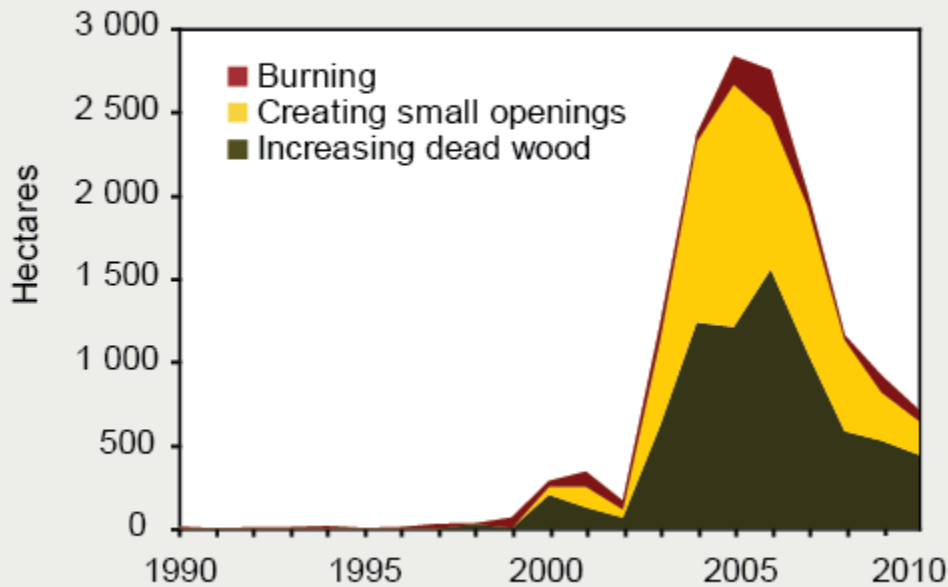


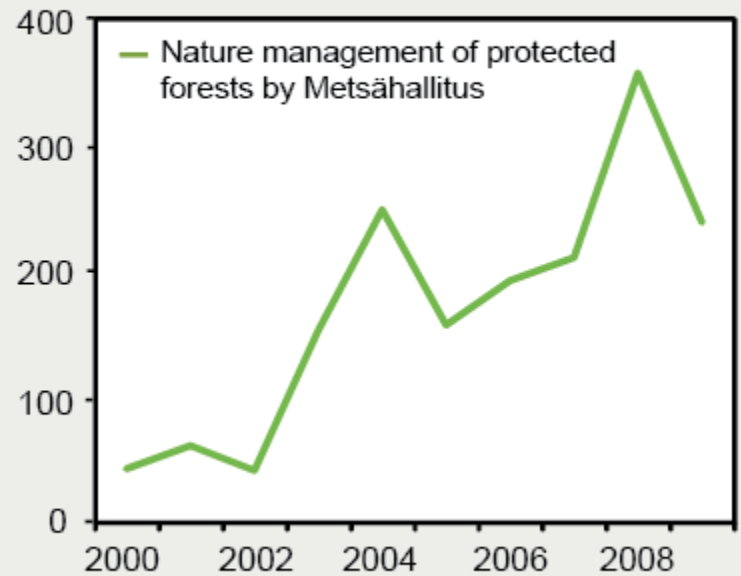
Photo: Markus Varesvuo

# RESTORATION

**A) Forest restoration in protected areas**



**B) Nature management in protected areas**

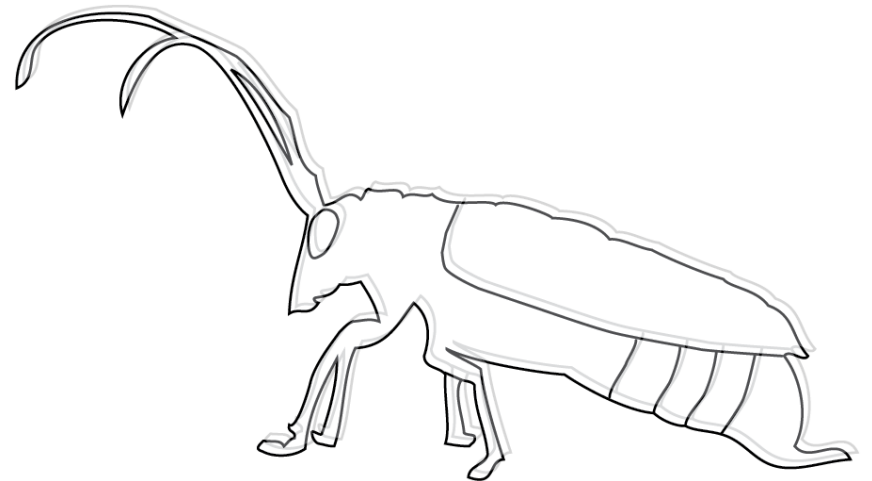


Source: Metsähallitus Natural Heritage Services

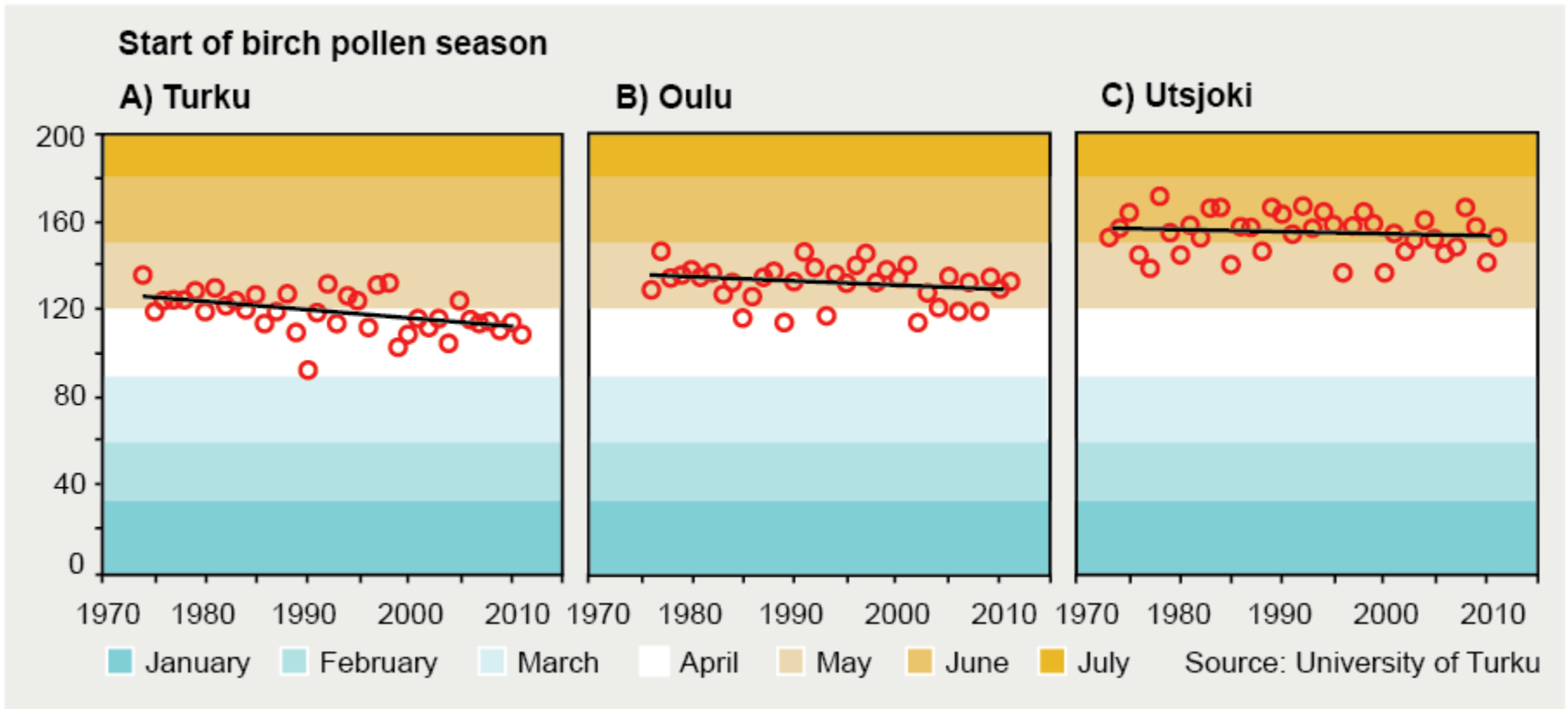
Important work, but scale of annual effort is small

# QUESTION MARKS: NO MONITORING

Beetles  
Saproxyllic fungi  
Lichens  
Vascular plants



# QUESTION MARKS: CLIMATE CHANGE



Approximately two weeks earlier in the south,  
no change in the north

For more information,  
please visit



THANK YOU – ありがとうございます。