



Euroopan maaseudun
kehittämisen maatalousrahasto:
Eurooppa investoi maaseutualueisiin



Final report of joint activities

30.4.2020

Holistic approach in lake restoration (HolaLake)

1. Project details

Holistic approach in lake restoration was a transnational cooperation project between four Finnish LAGs (Etpähä ry as coordinating LAG, Päijänne Leader, Ykkösakseli, Pyhäjärvisseutu), one Swedish LAG (Skånes ESS), and four water managing organizations, which implemented the project in practice: Lake Vesijärvi Foundation (project coordinator), The Association for Water and Environment of Western Uusimaa, LUVY, The Pyhäjärvi Institute and Osby municipality in close cooperation with Regito AB (Sweden). International joint actions of the project started in autumn 2017, when all partners were ready to join in. Some local actions, however, were started in Finland already in the beginning of 2017 in national projects. The project lasted until the end of 2019. This international Leader-project was financed from the Rural Development Programme for Mainland Finland 2014–2020.

2. Project goals

Lakes have great economical, recreational and ecological importance for the area and people therein. Several lakes suffer from eutrophication which threat the sources of livelihood as well as attractiveness of the area. The project aimed at improving the ecological status of lake environment by developing lake restoration methods in a holistic way. The holistic approach takes into consideration both external and internal loading, which means actions both in the lake and in its catchment area. Profound cooperation between organizations well-experienced in lake restoration created a fruitful platform for sharing information for the most efficient measures for lake restoration. In successful lake restoration time scales needed are usually long and the involvement and commitment of local people in the management of their own environment is of crucial importance. Main goals for the project were following:

1. Improve the knowledge and methods on the reduction of external loading
2. Improve the efficiency of methods on the management of fish stocks
3. Enhance the local and commercial use of fish management catch
4. Improve the understanding of nuisance algae and the measures how to prevent mass development of nuisance algae
5. Improve the knowledge and methods of management of reed beds
6. Enhance the use of harvested reed as raw material
7. Increase the knowledge and involvement of local people in lake monitoring
8. Increase cooperation between local residents and surrounding organizations
9. Increase international cooperation and create professional networks

Most of the objectives of the project were achieved through local actions carried out by each partner in their own areas. Local actions are reported separately (appendixes 1-4). The joint international activities included 5 workshops, a synthesis reports of best practices on each theme of the project, simple instructions for citizens and land owners on each theme, and a joint web page. The four themes of the project were 1) Reduction of external loading, 2) Fish management, 3) Water quality and plankton communities, and 4) Reed management and use of reed.

3. Results of joint activities

3.1. Workshops

Partners agreed to arrange 5 workshops in turns during the project. The workshops were successfully organized as planned. Each workshop lasted for three days containing exchange of experiences about local actions, seminars or excursions about the specific theme of the workshop, as well as work and discussions about the synthesis reports. The working language was English.

Workshop 1, Reduction of external loading 14.-16.11.2017, Lahti, Finland

Lake Vesijärvi Foundation organized the first workshop, which was at the same time the kick off meeting for the project. During the first day partners presented their plans for local actions and agreed about the working and communication practices. The program of the second day included a seminar about the reduction of external loading. In addition to sharing the knowledge of project partners, several invited experts gave their presentations. Seminar ended up with an excursion to Fazer Mills, where the company presented their environmental policy in the supply of grain. The last day started with a workshop on the manual of the best practices. The day ended with an excursion, where project partners got to know about the treatment of stormwaters in Lahti, Lysimeter studies in the Jokimaa field station, and eel trap in the River Vääksynjoki. The workshop involved 34 participants in total, including the seminar with invited speakers and guests.



Workshop 2, Fish management 10.-12.4.2018, Lohja, Finland

The Association for Water and Environment of Western Uusimaa organized the second workshop in Lohja. The first day program concentrated on sharing the experiences of local actions in each project lake. During the second day there was an open seminar about the theme fish management. Local fishermen were also invited to the audience. Program included HoloLake project, as well as several invited expert presentations about the topic. Case presentations focused on the project lakes. The day ended among project partners with an excursion to fishways construction site in Billnäs. The last day focused on the manual of best practices, especially on theme fish management. Around 20 persons participated the workshop, including the invited speakers, plus the local fishermen participating the seminar.



Workshop 3, Plankton and water quality 25.-27.9.2018, Bäckaskog, Sweden

The third workshop was organized by Osby commune and Regito AB in Skåne. The partners gave their project status overviews on the first day. In the evening partners made an excursion to local fossil museum as well as to a site where fossils can be found. The seminar program of the second day focused on the theme water quality and plankton communities. Several invited experts and the Regito AB gave talks on the topic, followed by discussions. The workshop of the third day focused on the manual of best practices about plankton and water quality, as well as on project future plans. The workshop hosted well over 20 participants including the seminar.



Workshop 4, Reed management 5.-7.3.2019, Lahti, Finland

Lake Vesijärvi Foundation hosted the fourth workshop in Lahti. On the first day partners focused on sharing experiences of local actions in each project lake. In the evening, there was a reed paper workshop as an introduction to the theme of the workshop. The program of the second day included an excursion to Kettumäki Park, Kouvola. There, participants got an introduction to a local, ongoing Leader-project about reed, the various uses of reed material in eco-constructions, as well as on winter harvesting of reed on ice cover. The program continued with a miniseminar of two invited experts, and with a visit to Rakennusbetoni ja Elementti Oy, which uses reed of Lake Vesijärvi on green roofs. Third day concentrated on the manual of the best practices with Liisa Hämäläinen from Finnish Environment Institute. Workshop involved well over 20 participants including excursion and miniseminar.



Workshop 5, Final workshop 8.-10.10.2019, Eura, Finland

Pyhäjärvi-Institute and LUVY jointly organized the final workshop in Eura, in the premises of Pyhäjärvi-Institute. The first day started with general project status check as well as with the results of local actions on each lake. Afternoon continued with discussions about ongoing projects and future possibilities for co-operation. The program of the second day started with the workshop of final synthesis reports and continued with an open field trip. Field trip headed to local river restoration site, Säkylä fish harbor and bird tower. Then, partners got an introduction to catchment management methods in agriculture: a visit to a site with 2-level channel, and a Skype-presentation about structure lime by Nordkalk. The last day was for final wrap up meeting and a visit to Biolan Oy, where product manager introduced their eco-products and the famous reed roof of the building. The field trip continued to several restoration sites around Pyhäjärvi basin. Workshop involved over 20 participants including the excursions.



3.2. Synthesis of best practices

Partners agreed to write a synthesis of best practices related to four themes of the project. Each of the five workshops contained a special session for synthesis reports. During the first workshop each partner took the responsibility for one of the themes. During the second workshop partners decided to integrate the produced texts or materials into the web pages of *The Finnish Water Restoration and Management Network (FWRMN)* (<http://www.ymparisto.fi/vesistokunnostusverkosto>). This site already contains lots of similar material and persons interested in lake management are well aware of this network and web site. The language of the materials should be Finnish or Swedish, depending on the partner. Finnish or Swedish materials will have more local use, than English ones. Finnish Environment Institute is translating part of the FWRMN-web pages into Swedish during this year. They will also translate part of the project-materials from Swedish into Finnish. The rest of the synthesis report materials will be translated as own work after the project.

Synthesis 1: Best practices in reducing external loading + simple instructions to land owners for the monitoring and maintenance of water protection structures. (Responsible partner: Pyhäjärvi-Institute)

- Pyhäjärvi-Institute had a project WaterChain, where this type of information was collected widely on internet (<http://waterchain.eu/fi/parhaat-kaytannot/ravinteet/>). To avoid overlapping work, this existing information was linked to the web pages of FWRMN (https://www.ymparisto.fi/fi-FI/Vesistokunnostusverkosto/Apuu_kunnostukseen). This information is available in Finnish, English and Swedish.
- Instead, Pyhäjärvi-Institute produced new materials related to other topics of the project. All material was linked in Pyhäjärvi-Institutes web pages (http://www.pyhajarvi-instituutti.fi/default2.asp?active_page_id=282), as well as to the web pages of FWRMN (https://www.ymparisto.fi/fi-FI/Vesistokunnostusverkosto/Apuu_kunnostukseen/Opetusmateriaaleja/

Synthesis 2: Best practices in the management of fish stocks + simple instructions how to fish and use less valuable fish (Responsible partner: LUVY)

- LUVY produced a story map about management fishing. The story map contains general information as well as information about the management fishing activities in the areas of partner organisations. Other partners assisted in the collection of this information. Story map is available in Finnish (<https://storymaps.arcgis.com/stories/67f770ca87a64be79f757be311b42a44>) and in English (<https://storymaps.arcgis.com/stories/fe9a29147e174380bb6f82462e10a069>). It was also linked on the web pages of FWRMN (https://www.ymparisto.fi/fi-FI/Vesi/Vesistöjen_kunnostus/Jarvien_kunnostus/Kunnostusmenetelmat/Ravintoketjukkunnostus/).
- Translation of the story map into Swedish may be possible in the near future by LUVY.

Synthesis 3: Better understanding of the development of phytoplankton blooms + simple instructions for citizen-based monitoring of water quality (Responsible partner: Osby commune/ Regito AB)

- Regito AB produced information with photos about most typical algae, which are causing problems in lakes, either cyanobacterial blooms or net clogging. Information was linked to the web pages of FWRMN (https://www.ymparisto.fi/fi-FI/Vesistokunnostusverkosto/Apuu_kunnostukseen/Opetusmateriaaleja/). Information is available in Swedish, and will be translated into Finnish.
- Pyhäjärvi-Institute produced simple instructions for citizen-based monitoring (the use of Järvi-wiki) (<http://www.pyhajarvi-instituutti.fi/image/hola%20lake/jarviwiki.pdf>). They also produced simple instructions, what to do in case of cyanobacterial bloom (<http://www.pyhajarvi-instituutti.fi/image/hola%20lake/sinilevat.pdf>). Both are added to the web pages of FWRMN (https://www.ymparisto.fi/fi-FI/Vesistokunnostusverkosto/Apuu_kunnostukseen/Opetusmateriaaleja/).

Synthesis 4: Best practices in the management and use of reeds + simple instructions how to manage own shore (Responsible partner: Lake Vesijärvi Foundation)

- The web pages of FWRMN already contains much information about reed. Lake Vesijärvi Foundation produced info sheets about several different aquatic plant species, and instructions how to deal with each species. Info sheets contain also general information, how to manage own shore. These info sheets are linked to the web pages of FWRMN (https://www.ymparisto.fi/fi-FI/Vesistokunnostusverkosto/Apuu_kunnostukseen/Opetusmateriaaleja/). Information is available in Finnish, and Lake Vesijärvi Foundation will translate them into Swedish.
- Pyhäjärvi-Institute produced simple instructions how to manage own shore (<http://www.pyhajarvi-instituutti.fi/image/hola%20lake/vesikasvit.pdf>), as well as how to cut reed (<http://www.pyhajarvi-instituutti.fi/image/hola%20lake/ruokoniitto.pdf>). Information was linked to the web pages of FWRMN (https://www.ymparisto.fi/fi-FI/Vesistokunnostusverkosto/Apuu_kunnostukseen/Opetusmateriaaleja/)

3.3. A joint web page

Lake Vesijärvi Foundation established a web site that contains information of the project in Finnish and in English: <https://www.vesijarvi.fi/hankkeet/holalake/>

Web site contains basic information about the project, project goals, local and joint actions as well as links to the web pages of each partner organization. The web site was also an important platform to distribute presentations given during each workshop. The project final reports as well as best practices synthesis reports are also linked there.

3.4. Steering group

HolaLake project had an international steering group, which had a meeting once per year during the project. The first meeting was held on 15th of November 2017 and the second on 27th of September 2018. The final meeting of the steering group was held on 9th of October 2019.

Members (and vice members) of the steering group were:

Jukka-Pekka Jauhiainen, Etpähä ry (vice member Anu Taipale, Päijänne-Leader)
Heikki Mäkinen, Lake Vesijärvi Foundation (Irma Peltola)
Maarit Teuri, Ykkösakseli ry (Teuvo järvenpää)
Jaana Pönni, Länsi-Uudenmaan vesi ja ympäristö ry (Sini Pöytäniemi)
Elina Haavisto, Leader Pyhäjärvisseutu ry (Rauni Halonen)
Teija Kirkkala, Pyhäjärvi-instituutti (Henna Ryömä)
Kerstin Hallenborg, Skånes ESS (Johanna Grundström)
Agne Andersson, Osby commune (Emil Grönkvist)
Antti Pitkänen, Hämeen ELY-keskus

In their last meeting, steering group defined as a statement that the project has been successful. There have not been any major problems in implementing projects goals or local and joint actions. Cooperation between all project partners have been smooth and frictionless. Steering group hopes that there will be opportunities to continue project cooperation in water management between Finnish and Swedish companions in the future.

3.5. Local activities

Local activities of each partner organization have been reported separately. Reports can be found as appendices:

- Final report of Lake Vesijärvi Foundation
- Final report of LUVY
- Final report of Pyhäjärvi-Institute
- Final report of Osby commune and Regito AB