

# Unsuccessful restoration projects

In the Netherlands

# Threats for Dutch wetlands

- Hydrological changes (50% moderate-strong (Runhaar et al., 1999))
- High atmospheric N-deposition
- Dessiccation
  - *→since 1990:Funds for restoration projects available*
  - *Grootjans et al (2002) evaluated 12 projects some successful, some unsuccessful*

# What went/was wrong in unsuccessful projects?

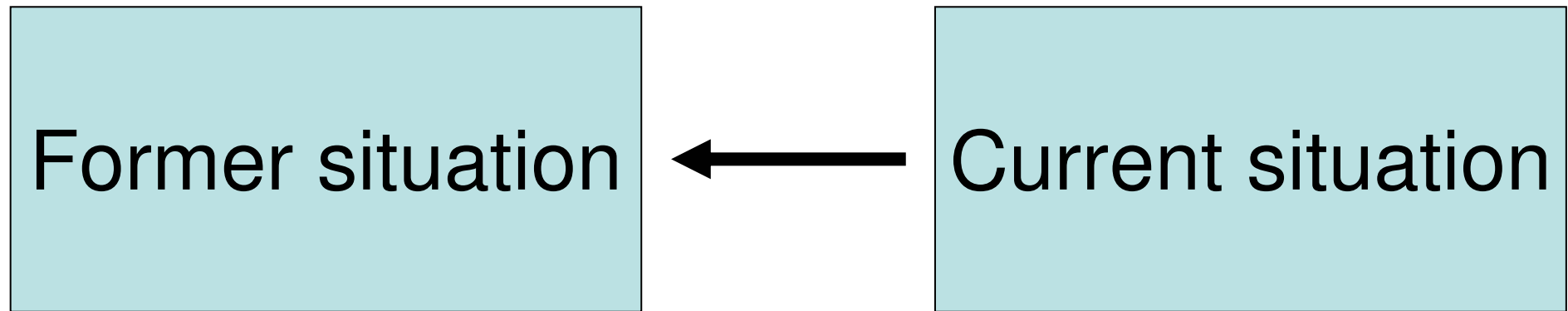
- Seedbanks of pristine ecosystems severely depleted
- Long term drainage → irreversible changes in topsoil
- Ineffective dispersal (absence flooding, fragmentation)
- → THESE CONDITIONS MAKE COMPLETE RESTORATION VERY HARD, IF NOT IMPOSSIBLE

# Moreover.....

- Some abiotic conditions restored → ***hysteresis*** may prevent species reoccurrence
- Not only abiotic factors, e.g. soil community organisms are very important in plant competition processes as establishment and succession (e.g. De Deyn et al., 2003)

# Time's up! What's the message?

- Restoration, in sense of bringing back former situation not always possible
- For possible targets, necessary to examine history area, and its degrading processes



*Irreversible changes !!*

