

A close-up photograph of a green spruce tree top, showing the intricate, needle-covered branches in vibrant shades of green. The background is a dark, blurred green, making the tree's details stand out.

Impact of climate change on forest management: Białowieża Primeval Forest Case Study

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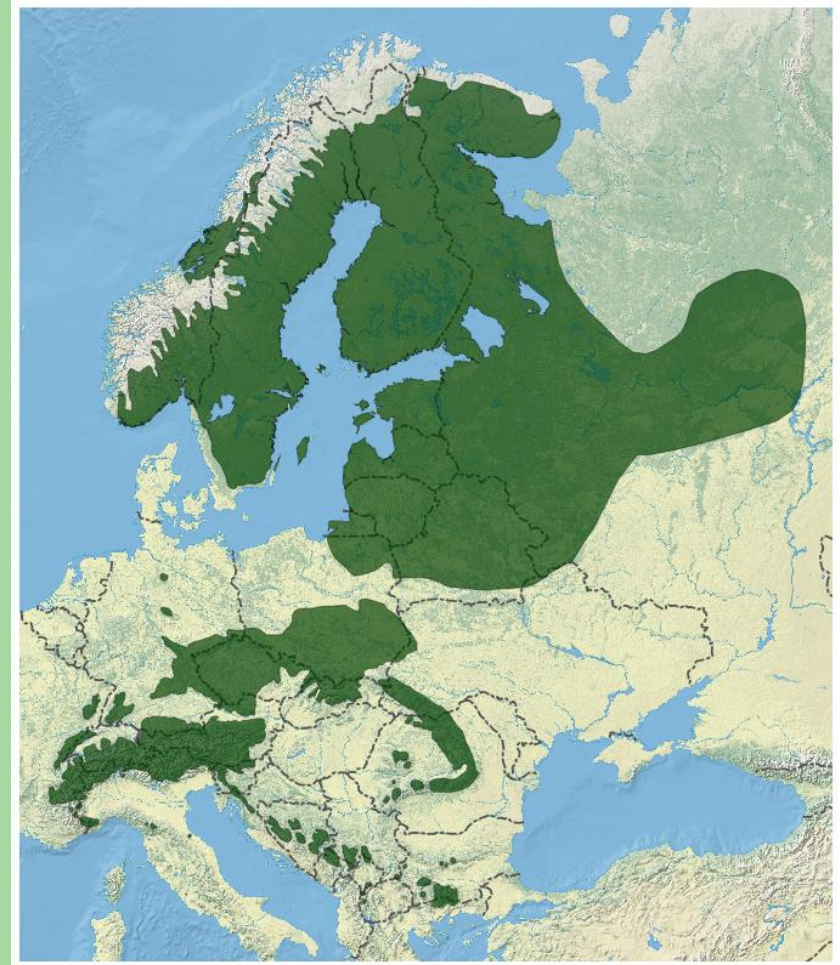


Norway spruce – ecology

Picea abies

Boreal

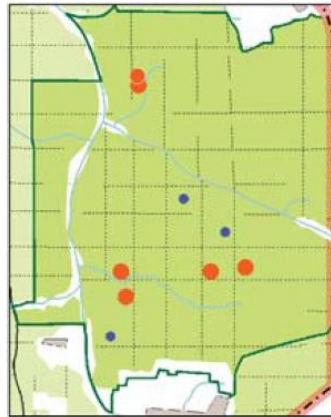
Wet conditions



Palynological data

Picea

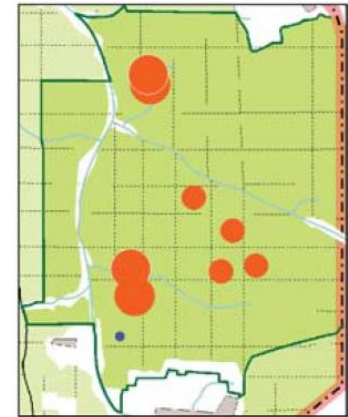
I-V w.



VI-VIII w.



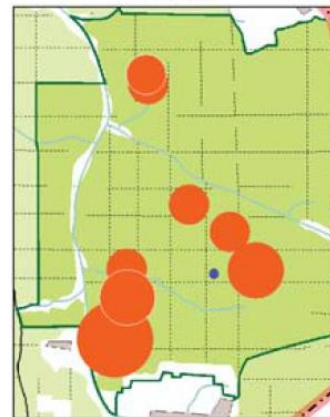
IX-XIII w.



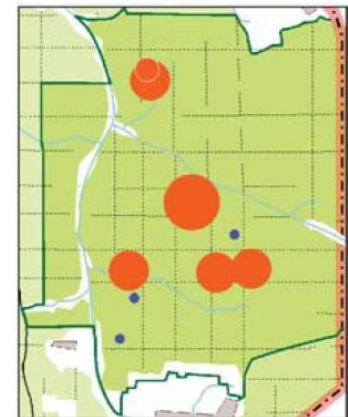
XVII-XVIII w.



XIX w.



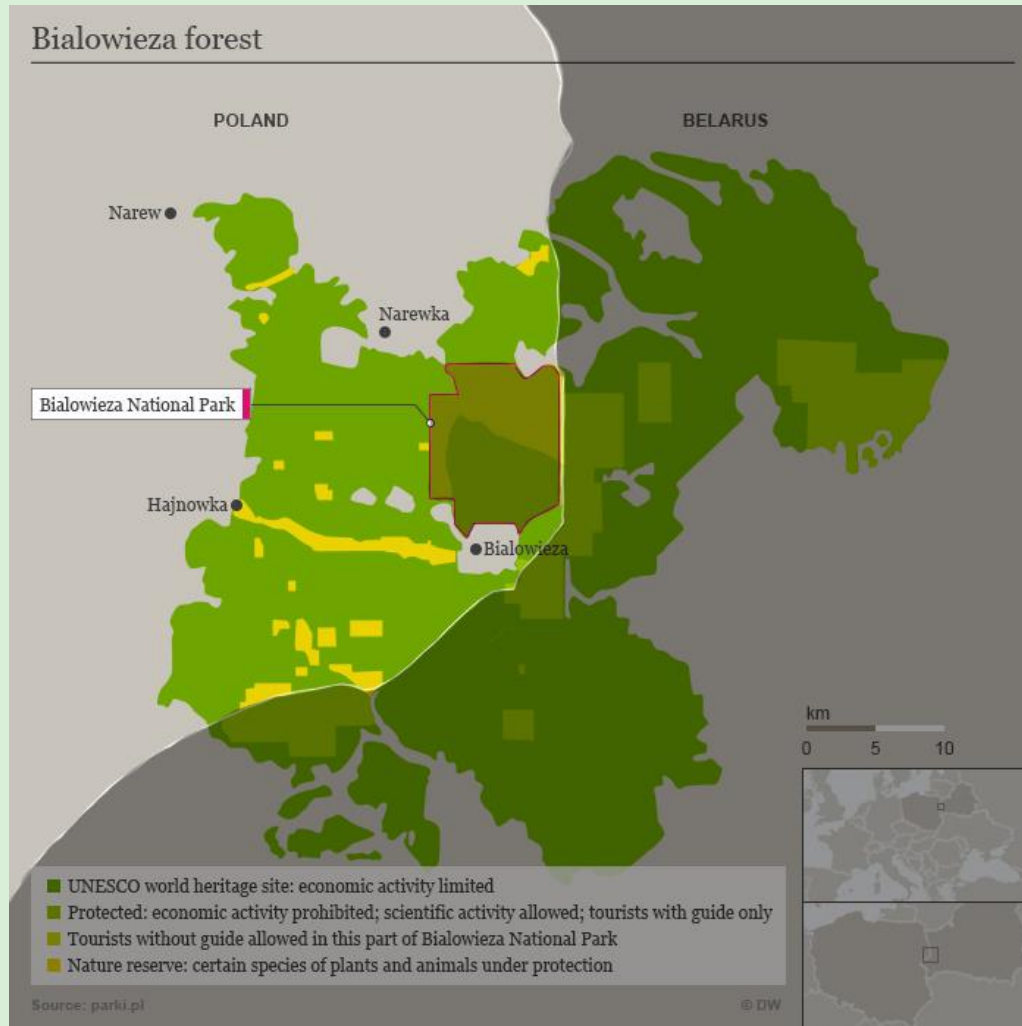
XX w.



Study area



~ 50 000 ha of forest







Białowieża AD 1902



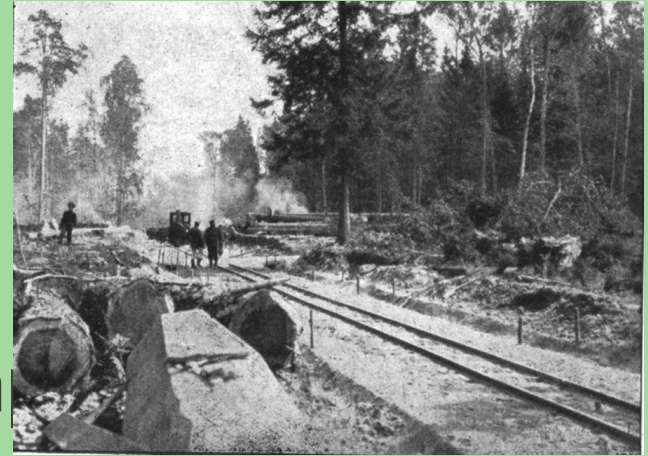
browsing
grazing
hunting grounds

~6200 ha of spruce dominated forests
12% of total area

ІЗЪЯСНЕНІЕ ЗНАКОВЪ

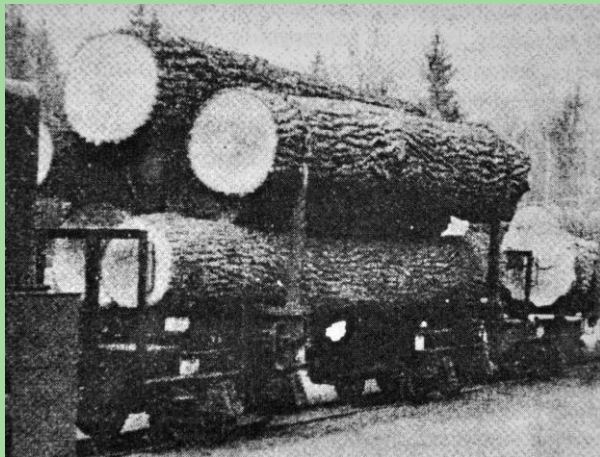
-  1) Мохъ по сухому мѣсту 2) по болоту
-  1) Ёль по сухому мѣсту 2) по болоту
-  1) Дубъ по сухому мѣсту 2) по болоту
-  1) Лиственный мѣсъ

Beginning of XX century



War
er Com

Second World War



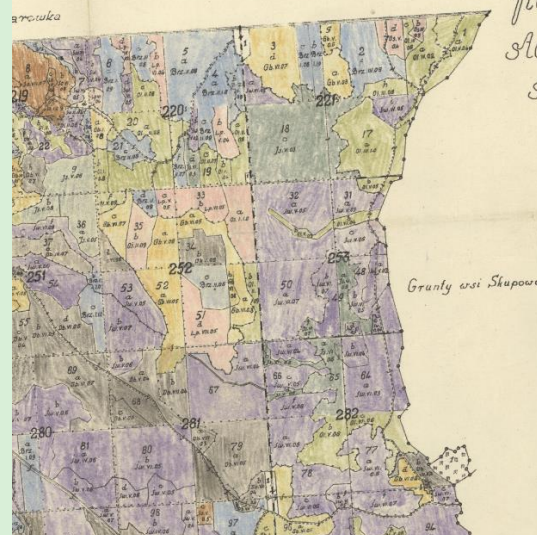
Białowieża AD 1948



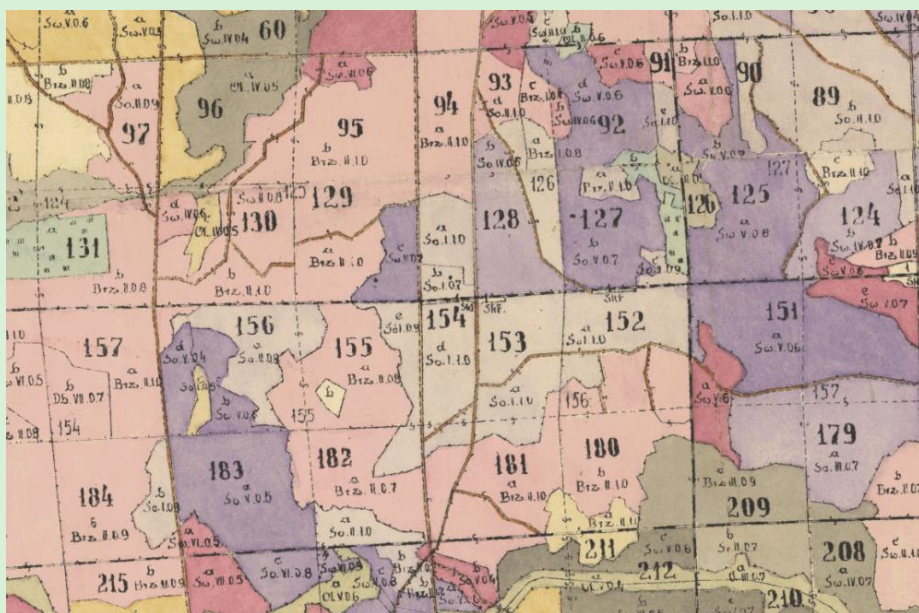
~12 700 ha
of spruce dominated
forests

REJON LASÓW PAŃSTW. w BIAŁOWIEŻY
Puszcza Białowieża
MAPA DRZEWOSTANOWA
nadlegnictwa
ZWIERZYNIEC

pow. ogólna 6396,73
Skala na 1-X-1948
skala 1:20000



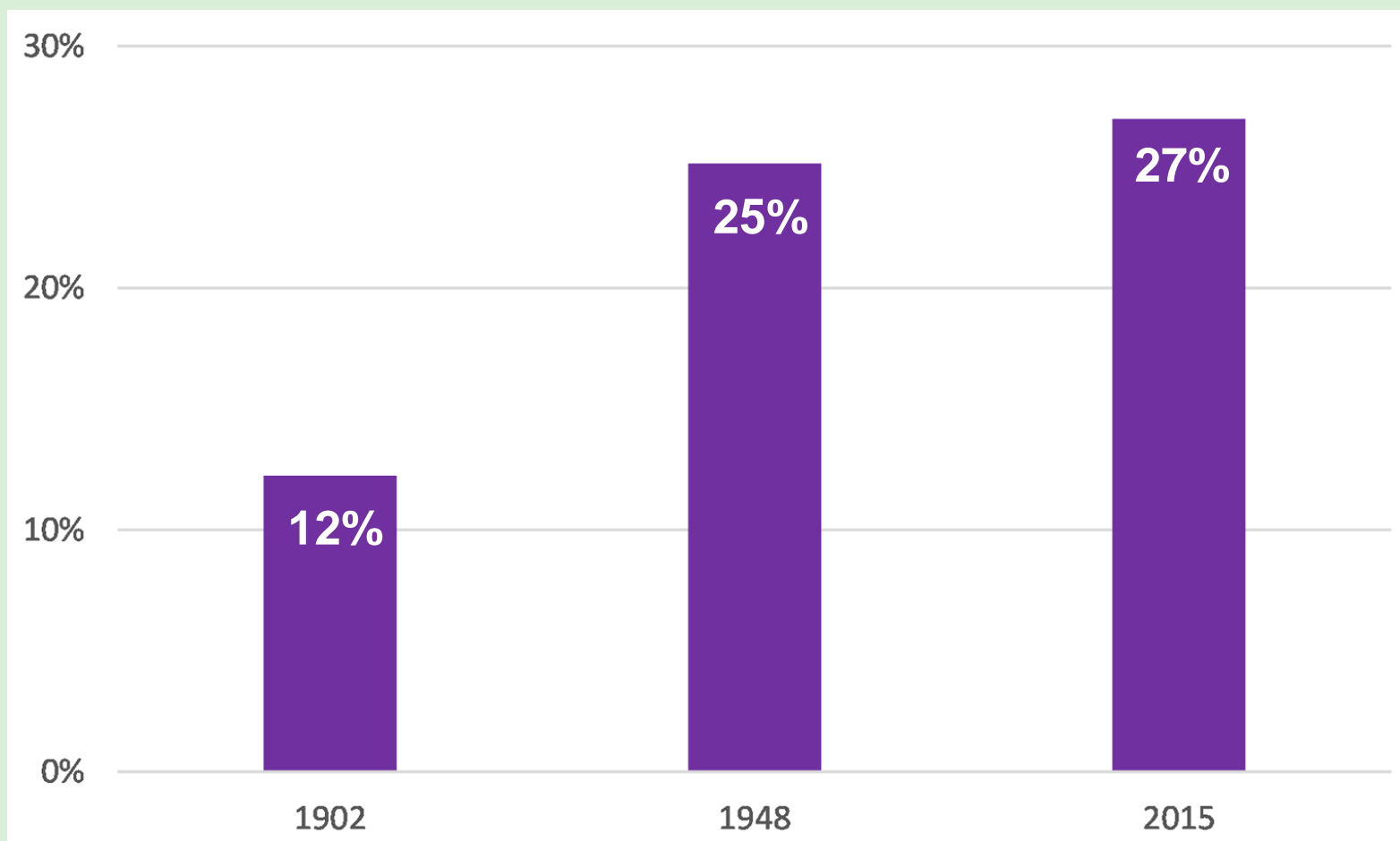
~25% of total
forest area



Białowieża AD 2015



~13 600 ha of spruce dominated forests
~27% of total forest area



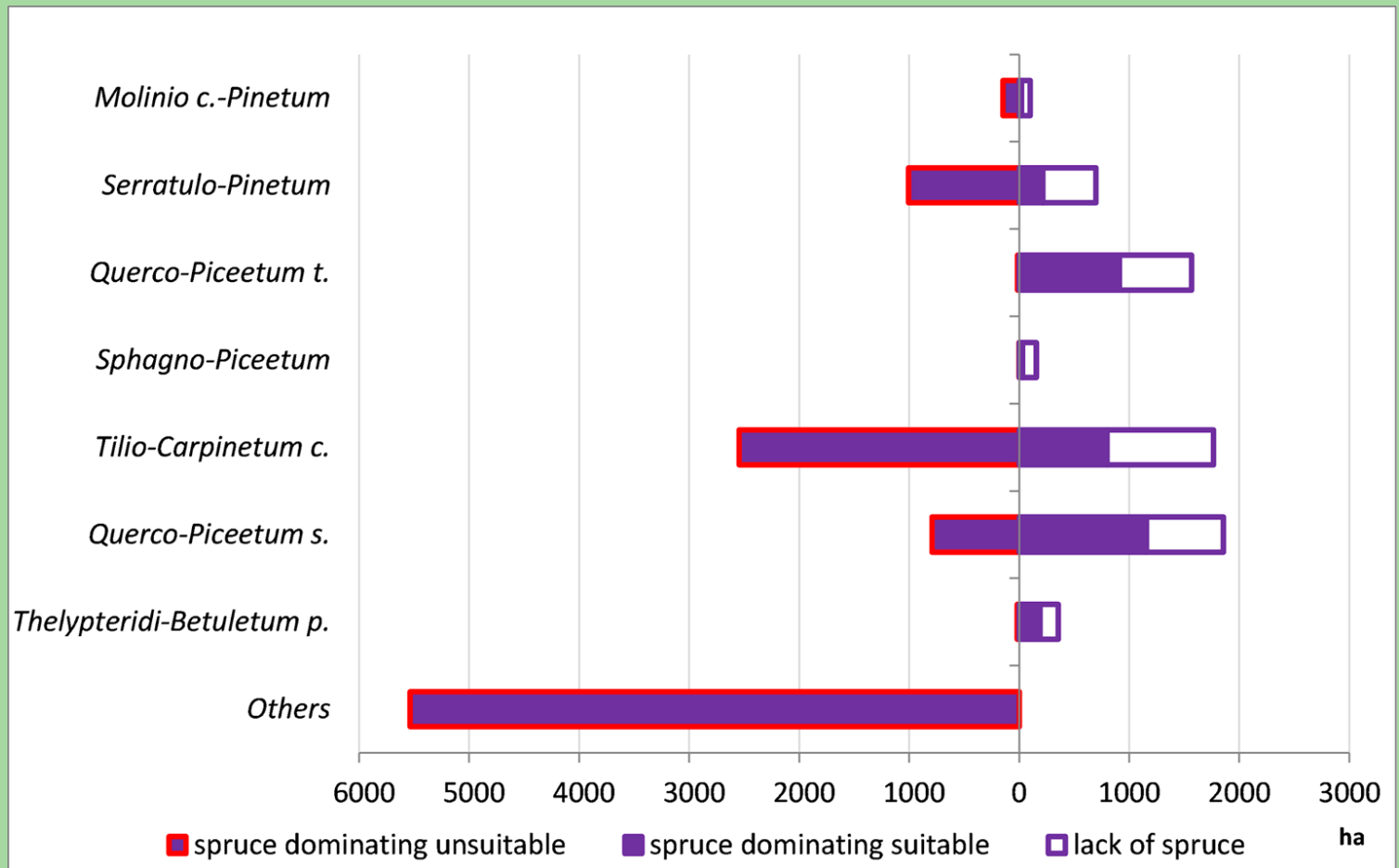


Spruce – habitats

Currently ~ 13 600 ha

Suitable sites ~ 6 500 ha (~12%)

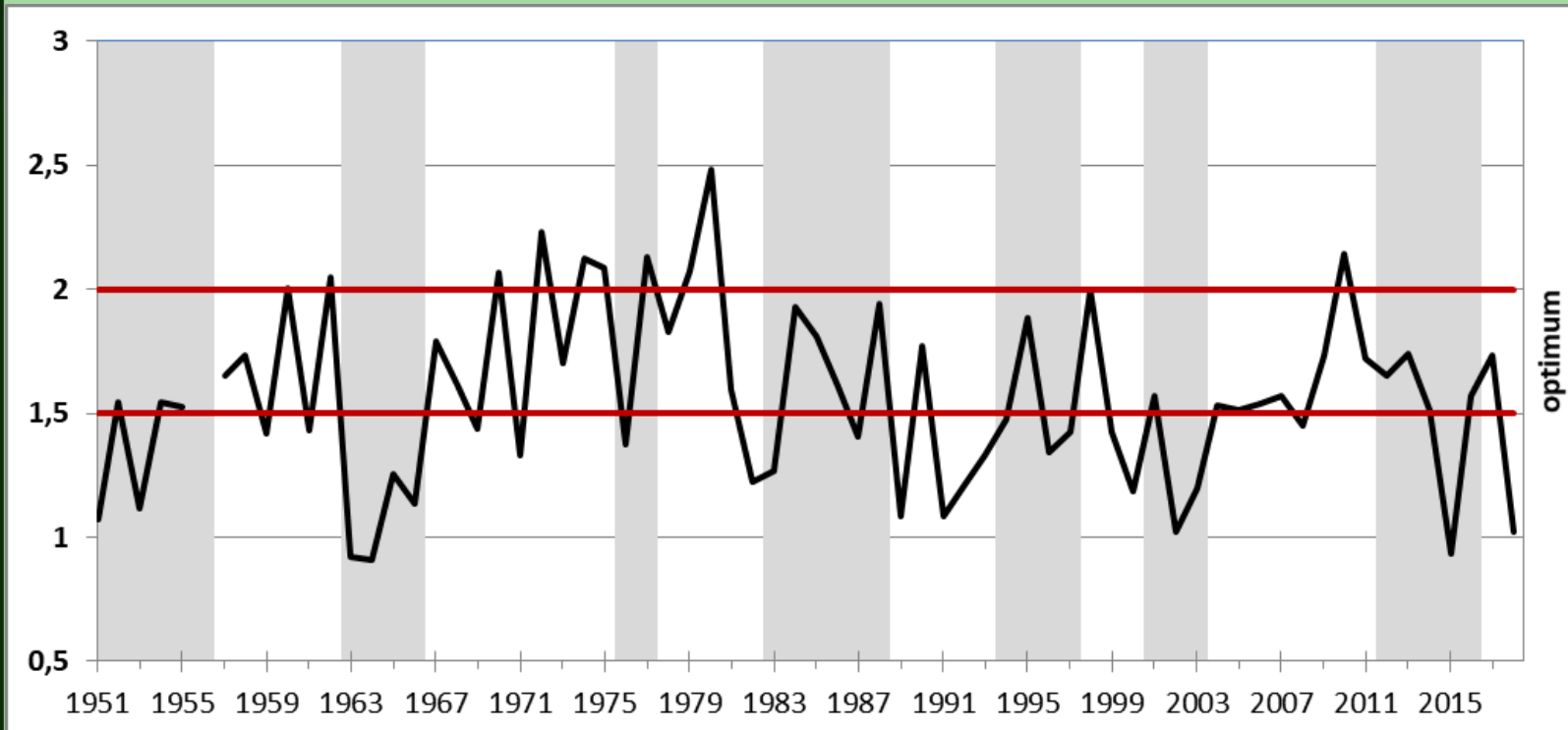
Spruce on suitable sites ~ 3 300 ha





Seljaninow index (K)

bark beetle outbreaks (grey background)





Long-term perspective

