

Dam removal in Finland: River Hiitolanjoki

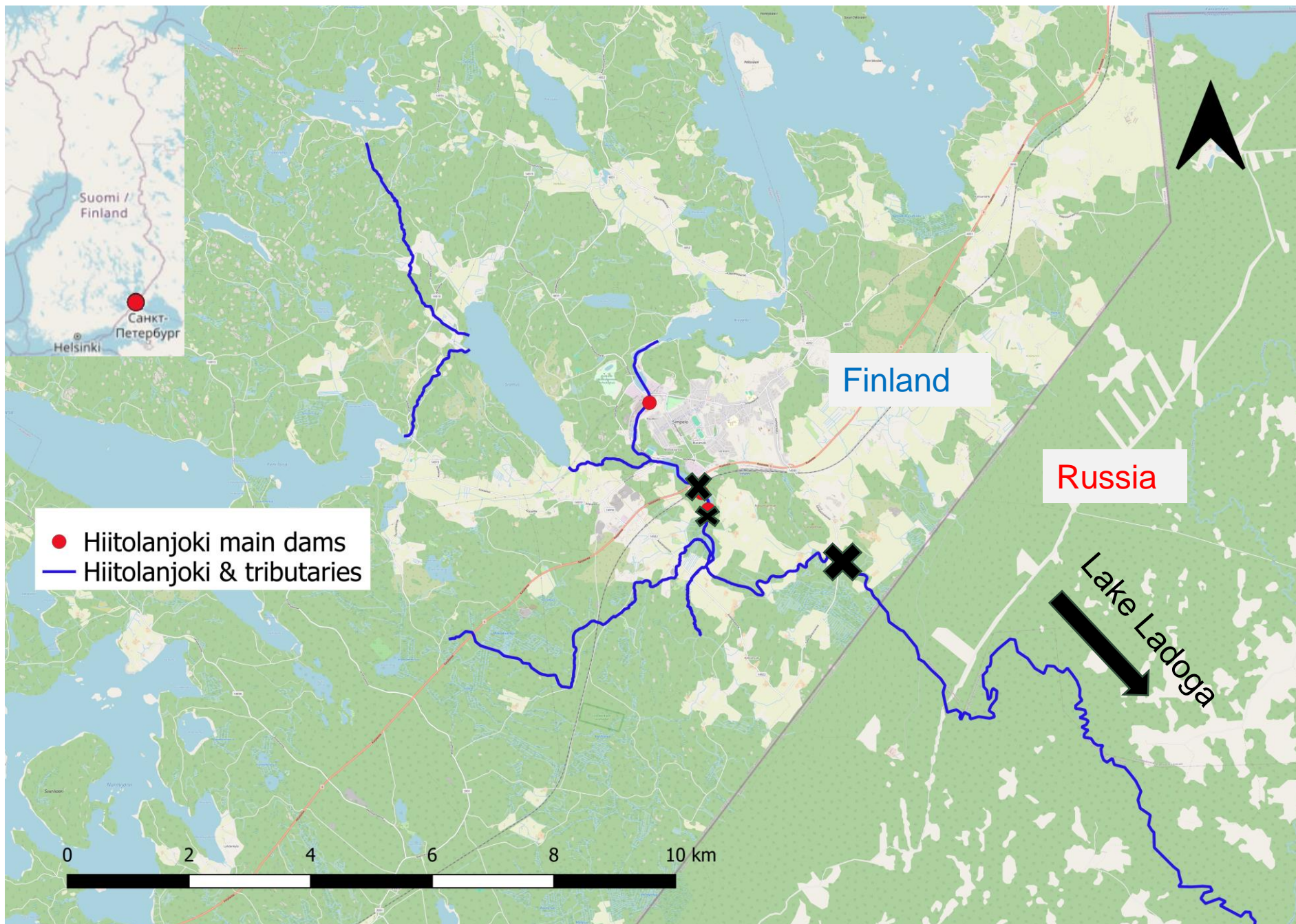
Jarno Turunen, Senior Researcher
Nordic WFD conference, 26.9.2024, Göteborg



Suomen ympäristökeskus
Finlands miljöcentral
Finnish Environment Institute

River Hiitolanjoki

- Drains from southeastern part of Finland to Lake Ladoga in Russian part of the Karelia
- Majority of the river length is on the Russian side
- Catchment area 1340 km²
- Main river length 50 km, approximately 8 km of the main channel in Finland
- MQ 14.7 m³/s, 5-7 on the Finnish side of the border
- The river is one of the most important spawning rivers for lake-migrating brown trout and salmon (*Salmo salar m. Sebago*) of Lake Ladoga
- However, the fish have had very limited access to Finnish side of the river system due to four small hydropower stations
- Total capacity of the four HPs 2.5 MW
- The HP facilities were already built in 1910-20's to support electricity needs of local forestry industry



Process to dam removal

- The first steps to restore salmonid populations in Finnish side of the border were taken in 1997, when old submerged iron fences were removed from the channel in Russian side of the border
- Although better access was established in the Finnish side it did not help the fish much as the lowermost HP dam was right next to the border
- In 2007, the regional fisheries authorities started the process to change the HP permits and demanded fishways to the facilities (3 lowermost dams)
- There were many years of court cases during the process but the final decisions came in 2019 and mandated the owners to build fishways and give the needed water without compensation
- and if needed downstream migration structures + attraction flow

Process to dam removal

- Local recreational foundation bought one of the facilities already in 2017
- The demands of fishways and the water was so costly to the owner of the remaining two dams that it created incentive to sell the HP facilities
- Right after the court decision (2019) the foundation bought the two facilities
- Half government funding, rest from companies, foundations, municipality, WWF and private persons
- Dam removal was conducted during 2021-2023, one dam each year



Outcome

- Restoration of formerly lost rapids and spawning areas
- Restored connectivity to spawning areas in headwaters
- Has been an immediate ecological success
- Juvenile salmonid densities extremely high in the restored areas (> 400 ind./ 100 m^2)
- Has received wide national and international recognition
 - Dam removal Europe award
 - Best action towards nature 2021-2022 (Ministry of Environment)
- Flagship project and example that has initiated wider dam removal movement in Finland



Thank you!

