

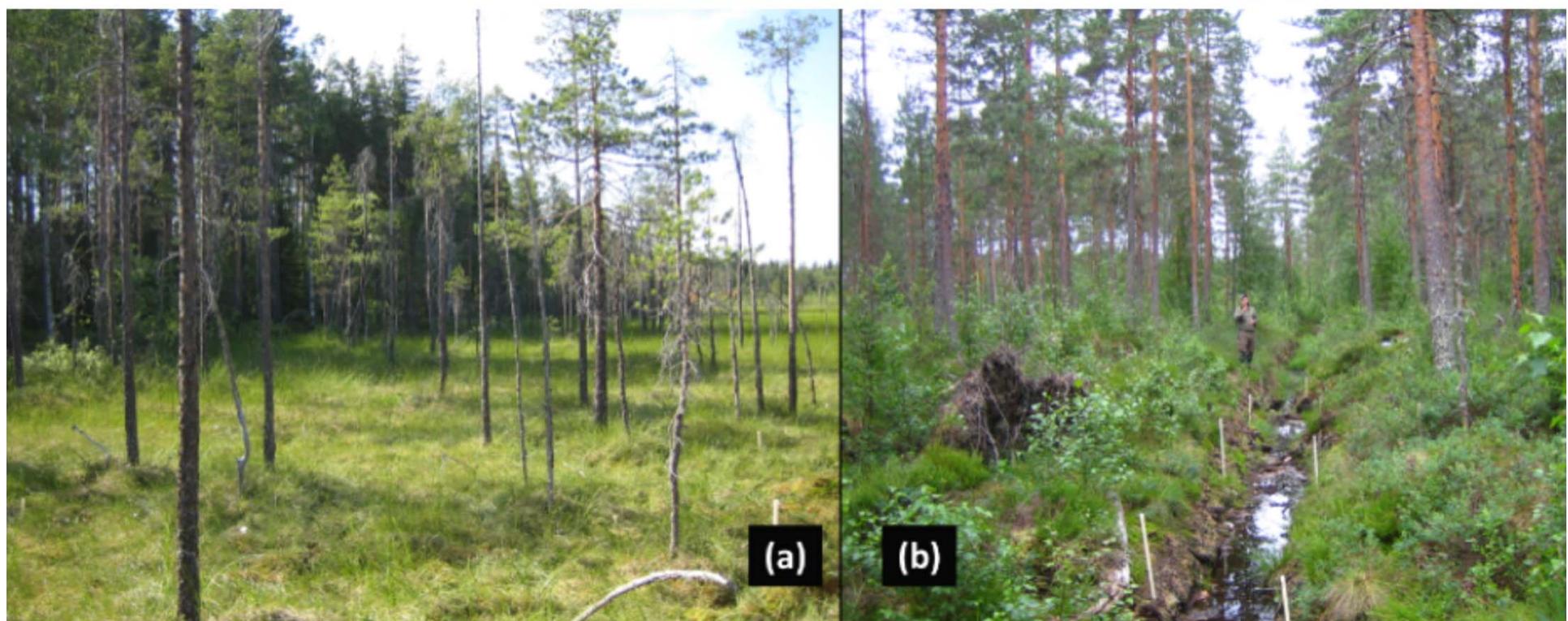


Peatland restoration & Hydrology LIFE

Tuomas Haapalehto
23rd Sept 2019

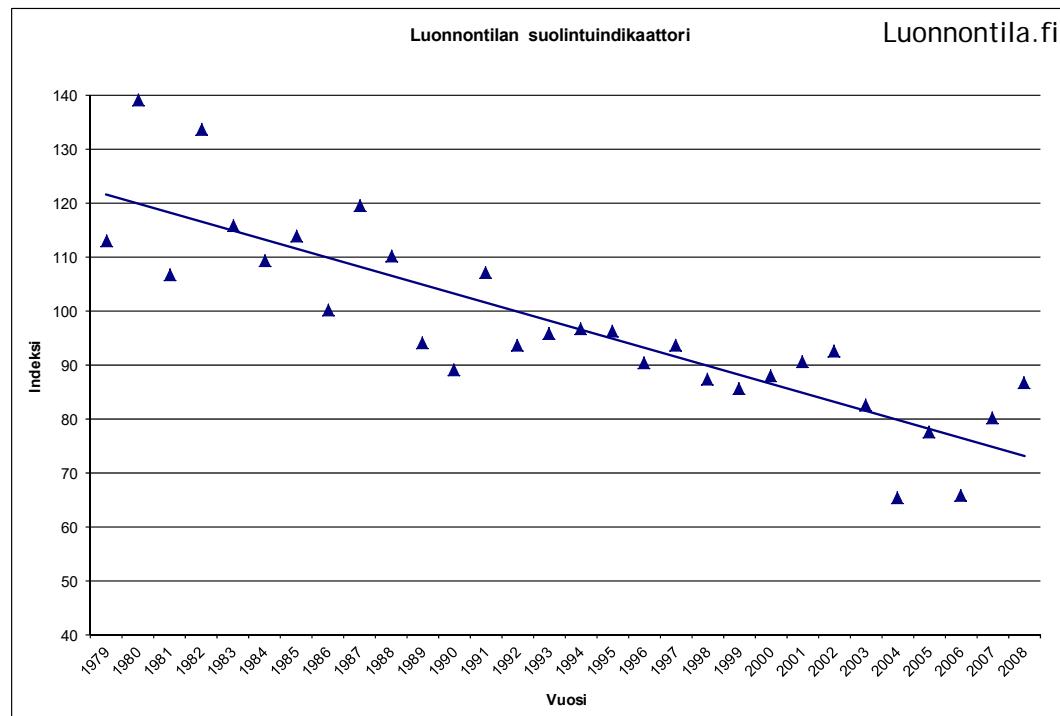
Photo: Metsähallitus/J.Ilmonen

Finland - Fenland?

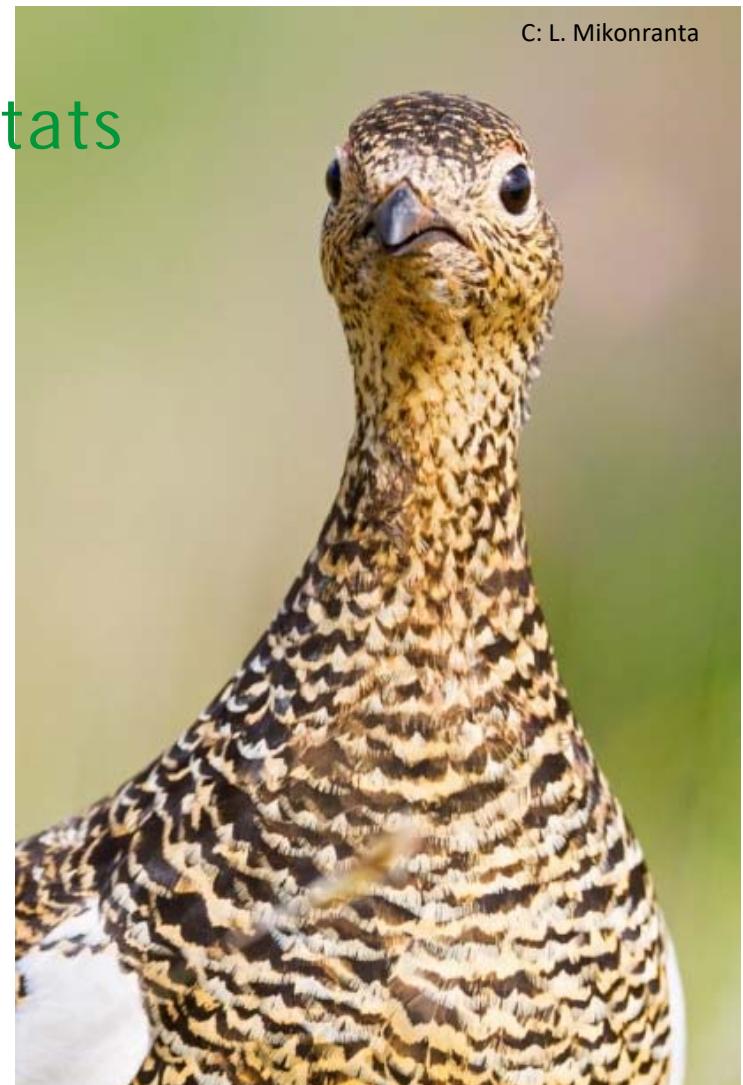


C: L. Mikonranta

Decline of wetland species & habitats

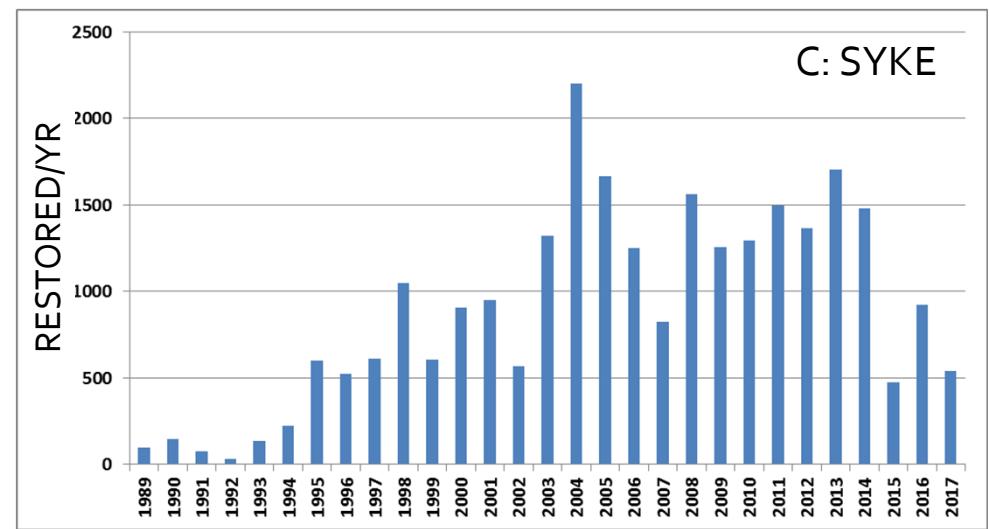


Index of peatland dependent bird species



Background for restoration

- Peatland restoration since 1980's
- FBER working group
<http://www.metsa.fi/web/en/fberpeatlandgroup>
- National guidelines for monitoring 2009
 - <http://julkaisut.metsa.fi/julkaisut/pdf/luob118.pdf>



Kaisu Aapala, Maarit Similä ja Jouni Penttilä (toim.)

Ojitetujen soiden ennallistamisopas



Metsähallituksen luonnon suojelejulkaisuja. Sarja B 188

METSÄHALLITUS SYKE

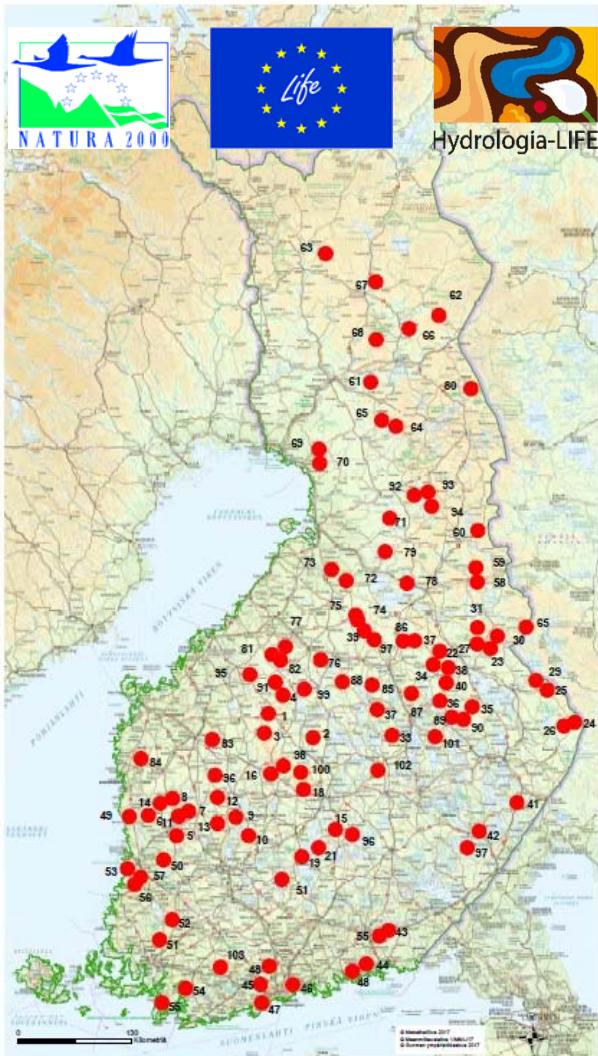
Ecological restoration in drained peatlands

– best practices from Finland

Maarit Similä, Kaisu Aapala and Jouni Penttilä (eds)



Metsähallitus – Natural Heritage Services | Finnish Environment Institute SYKE



Hydrology LIFE in a nutshell

- LIFE Nature
- 1.8.2017-31.12.2023
- 103 N2000 areas
- 8,874 M€



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Aims

1. Improve peatland habitat types,
 - 7110*, 7310*, 91D0*, 7320, etc.
2. Flood control & quality of water courses
3. Water fowl habitat (important bird lakes)
4. Increased understanding on the effects and improved planning
5. Impacts of restoration on BD, ecosystem functions & local socio-economy

C: Metsähallitus/Suikki, Similä, Haapalehto



Hydrological restoration

- 5239 ha / 95 sites
 - Filling of ditches with peat
 - Also voluntary camps
- 246 ha outside N2K borders

Removal of trees



C: Metsähallitus/Similä, Ekosaari



State of protected areas

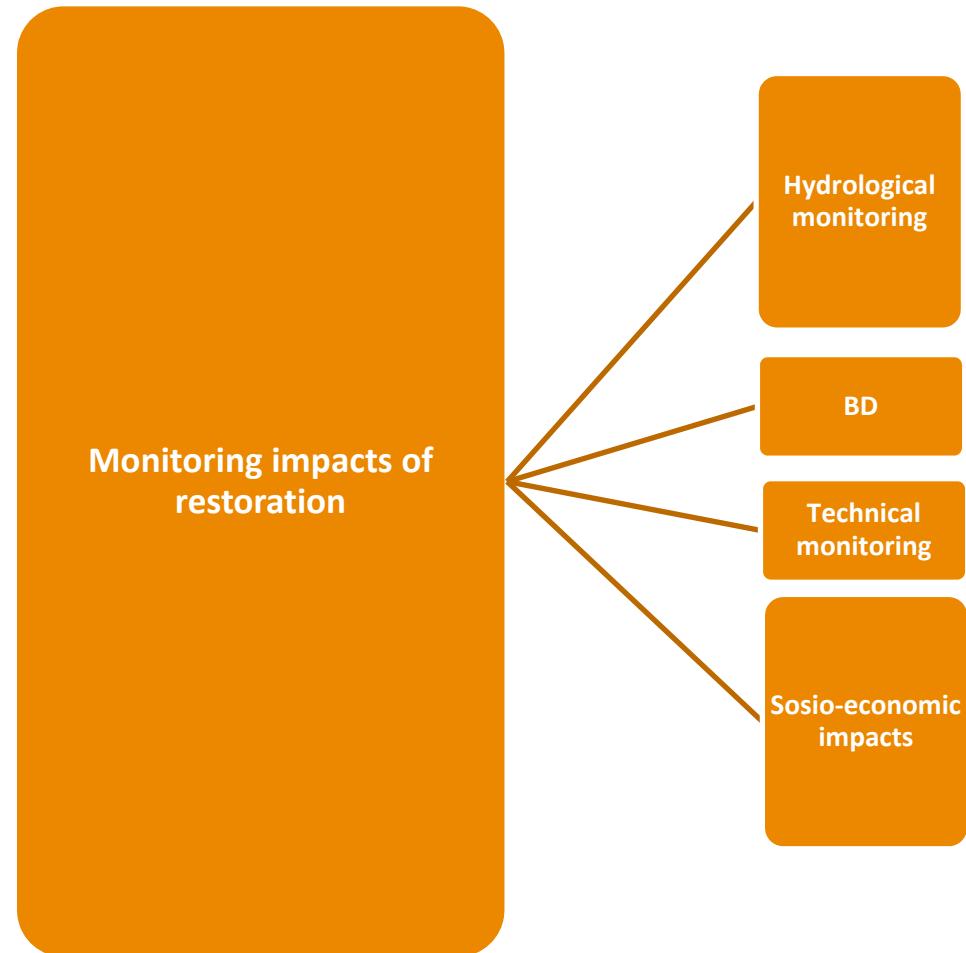
Spotting & fixing problems

Assessments vulnerability

Article 17 reporting

Communication & dissemination

Ecosystem services



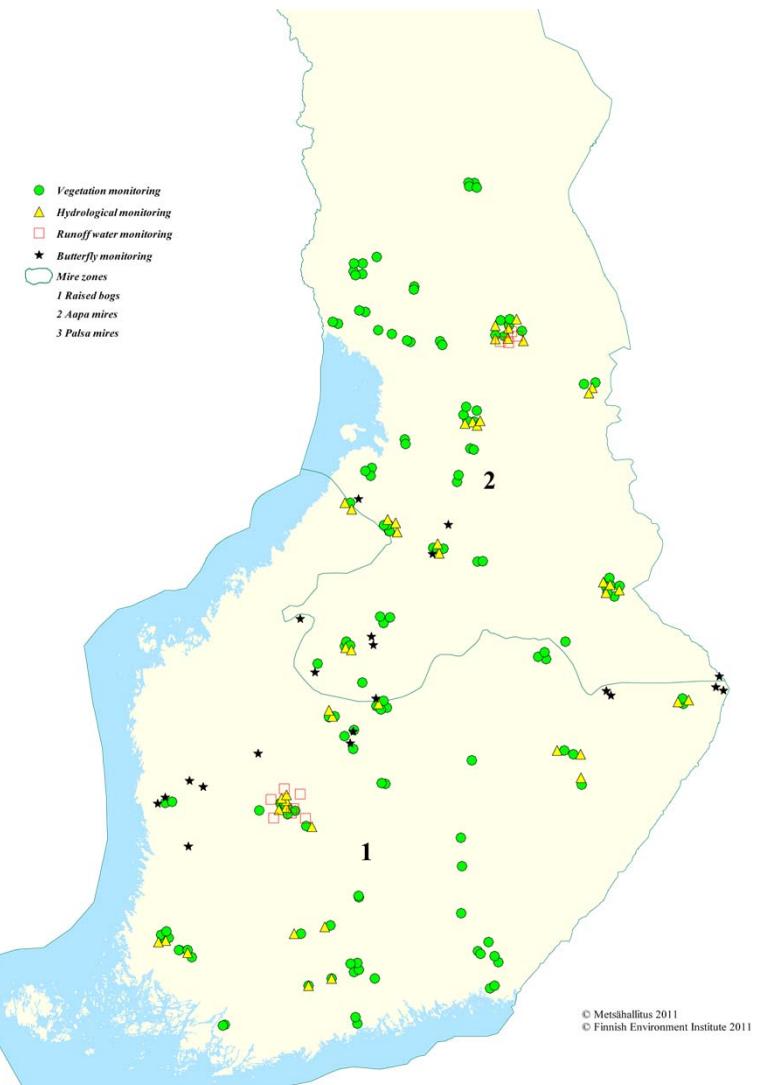
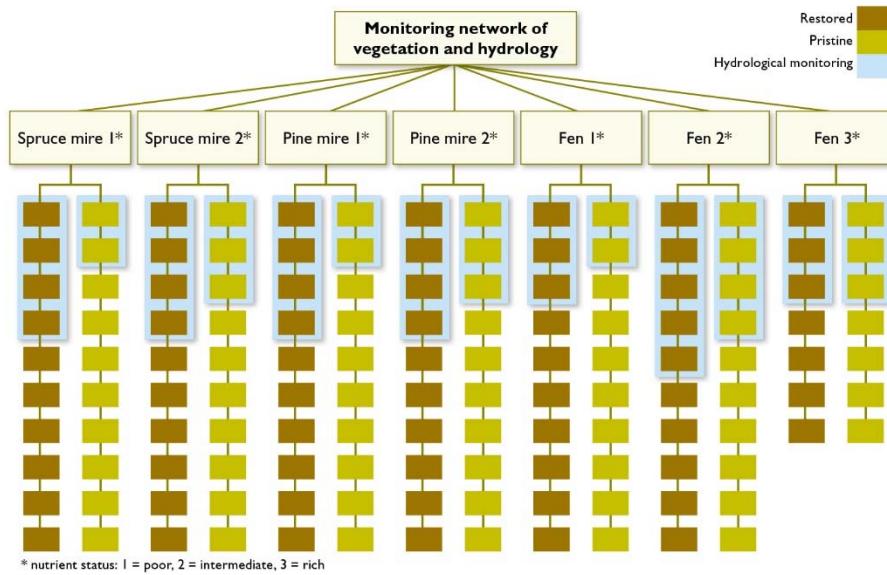
Hydrological & BD monitoring

- Impact of restoration on water quality
 - Pore water, downstream water quality
 - A few sites from national network
- Plant communities: 10-15 yr impacts
 - 40 sites from national network
- Bats
- Bird lakes
 - Birds, macrophytes, fish, invertebrates



Monitoring networks

- Generalized
- Ecologically meaningful timescale
- Co-operation with research organisations
- LIFE link



Socio-economic impacts & Ecosystem functions

1. General interest & opinions on peatland restoration
2. Restoration costs
3. Opinions of local people
4. Impact on recreation & tourism

5. Recovery of ecosystem functions
 - Spatial scenarios based on changes in vegetation, GHG fluxes & hydrology
6. Cost-efficiency
 - Comparison of different land-use options



General monitoring



Mujerjärvi
Aerial photo



Drone monitoring workshop 24-25th Sept 2019



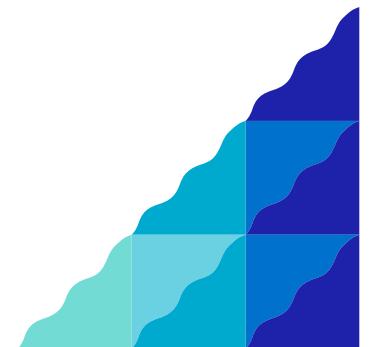
Mujerjärvi
Red Edge NDVI



Mujerjärvi
Red Edge RGB

THE Workshop

- HOW CAN WE IMPROVE THE MONITORING OF RESTORED PEATLANDS WITH REMOTELY SENSED INFORMATION?
- NEW TOOLS FOR PLANNING?
- LOTS OF COMMON GROUND & IDEAS TO SHARE - BRING PEOPLE TOGETHER!



C: Metsähallitus/Ilmonen

Thanks!

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@Thaapalehto
#hydrologiaLIFE



Turun yliopisto
University of Turku

