



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 - 31.1.2023

Lake Vesijärvi Foundation

Päijät-Hämeen Vesijärvisäätiö

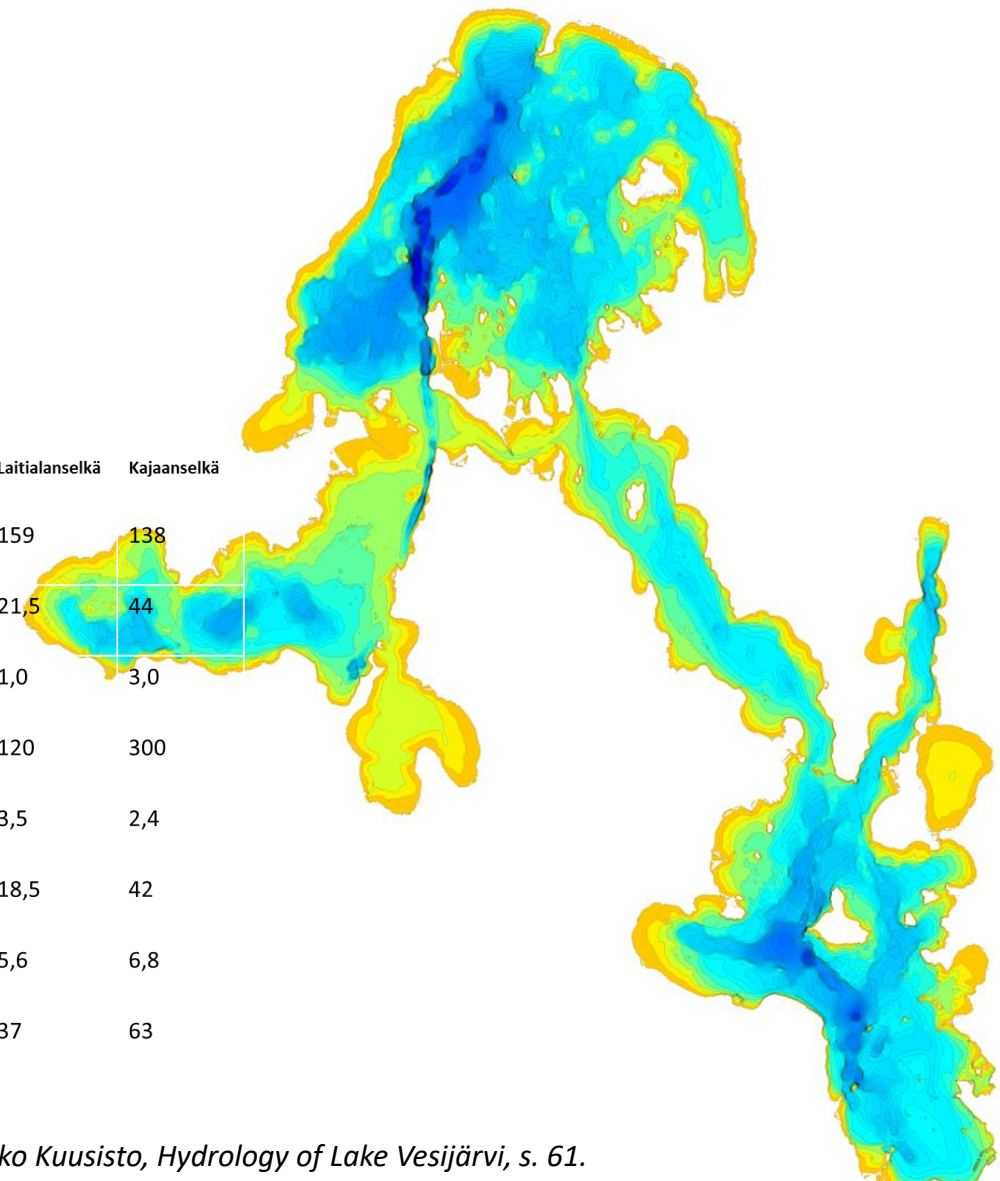
- Established by the municipalities of Asikkala and Hollola, the City of Lahti, and 3 private enterprises in 2007
- Combines public and private resources to secure funding for research, maintenance, and management
- Promote and fulfill measures aiming at improving the ecological status of Lake Vesijärvi and surrounding smaller lakes
- Improves general public's awareness of Lake Vesijärvi and its condition.
- 4 permanent employees.
- In this project: Heikki Mäkinen, Mirva Ketola, Anna Hakala

www.vesijarvi.fi

Vesijärvi ▾ Läheiset vesistöt ▾ Hoitotoimet ▾ Seuranta ▾ Säätiö ▾ Hankkeet ▾ Infomateriaaleja ▾ Vesiposti-blogi ▾ Vesijärvi-kauppa ▾



Lake Vesijärvi



	Vesijärvi (whole lake)	Enonselkä	Paimelanlahti- Vähäselkä	Komonselkä	Laitialanselkä	Kajaanselkä
Catchment area km ²	514	84	97	37	159	138
Surface area km ²	109	26	6	12,5	21,5	44
Average flow m ³ /s	3,0	0,6	0,7	1,5	1,0	3,0
Average volume 10 ⁶ m ³	663	176	17	50	120	300
Mean retention time years	6,8	9	0,7	0,8	3,5	2,4
Maximum depth m	42	33	14,5	10,5	18,5	42
Average depth m	6,0	6,8	2,8	4	5,6	6,8
Shoreline km	169	44	16	21	37	63

Table: Lake Vesijärvi Daughter of the Salpausselkä Ridges: Esko Kuusisto, Hydrology of Lake Vesijärvi, s. 61.

Hola Lake II project

Local actions:

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

Joint actions:

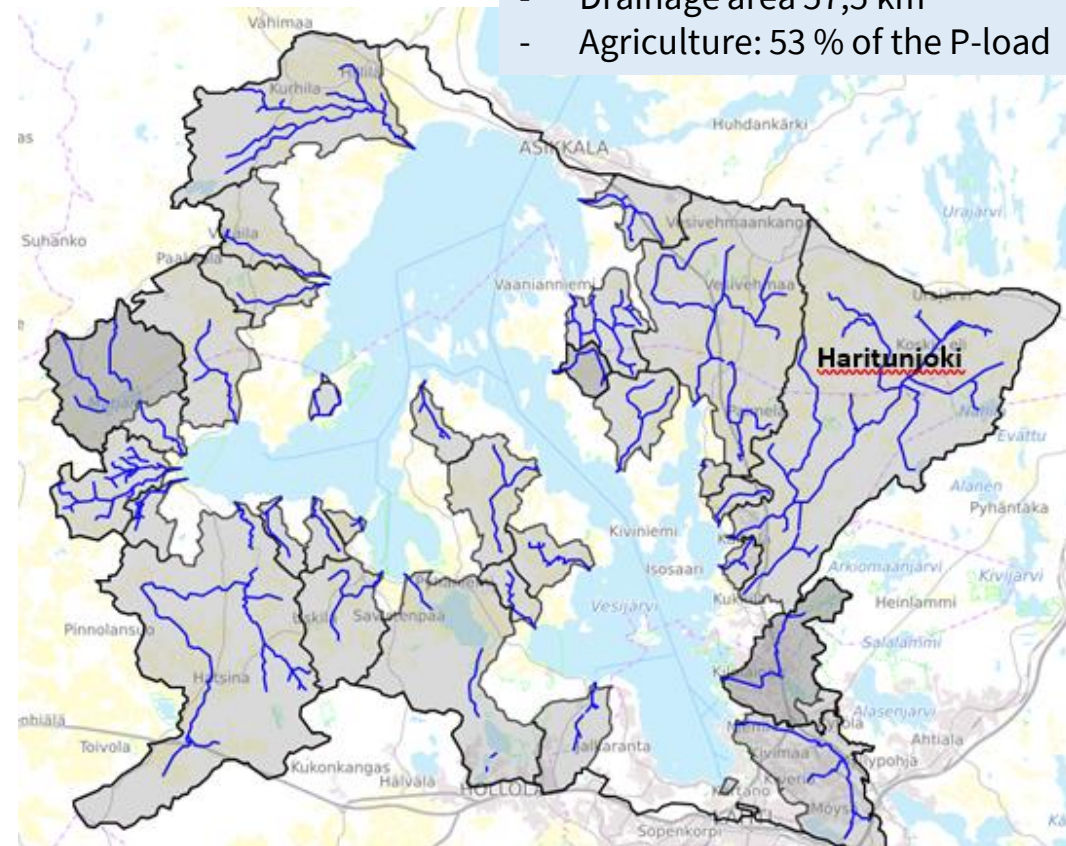
- 3 workshops
- Manual on best practices from the Hola Lake II project
- A joint web page

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 take 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 II project)

River Haritunjoki:

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



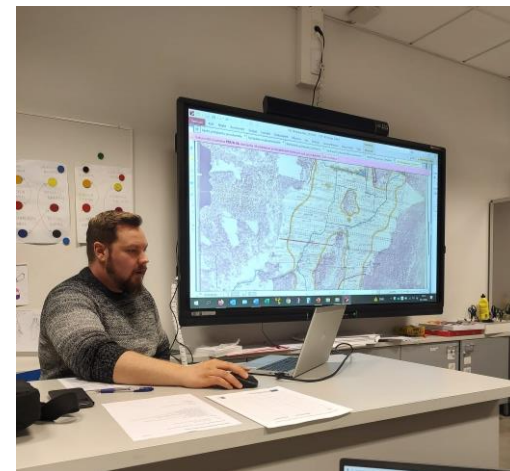
Holistic drainage management plan for River Haritunjoki

- 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
- Next step was to activate the meeting of “ojitusyhteisö”



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



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).
- Gathering material for filters from winter mowing (23.3.2022)
- Bad conditions for the machine: the work was done by hand with clearing saws!
- Students from Salpaus Further Education were making reed bundles
- Reed bundles were transport to storage nearby



Reed filters

- Visit to Kouvola (9.5.2022): Experiences from 3 filters of different size (photos)
- Field trips to seek places for the filters and meeting land owners (10.5. and 4.8.2022)
- Teams-meetings with Hollola commune about Vähäselänoja (15.6., 17.8., next 20.9.2022)



Reed filters

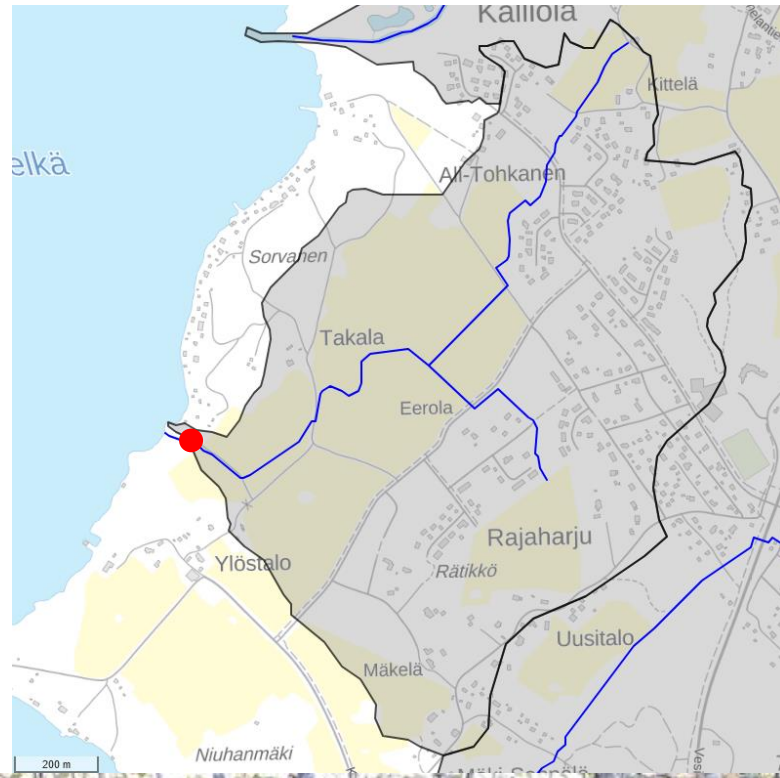
- Luonnollisesti Osuuskunta built 3 reed filters
- Stones available were too small – They developed a new method: to "hammer" reed bundles on the bottom of the stream with wooden sticks.
- Deciduous wood (aspen) was used in one filter and spruce in two filters



Reed filters

Vähäselänoja

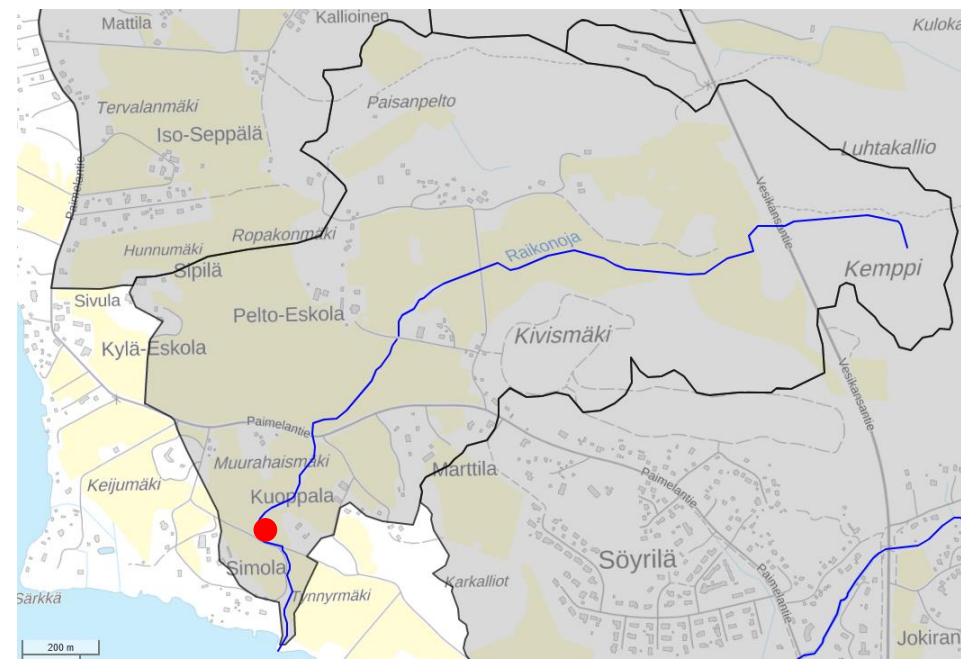
- Catchment area 127 ha
- Urban areas 30 %, fields 45 %
- Built 5.-6.10.2022



Reed filters

Raikonoja

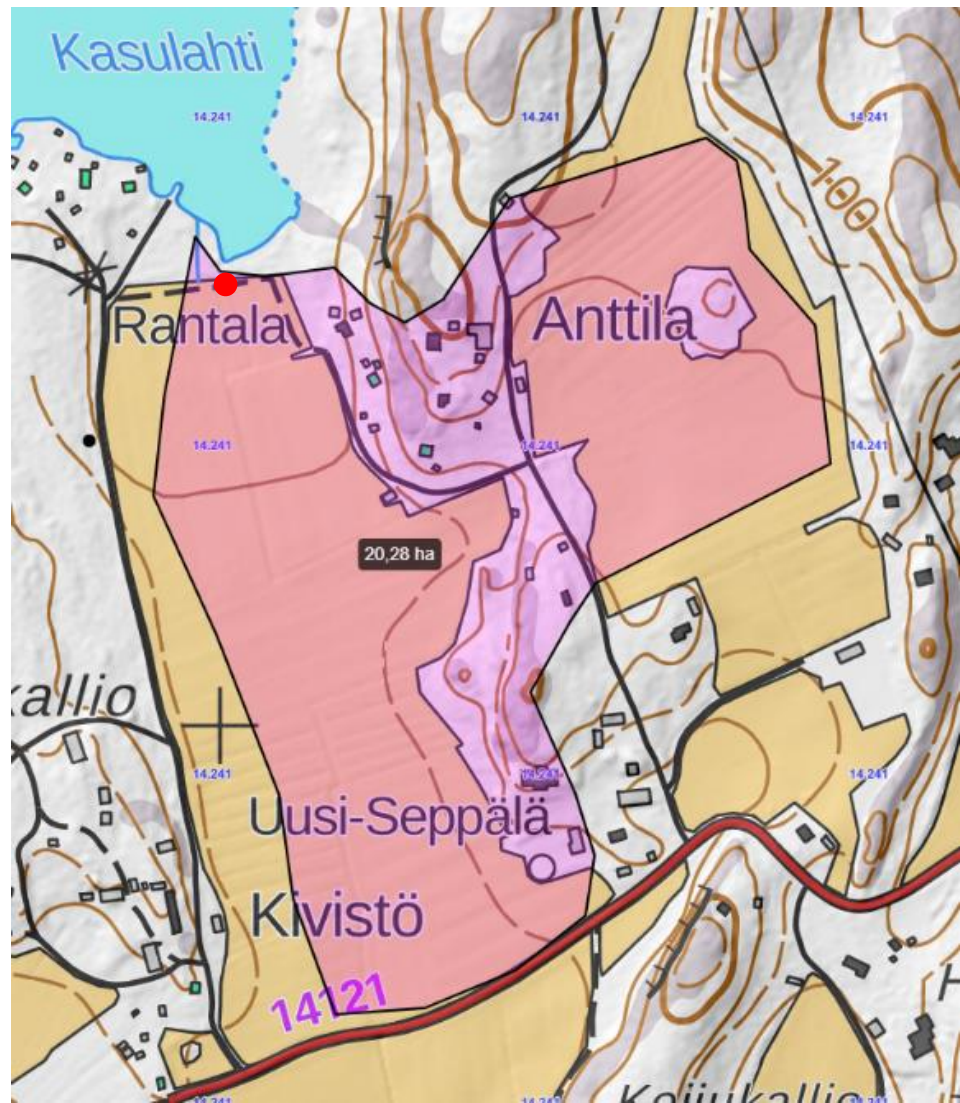
- Catchment area 163 ha
- Fields 44 %, forest 47 %
- Built 14.-16.10.2022



Reed filters

Kasulahti

- Catchment area 20 ha
- Mostly fields
- Built 19.11.2022





Reed filters

Sampling

- Water samples from above and below Vähäselänoja and Raikonoja filters
- 26.10.2022
- 8.11.2022
- 24.3.2023
- 2.5.2023 (no results yet)
- No retention?
- Sampling will continue during spring and summer => biofilm?



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 10.5.2022 (once per month, 7 times in 2022)
 - This year first samples 2.5.2023
 - Have been monitored before => long-term data
- Preparing a monitoring program for River Haritunjoki for the future
 - To evaluate the effectiveness of the drainage management actions, if taken

Pyyrylä, ca 2 ha with buffer zones



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



Upila, 0,3 ha + ferric sulfate



Monitoring of the water protection structures

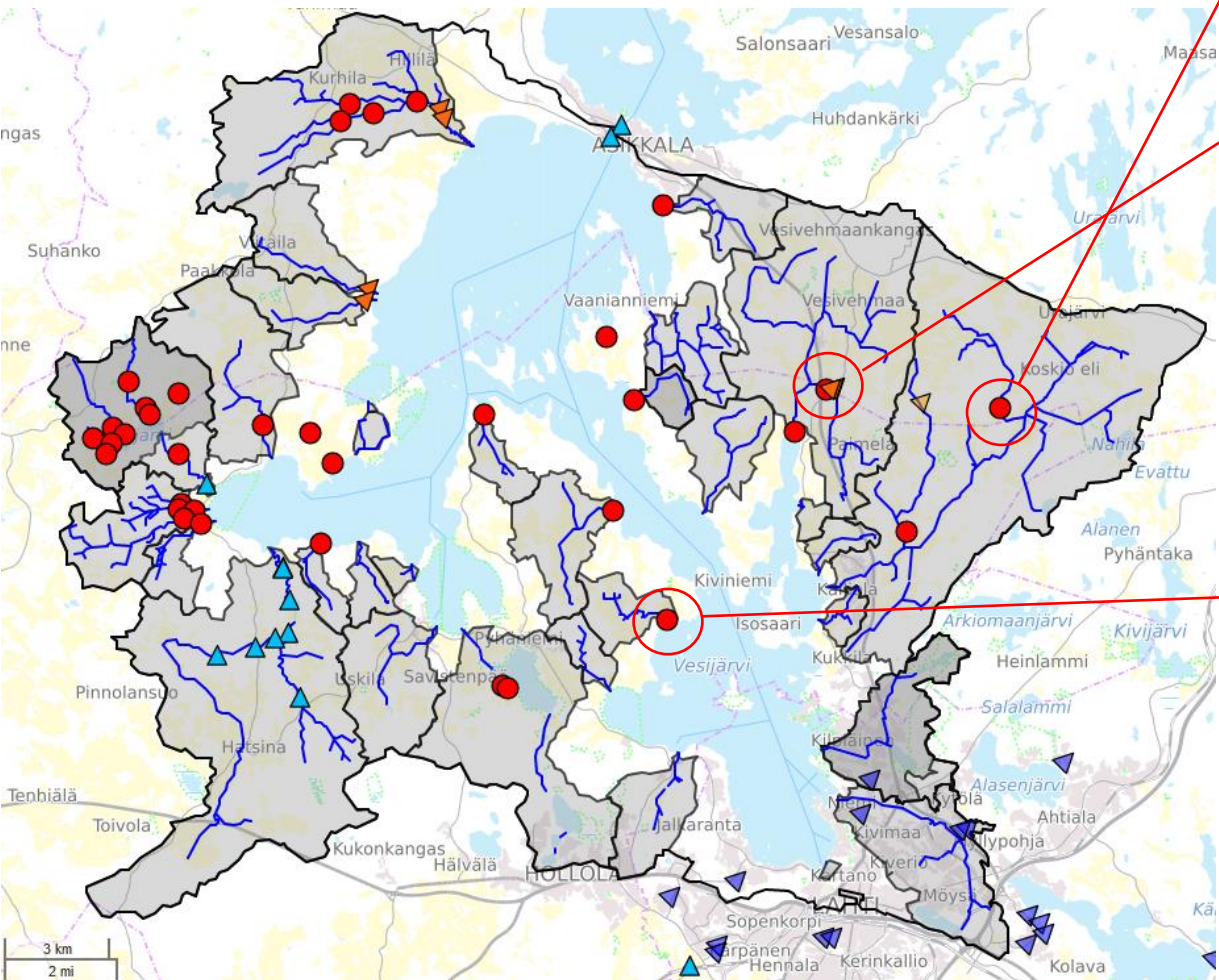
Pyryylä, ca 2 ha with buffer zones



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 – may be better use that?

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



Himalayan balsam

(Impatiens glandulifera)

In 2022:

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

Plans for 2023:

- Removal of plans in Häränsilmänoja, Raikonoja, Vähäselänoja etc.
- 3 x per summer



Reed sweet-grass (*Glyceria maxima*)

In 2022:

- Mapping the occurrences: quite common in Lake Vesijärvi, but not a problem (?), except Äkeenoja (constructed wetland) and Laitialanselkä (Natura 2000 area)

In 2023:



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” settled for **River Hammonjoki**, 1st already done (4.5.2023)
- After the project the landowners are responsible.



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, autumn 2023 (Lake Vesijärvi Foundation) **3.-5.10.2023?**

Manual of best practices:

- The contents will be discussed on Thursday!

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

