# Wetland restoration and management in **Belgium**

**Case study:** 

## the Sonian Forest

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### **Past management of the wetlands**

in the 1950s





# **Management actions for wetland restoration**

#### since the 1990s

- > These areas were fenced to prevent the vegetation from being trampled
- > Poplars were killed by stripping off rings of bark
- > Part of the willow and alder groves were cut to recreate open habitats
- > A system of dykes has been locally installed to direct part of the water from a brook towards the marshes in order to maintain a sufficiently high water level
- > A pond was dug for re-establishing aquatic vegetation
- > The herbaceous vegetation is once or twice yearly mown



# Monitoring



## **Field work**

Since 1994, vegetation data are yearly collected:

Phytosociological method (species presence and abundance)

Network of permanent plots (mostly 4m<sup>2</sup>) **Data processing** 

- Species richness
- Species diversity
- Ratio grasses/forbs
- Ellenberg indices (L, F, R, N)
- ➢ Banality (rarity) index



#### **Some results**





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Per species

# Abundance of a disturbance species (*Urtica dioica*)



# Abundance classes of a wetland species (Lysimachia vulgaris)





## Conclusions

> In less than 9 years, we succeeded to restore valuable wetland habitats from very degraded communities (e.g. poplar plantations with nettle underground)

➢ Wet and eutrophic tall herb communities can be restored in a short time span with appropriate nature management practices (e.g. reflooding, mowing)

➤ Mowing twice a year gives better results for the restoration of these vegetation communities than mowing once a year

> Trends can be easily monitored with a few well-chosen ecological indices calculated from the vegetation composition





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