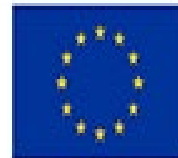



PORI

**MUSTBE
FINLAND**

WETLAND PILOT SITE

Interreg

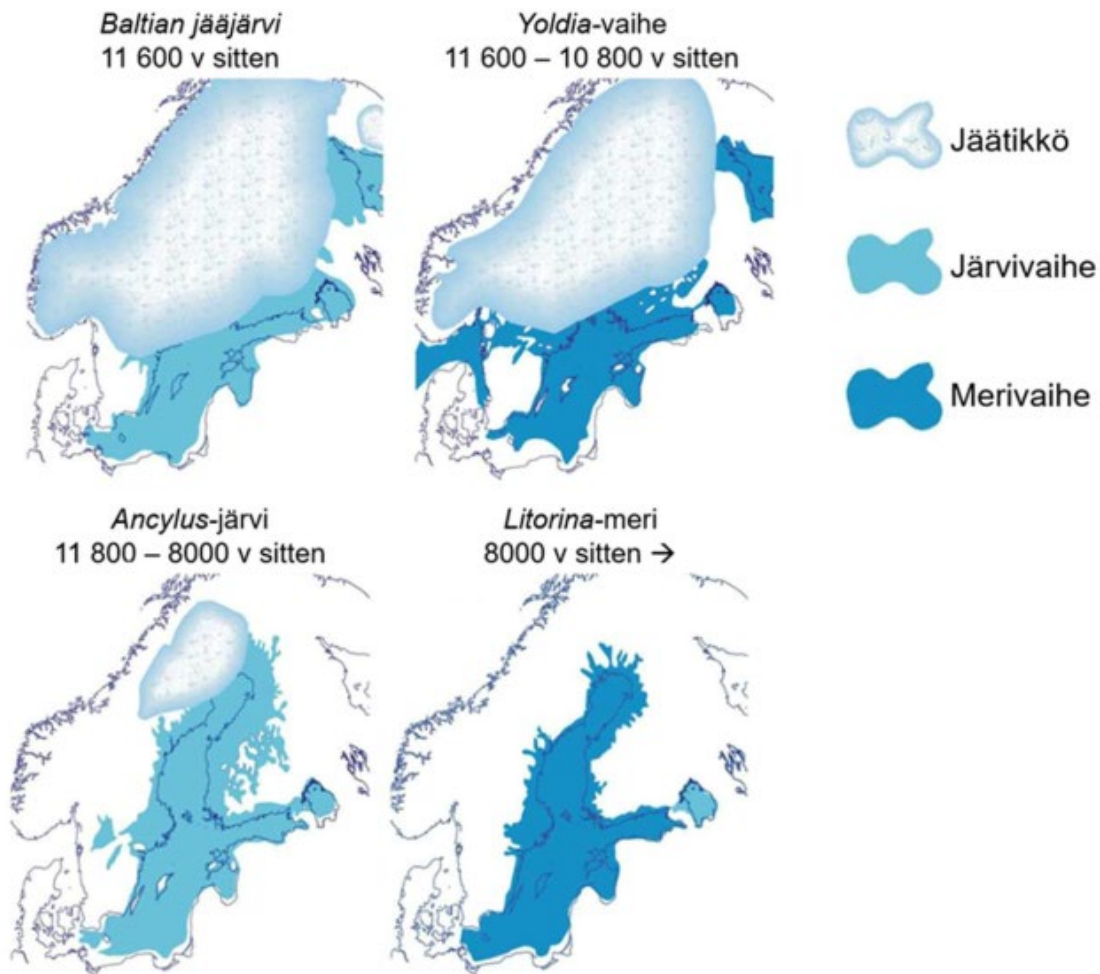


Co-funded by
the European Union

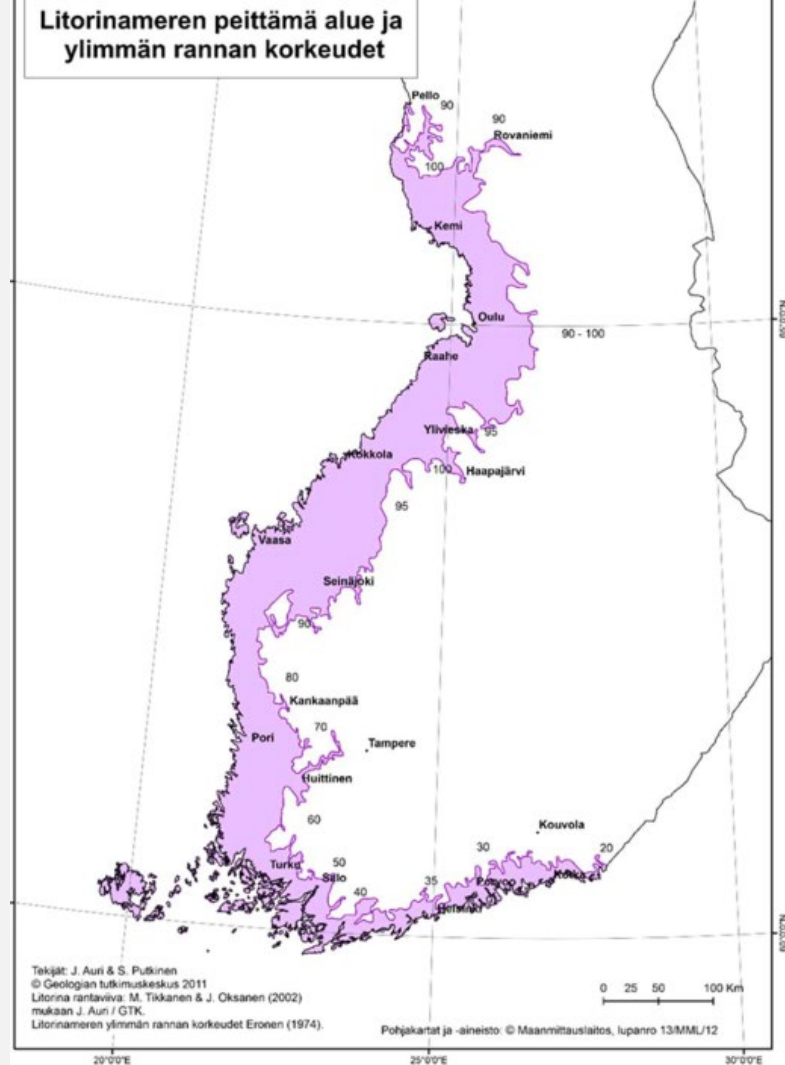
Central Baltic Programme

Acid sulphate soils

- under anoxic conditions in the sea or lake bottom, the organic matter is broken down into sulphide by the bacteria
- Acid sulphate soils can be found uplift coasts worldwide in Finland, sulphide sediments are mainly formed during the Ice age and mostly at Ancyclus-lake and Litorina-sea phases



Litorina-sea phase



- non-oxidising sulphide soils below the water table remain neutral and do not harm the environment (Passive Acid Sulphate Soils)
- If the groundwater table drops due to land uplift or land use, the underlying layers become oxidised and become active acid sulphate soils.
- Sulphur in the soil forms sulphuric acid, which lowers the pH of run-off water, which in turn leaches metals from the soil

pH 6-7

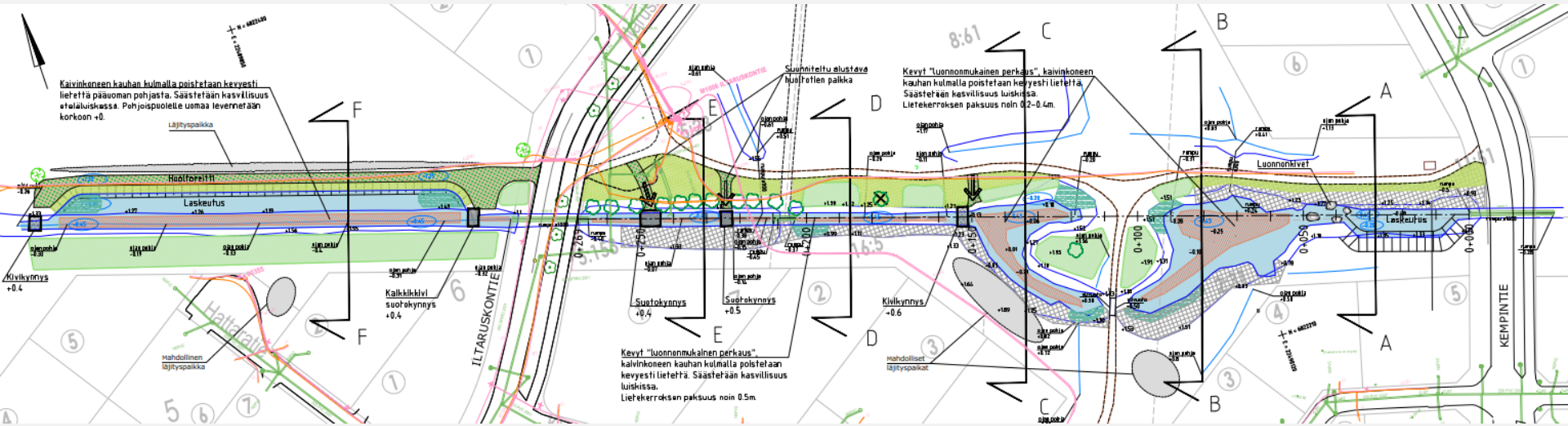
pH 3,7-5

pH >7



- This run-off water has a low pH and it contains heavy metals
- Our aim is to neutralise the water before it reaches the ditches downstream of the wetland.
- When the water is neutralised, metals start to precipitate and metal-rich sludge is formed

SS reduction 60%,
totN reduction 30%,
pH improved by 0.5
Metals reduction 40 %



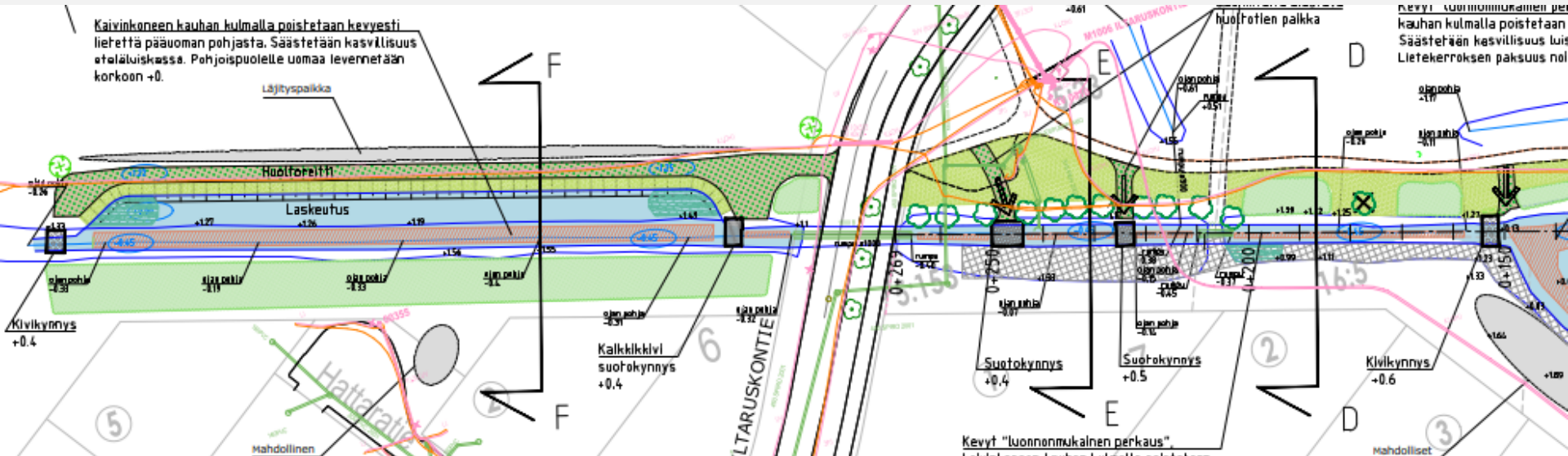
How to neutralize water and collect the sludge from ditch

Filtration dams of different materials

1. sand dam
2. Biocarbon
3. limestone
4. leca gravel

Sediment removal

- sedimentation basin
- service road for excavator
- sludge disposal area



THANK YOU!

