

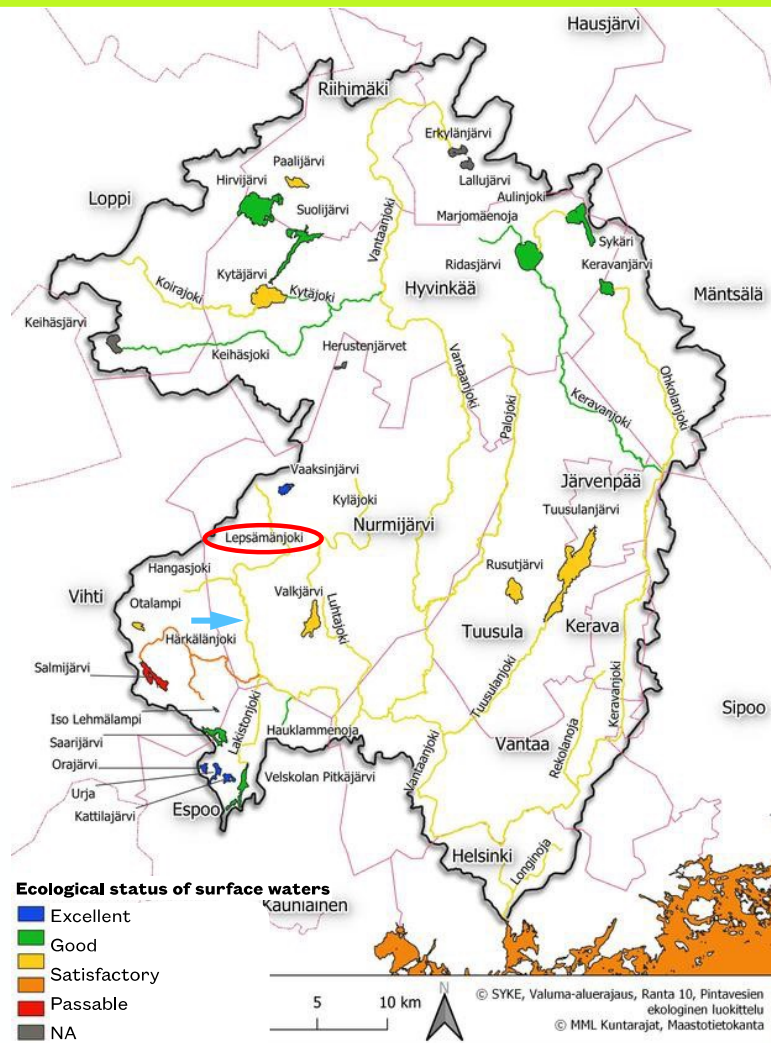
An aerial photograph showing a wide, brown river flowing through a landscape. The banks are covered in snow and dense evergreen forests. Several small islands of land with trees are visible in the river. In the distance, a small town or village is visible on the horizon under a cloudy sky.

Joint project of nine Rotary clubs

Project example – Restoration of the Vantaanjoki River Watershed

KARI HAVASTE - BALTIC SEA FORUM 19.9.2026 SAAREMAA, ESTONIA

Lepsämä River 16.1.2023, photo: Water Protection Association of the river Vantaa and Helsinki region



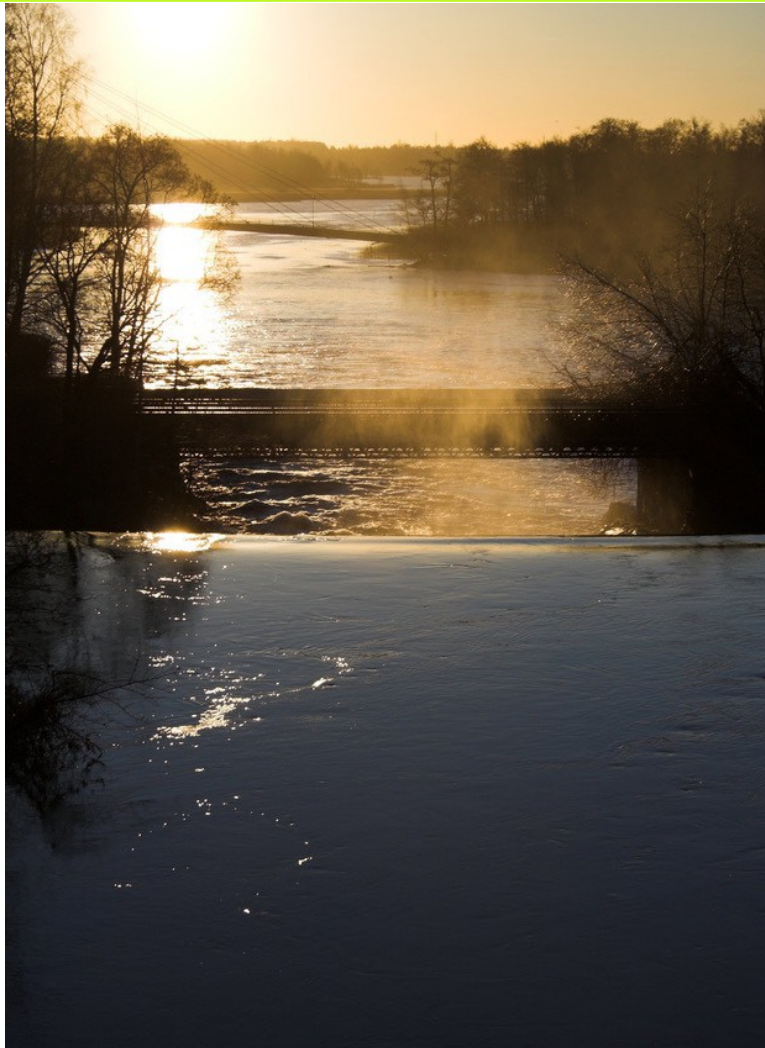
The project target – Vantaa river watershed

- The Vantaanjoki river basin is located in a densely populated (1,6 million residents, one-fifth of Finns) region of Uusimaa and southern Häme
- The rivers in the Vantaa River area are mostly narrow and shallow, widening only in their lower reaches within the Vantaa and Helsinki areas
- The overall ecological status of the Vantaa river's water is satisfactory
- In some parts of the river's headwaters, the situation is good



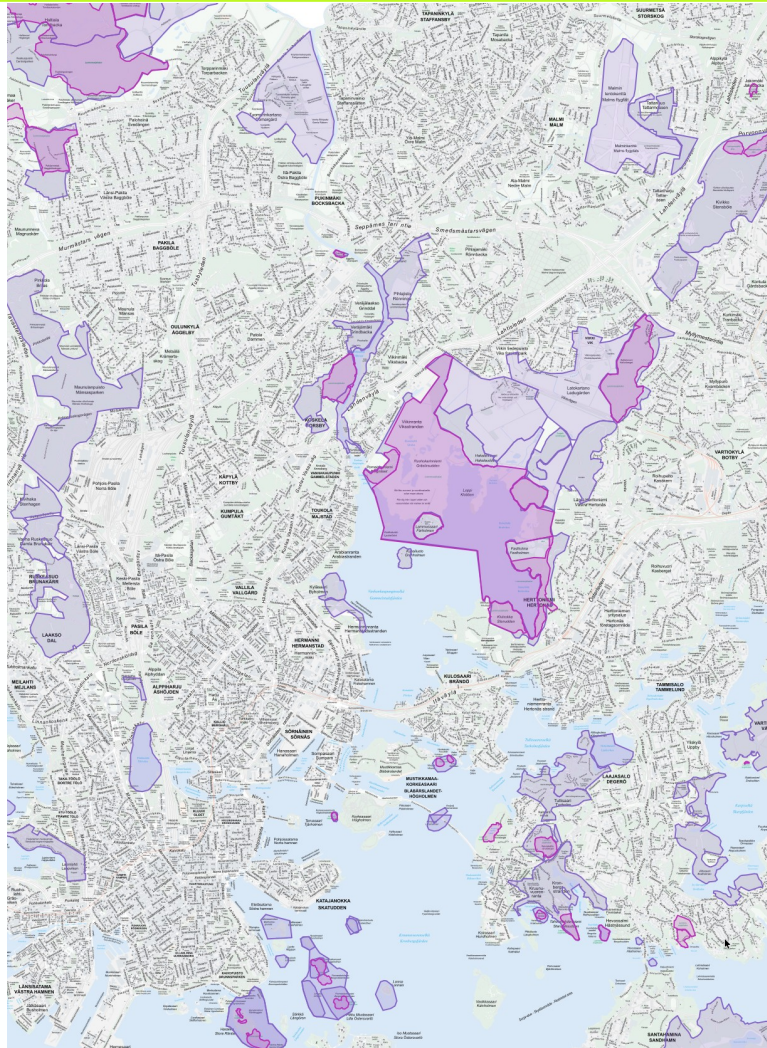
The project target – Vantaa river watershed

- There are about 50 rapids in the watershed
- Rapids are natural aerators of river water and thus improve water quality
- Due to the nature of the soil, the water of the Vantaa River is naturally brown and becomes muddy with clay during rainy periods
- In recent decades, the pollutant load on the river has decreased, and the condition of the water body has improved



The project target – Vantaa river Vanhankaupunginlahti bay

- The Vantaa River flows into Vanhankaupunginlahti bay in Helsinki and from there into the Baltic Sea
- The bay acts as a buffer zone between the Vantaa River and the Gulf of Finland, reducing the load on the marine area itself
- During periods of high discharge, the water in the bay is rich in nutrients
- During that that time it has very low salinity, and visibility can remain as low as 10 cm for extended periods
- In summer, the proportion of seawater in the bay increases, and water quality improves

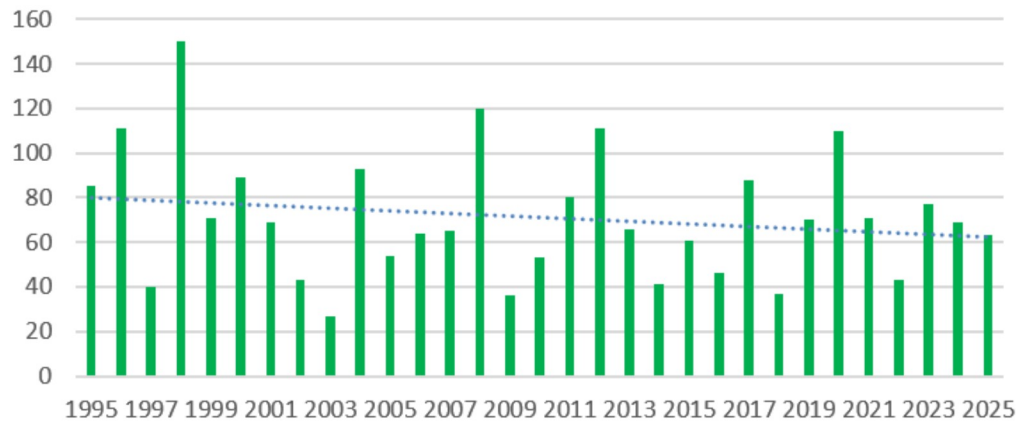


The project target – Vantaa river Vanhankaupunginlahti bay

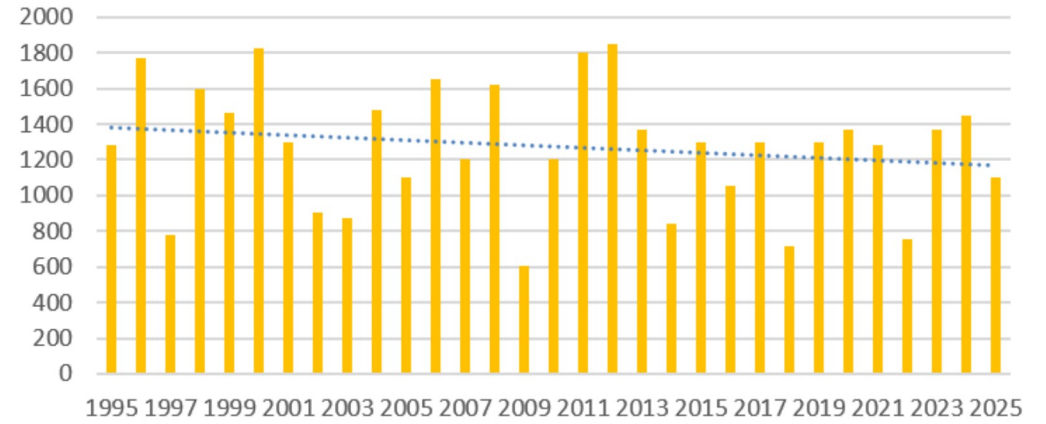
- Both phosphorus and nitrogen loads decreased in a statistically significant manner between 1995 and 2024
- The phosphorus load exceeds the preliminary target load, whereas the nitrogen load falls below it

Nature conservation area
Important bird area

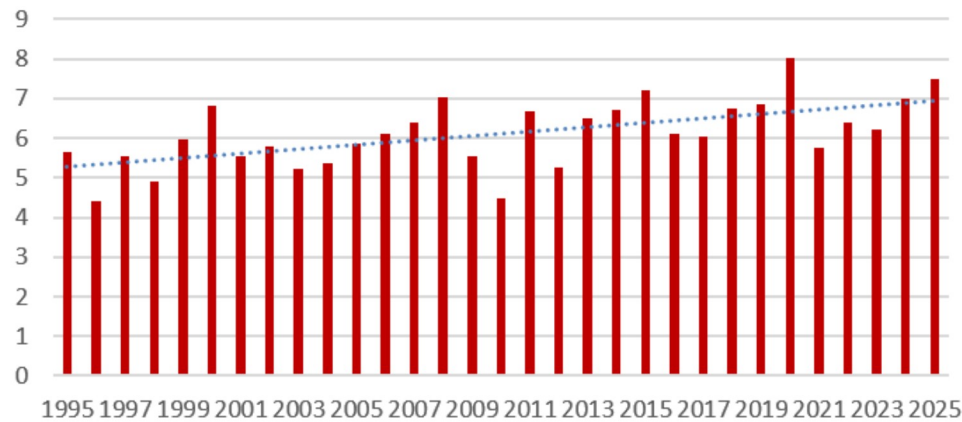
Total phosphorus (tonnes/year)



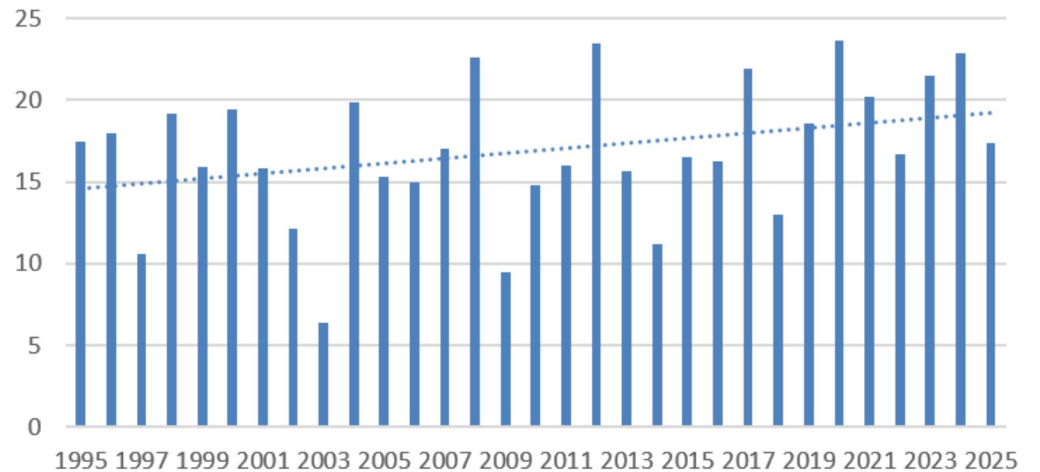
Total nitrogen (tonnes/year)



Annual mean temperature °C at Helsinki-Vantaa Airport



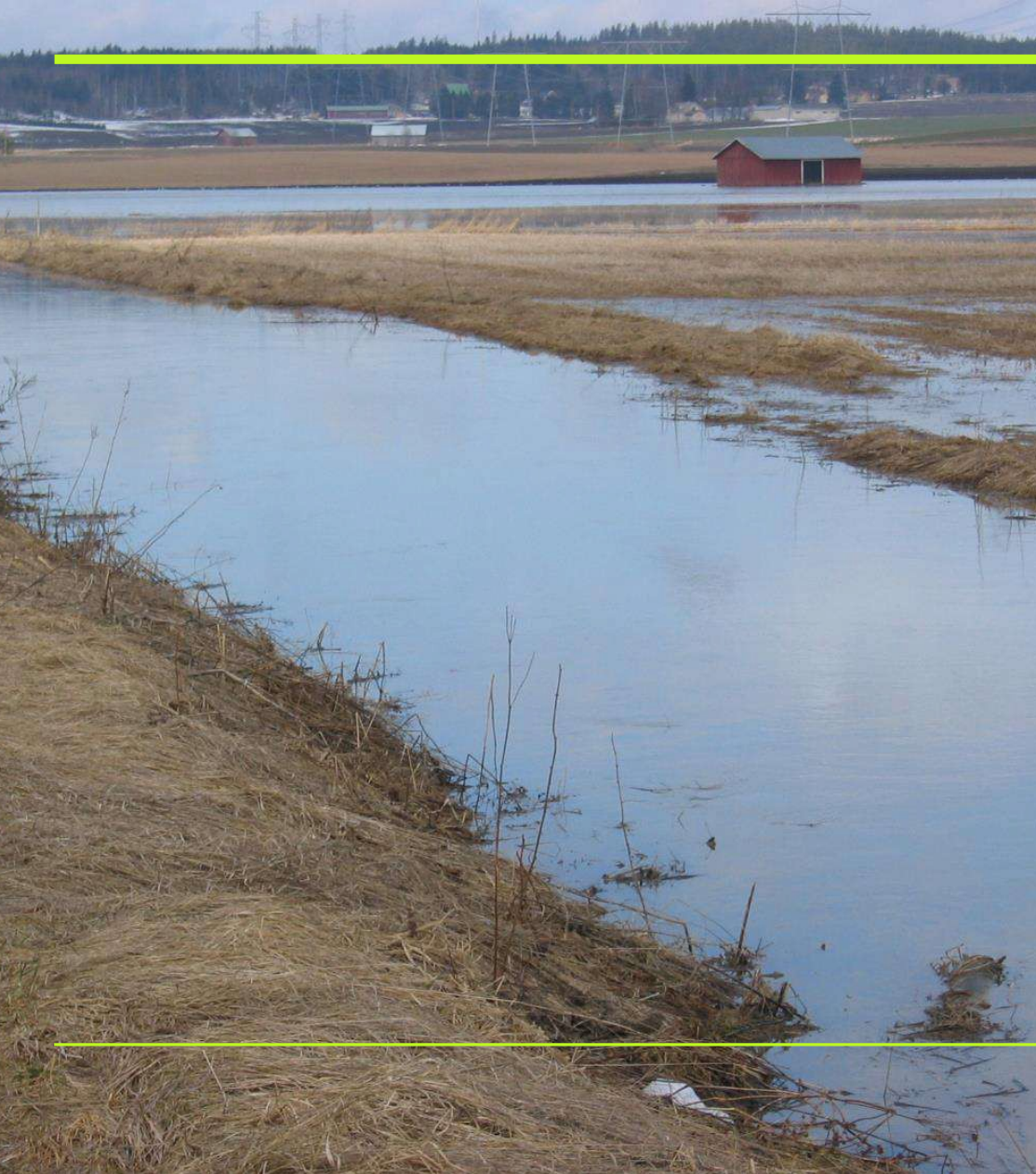
Mean discharge at Oulunkylä m³/s





The project target – Vantaa river

- Due to heavy rains, the river overflows its banks onto adjacent fields, forest land and the like.
- Due to heavy rains, soil and nutrients are washed into the river
- With global warming, flooding is possible even during the winter months
- Water quality suffers from flooding, particularly during the winter months



The project target – Vantaa river

Water retention is necessary

- Be delaying water, flooding can be reduced
- The delay can be done through natural light measures
- Damming and flooding water in naturally moist places and to side channels that do not attract fish



The project target – Vantaa river

Water retention is necessary

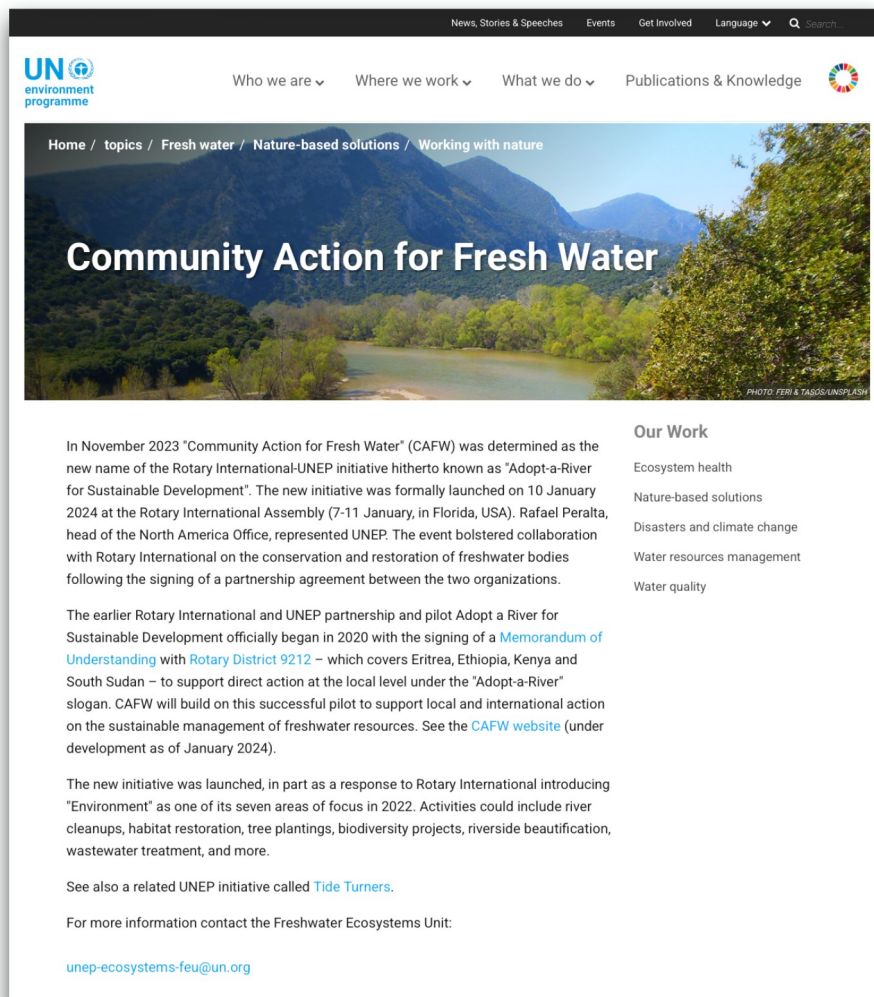
- The importance of water retention at the catchment scale is particularly pronounced in the Uusimaa region
- A key challenge is the lack of sufficient areas designated for water retention
- Most landowners aim to maximize the utility of their land; as long as there is no adequate compensation for allowing an area to become waterlogged
- Their preference remains to keep the land dry and productive.



The project target – Vantaa river

Water retention is necessary

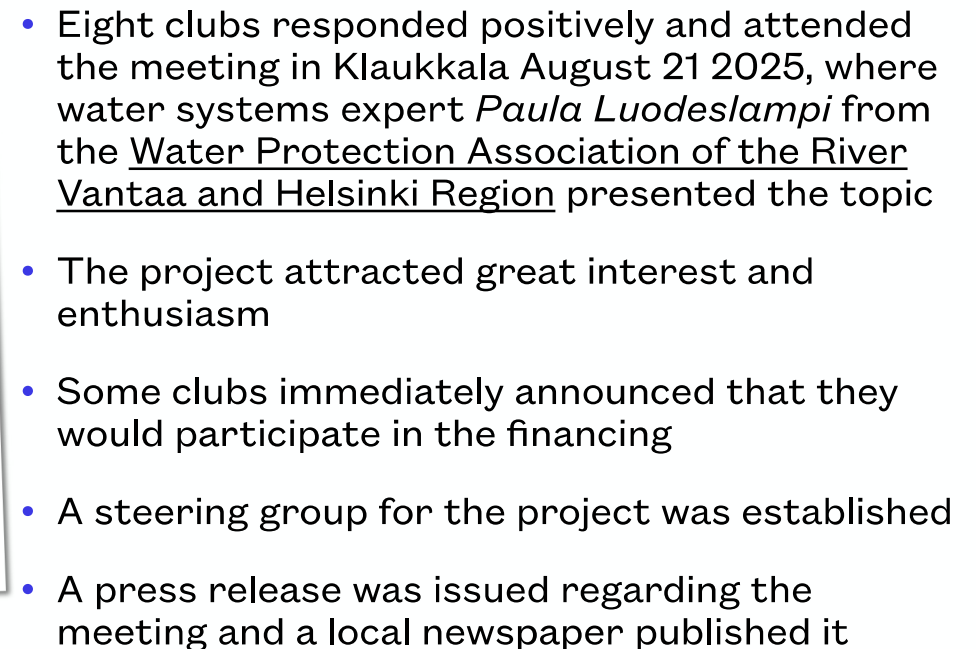
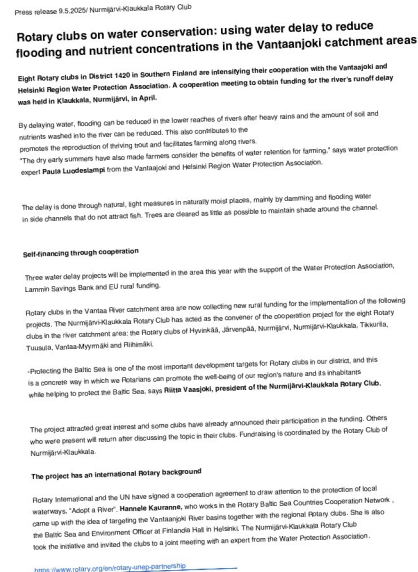
- Water retention measures should be implemented in small channels in the upper reaches of the catchment area
- There is hardly any idle or marginal land available
- Riverbanks are under cultivation, and even the peatlands have been effectively ditched
- The benefits include flood prevention, retention of spring moisture, preparedness for drought periods, increased biodiversity.



Rotary project

Prelude for the first meeting

- Rotary International and UN have signed "Adopt a river" agreement
- *Hannele Kauranne* from Finlandia Hall club came up with the idea of targeting the Vantaanjoki river basing together with the regional Rotary clubs
- Nurmijärvi-Klaukkala Rotary Club took the initiative and invited the clubs to a joint meeting from all the clubs located in the Vantaanjoki river catchment area



25.4.2025 6:00

Uudenmaan alueen rotaryklubit tiivistivät yhteistyötä Vantaanjoen ja Helsingin seudun vesiensuojeluyhdistyksen kanssa Vantaanjoen valumavesien viivytyksessä. Yhteistyökokous pidettiin viime tiistaina Klaukkalassa.

The project steering group

- The steering group's organizational meeting was held at the invitation of the Klaukkala-Nurmijärvi club in the beginning of October 2025
- It was decided to meet a few times a year or as needed
- The meetings would always be held in turn by consequential clubs
- Steering group members can then often also get the chance to experience another club's regular weekly meeting and club members

FIRST MEETING

The project targets

- Joint water protection project by the Rotary clubs of the Vantaa River catchment area
 - Potentially 10–12 clubs involved
 - The aim is to create a project spanning 3 to 5 years
 - The project has launched with fundraising
 - We will also develop other club-specific activities such as eradicating invasive species
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The project objectives

- Achieve collaboration between all the clubs in the entire Vantaanjoki River catchment area
 - Seek shared themes and projects that encompass the entire Vantaanjoki river
 - Improve the quality of the local environment
 - Caring for local waters
 - Improve opportunities for recreational use of the area's river water
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The project objectives

- Better management of river floods
 - Gain visibility and support for both the river project and Rotary's own activities
 - Improve environmental knowledge and awareness
 - Caring for fish stocks and improving their living conditions
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The objectives 2026

- In early June, *Antti Ahokas* began working on his master's thesis for **Aalto University**
 - The subject of the work is “*Geospatial analysis of the Vantaanjoki river catchment’s floodplains and their utilization as nature-based water retention structures*”
 - The aim of the study is to identify the most potential sites for water retention within the Vantaanjoki catchment area using geospatial analysis and modeling
 - The results should help in selecting the best targets in terms of input-output efficiency
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Project implementation 2026

- Between 2025 and 2026, water retention structures were constructed in the upper catchment area of the Lepsämäenjoki river
 - Five structures were built on land owned by the Municipality of Nurmijärvi, and 15 structures on land owned by private landowners
 - **Challenges:**
 - Drainage of fields and forests must not be impaired
 - Land ownership is fragmented
 - Fish passage in natural watercourses must not be obstructed
 - Increasing the zigzagging of the watercourse requires land area.
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Example of a retention structure

- The surface area of the low-lying area above the structure is 280 m², with an estimated water retention potential of 140 m³.



Example of a retention structure

- Water level rises 40–50 cm above the structures during heavy rainfall
- Retention potential of approximately 100–150 m³



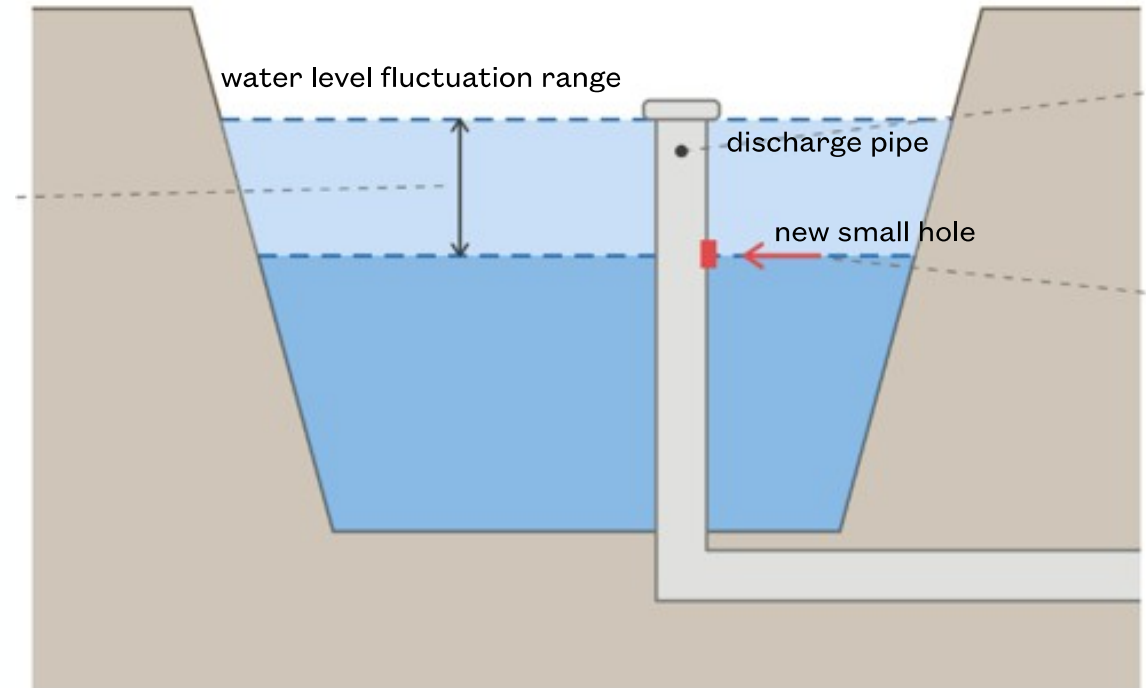
Example of a retention structure

- In watercourses containing fish, the structure must be open down to the bottom of the watercourse
- This reduces the effectiveness of the retention structure.



What next ...

- Plans are being made to increase the water retention capacity of existing irrigation ponds by modifying the discharge pipes
- The pond's retention volume can be increased by 60–3,000 m³, depending on the pond's surface area and the drop in water level
- Dredging two ponds to gain additional water storage capacity, in addition to modifying the discharge pipe



Thank you!

