



Euroopan maaseudun
kehittämisen maatalousrahasto:
Eurooppa investoi maaseutualueisiin



I  Vesijärvi

International Leader-project

Hola Lake II

Holistic Approach in Lake Restoration II

Lake Vesijärvi Foundation

1.1.2022 - 31.12.2023

Hola Lake II project

Local actions:

- Reduction of external loading
- Fish management
- Control of invasive plant species

Joint actions:

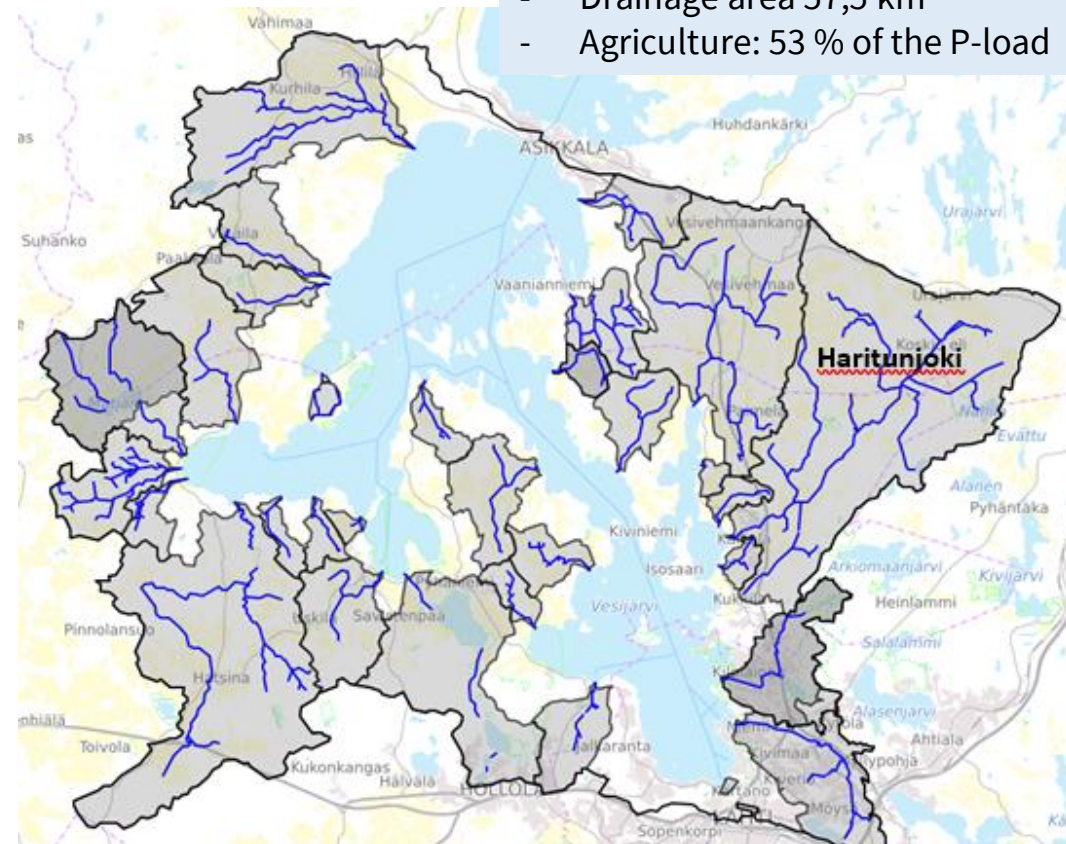
- 3 workshops
- Manual on best practices from the Hola Lake II project
- A joint web page

Holistic drainage management plan for River Haritunjoki

- *Lake Vesijärvi Foundations funds a plan for the holistic drainage management of River Haritunjoki to reduce nutrient inflow from agricultural areas to Lake Vesijärvi.*
- *Plan includes farm level tools to activate farmers and takes into account both water management and biodiversity.*
- *New funding will be applied for the implementation of the plan.*
- KVVY Tutkimus Oy (Mikko Ortamala)
- Pro Agria (Elina Il project)

River Haritunjoki:

- Drainage area 57,5 km²
- Agriculture: 53 % of the P-load



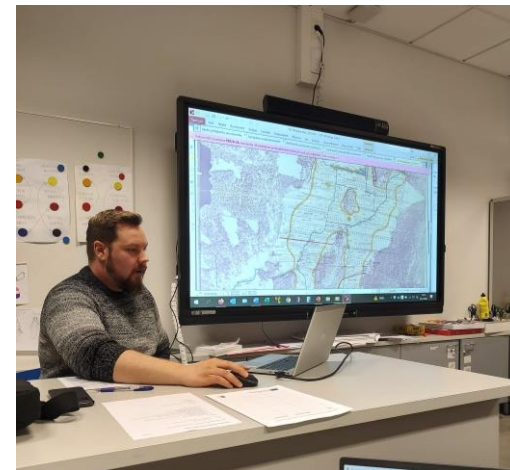
Holistic drainage management plan for River Haritunjoki

- Invitation letter to farmers and an event (12.4.2022), where the project, the concept of holistic drainage management and the importance of good soil structure were presented
- Summer 2022: contacts to farmers and field measurements



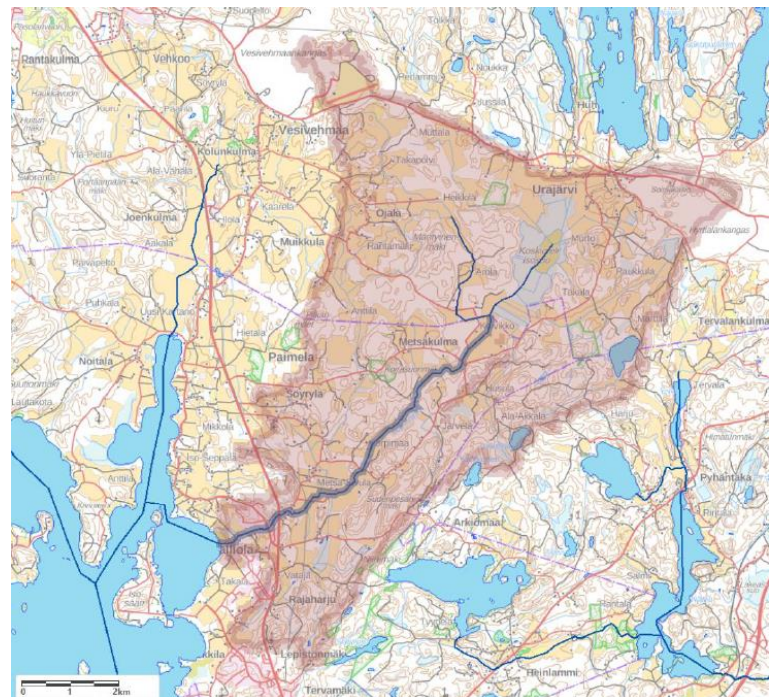
Holistic drainage management plan for River Haritunjoki

- “Ojitusyhteisö” Drainage community = those who own land and benefit from the drainage
- The list of members/shareholders updated, invitation letter sent and meeting held (“ojitusyhteisön perustamiskokous”) in March 20.3.2023.
 - Haritunjoki-Ilmotunjärvi
- The meeting had a quorum: 47 % of the members of the community were present
- The project was found to be necessary. It was decided that
 - more measurements will be made, where necessary
 - After this, more detailed alternative reviews will be made
 - a new meeting will be held to decide on further measures



Holistic drainage management plan for River Haritunjoki

- More measurements during the summer 2023
- More contacts to the farmers
- Draft plan for the actions in the Haritunjoki watershed
- Problems:
 - Interest to take actions has been poor among farmers
 - Nobody wants to become the leader/official of the drainage community
 - The leader would be named from the Hollola commune?
- Next steps:
 - Next version of the plan/report on 22.11.2023
 - Next meeting of the drainage community on 30.11.2023



Reed filters

- *Lake Vesijärvi Foundation seeks a place and builds with locals a filter/filters made of reed and monitors how well it works (water samples).*
- 23.3.2022: Cathering material for filters with students from Salpaus Further Education



Reed filters

- Luonnollisesti Osuuskunta built 3 reed filters in three different ditches running to Lake Vesijärvi in autumn 2022



Reed filters

Sampling 2022-2023

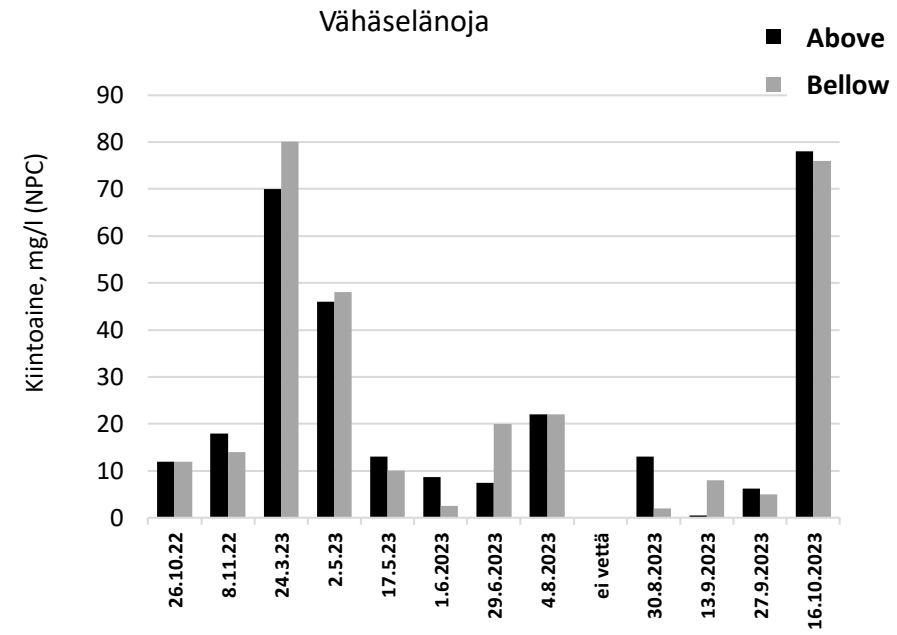
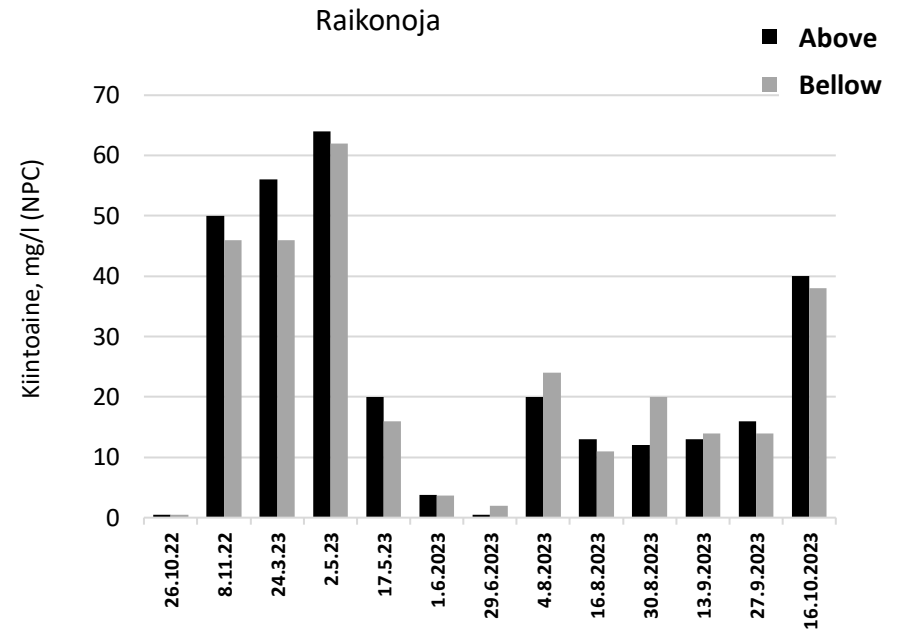
- Water samples from above and below Vähäselänoja and Raikonoja filters (so far 13 times)
- Total P, Total N, $\text{PO}_4\text{-P}$, $\text{NH}_4\text{-N}$, $\text{NO}_3\text{-N}$, pH, solid substances (NPC $0,4\ \mu\text{m}$), COD_{Mn} , conductivity



Reed filters

Results: solid substances

- In the beginning it seemed that filter in Raikonoja worked, but not any more later in the summer, when water level was low.
 - Vähäselänoja did not work...
 - No clear results for nutrients
- We suspect that water went under the reed bundles for most of the summer (water level low).



Reed filters

Improvements:

- Currently, reed bundles have been changed to new ones
- Old ones in the bottom already quite dark and weak (difficult to lift up).
- Quite much solid substances among them!
- Plywood dam on both sides to prevent current under the filter



Reed filters

Improvements:

- One new filter to enhance the retention in Vähäselänoja
- Hollola commune has a plan for new residential area, for which new arrangement of storm waters, and building of new wetland will start this autumn
- Lots of digging! External load will increase!
- Field trip on Tuesday!



Monitoring of the water protection structures

- *Lake Vesijärvi Foundation monitors together with land owners how well the existing water protection structures (sedimentation pools, wetlands) work.*
- 3 wetlands selected: Pyyrylä, Kytyänoja, Upila
 - Monitoring started in 2022 (7 times in 2022)
 - Has been continued in 2023 (9 times in 2022...)
 - Have been monitored before => long-term data for the report
- *Preparing a monitoring program for River Haritunjoki for the future*
 - To evaluate the effectiveness of the drainage management actions, if taken in the future
 - Not yet done. One automated monitoring station > focus on that (discharge curve)!

Pyyrylä, ca 2 ha with buffer zones



Kytyänoja, 1 ha + flood forest (3 bottom dams)



Upila, 0,3 ha + ferric sulfates



Monitoring of the water protection structures

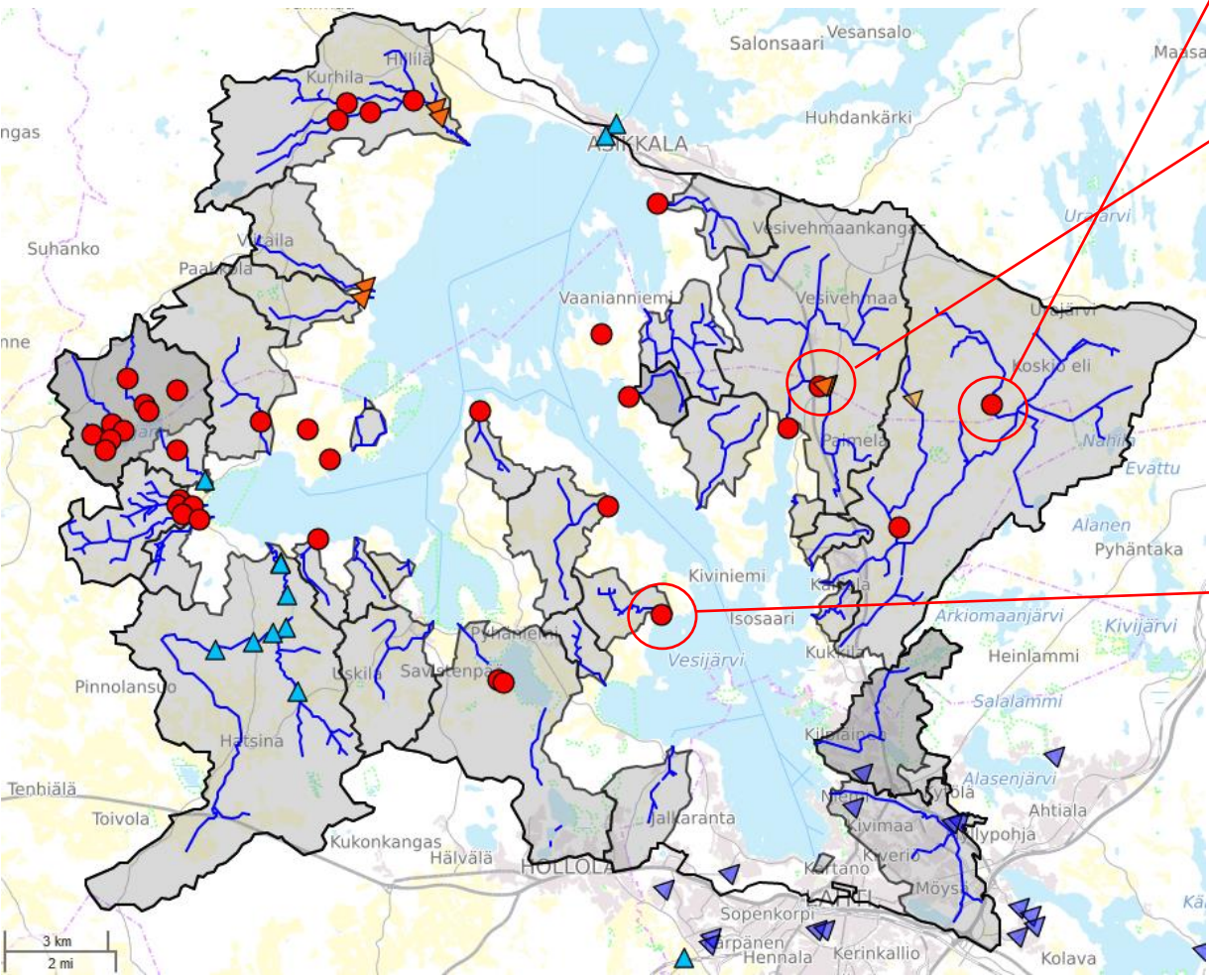
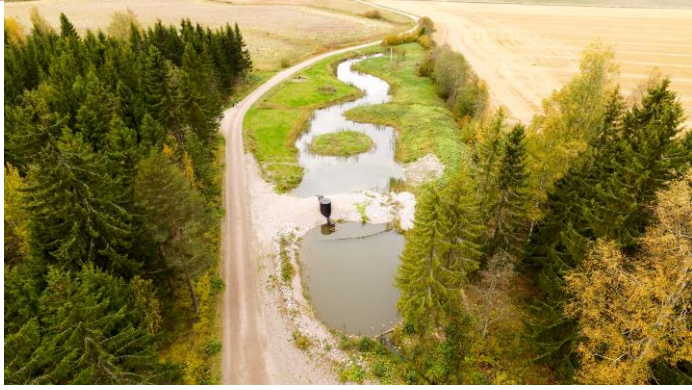
Pyryylä, ca 2 ha with buffer zones



Kytyänoja, 1 ha + flood forest (3 bottom dams)



Upila, 0,3 ha + ferric sulfates



Development and construction of management fishing gears

- *Lake Vesijärvi Foundation funds the voluntary working week for the construction of management fishing gears (2023).*
- *New gears are needed, which work effectively among vegetation on lake littoral area.*



Development and construction of management fishing gears

- Voluntary working week was organized on 23.1.-3.2.2023
- Almost 60 different people participated, about 20 people / day, working 1520 hours
- Two new fyke nets were built for shallow water
- Old fyke nets, fish chests and a seine with towing ropes were repaired.
- Weke-fish trap materials did not arrive – instead traps for common raccoon dog were built



Implementation of a web-based service for collecting fishing data

- *Lake Vesijärvi Foundation will continue implementation of the web-based service, developed by LUVY, for collecting fishing data in the area of Lake Vesijärvi.*
- Omakala ("MyFish") –service of LUKE (Natural Resources Institute Finland) is very similar and national – better to use that!
 - Some actions taken to advertise this system: Newsletter, social media, brochures from LUKE to hand out at our events

Monitoring and control of invasive plant species

- *Lake Vesijärvi Foundation will monitor and map the occurrence of invasive species on the shores and wetlands of Lake Vesijärvi together with local residents*
 - Himalayan balsam (*Impatiens glandulifera*),
 - Reed sweet-grass (*Glyceria maxima*)
 - *Heracleum persicum* -group
- *Lake Vesijärvi Foundation will start the removal and control of these species together with local residents and organize bees.*
- *Professionals are used especially for the control of Heracleum-species*



Heracleum persicum – group

In 2022:

- Work at **River Hammonjoki** by Luontoturva Ky, Luonnollisesti Osuuskunta, Kunnontiimi
- Removal with shovel, use of cover fabric
- A plan for removal (made by Luontoturva).
- Help offered also to **Suvelanoja**, but landowners promised to do the work themselves

In 2023:

- Three “removal days” at **River Hammonjoki**, 4.5., 30.5. and 25.7., by Luontoturva Ky and Kunnontiimi (from Hollola commune)
- After the project, the landowners are responsible. Instructions sent to them.



Himalayan balsam

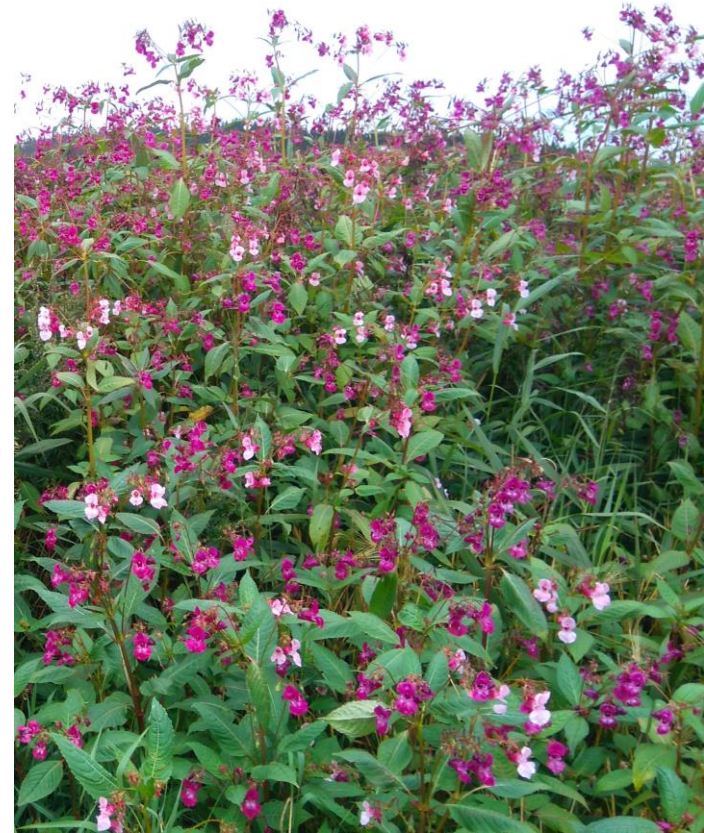
(Impatiens glandulifera)

In 2022:

- Mapping the occurrence of large growth areas
- Few locals removed plants in the wetland of Myllyoja

In 2023:

- Häränsilmänoja (removal 3 x per summer)
 - Luonnollisesti Osuuskunta & Uphabitats
 - Land owners
- Raikonoja (removal 3 x per summer)
 - Luonnollisesti Osuuskunta
 - Land owner



Reed sweet-grass (*Glyceria maxima*)

In 2022:

- Mapping the occurrences: quite common in Lake Vesijärvi, but abundant especially in Äkeenoja (constructed wetland) and Laitialanselkä (Natura 2000 area)

In 2023:

- Actions in another project



**Laitialanselkä:
Some mowing in summer 2023**



**Äkeenoja was dredged in
January 2023**

Joint actions

3 workshops:

- *1. workshop:* Reduction of external loading, 13.-15.9.2022 (Regito AB/Osby)
- *2. workshop:* Fish management and commercial use of management fish catch, 9.-11.5. 2023 (LUVY)
- *3. workshop:* Management and use of reeds, and the control of invasive species, 6.-8.11.2023 (Lake Vesijärvi Foundation)

Manual of best practices:

- Will be prepared in this workshop!

Teams-group *Hola Lake II*:

- for changing ideas, news, photos and files

Web pages in Finnish and in English:

- www.vesijarvi.fi/hola-lake-2/
- www.vesijarvi.fi/en/hola2/

Holistic approach in lake restoration II – Project Hola Lake II

in Finnish: Järvien kokonaisvaltaisen hoidon kehittäminen II

Project duration: 1.1.2022-31.12.2023

