

Sustainable trout fisheries in transboundary Oulanka River system



Scientists checking the trap net in Paanajärvi National Park (RU) © Markku Seppänen

Background and Objectives

Oulanka National Park in Finland and Paanajärvi National Park in Russia have a joint treasure to guard: one of the last native populations of adfluvial brown trout in Fennoscandia. Finnish and Russian fishery scientists and fishermen alike have been worried for some time about the apparent decline of brown trout numbers in the river system.

Throughout the short northern summer, brown trout run from the 900 km² Lake Pyaozero to Olanga River and Lake Paanajärvi (Panozero) in Paanajärvi NP and continue on to three Finnish rivers to spawn. One of them, River Oulankajoki, is part of Oulanka NP. Research revealed that only few individuals reach Oulanka River to spawn. One factor in the decline, although not likely the most important, may be the licensed recreational fishing that is allowed in both National Parks.

The project aimed at creating a sustainable use and healthy status of the migratory brown trout populations in the Oulanka River system, safeguarding the natural reproduction and maintaining the unique genetic properties of the population. The objectives of the common Finnish-Russian project were:

- to study the size, structure and migrations of brown trout across the border;
- to study the intensity of trout fishing pressure and the economical value of fishing on both sides of the border;
- to establish a Finnish-Russian co-operative group to monitor and control the fishing of trout on both sides of the border, on the basis of latest research results and recommendations;
- to increase the general awareness of the values of riverine ecosystems and fishes.

OULANKA AND PAANAJÄRVI NATIONAL PARKS

Finland/Russia



Project details

Project name

Saving our joint treasure: sustainable trout fisheries for the transborder Oulanka river system (Project ID "KA531")

Funding

Karelia ENPI CBC programme (EU, Finland, Russian Federation)

Total budget € 639.201

Lead partner

Metsähallitus Parks & Wildlife Finland (managing authority of Oulanka National Park)

Partners

Finnish Game and Fisheries Research Institute, Russian Northern Fisheries Research Institute NFRI, University of Oulu

Associate partners

Paanajärvi National Park, Municipality of Kuusamo, several collectives of private water area owners from the Finnish side of the river system.

Duration 01.02.2013 - 31.12.2014

MORE INFORMATION ABOUT PROJECT ACTIVITIES AND RESULTS

The project's main activities strengthened the scientific knowledge, stakeholder cooperation and public awareness regarding the Oulanka River trout, all of which are critical components of successful long-term fishery management and conservation. Through collaboration of Finnish and Russian stakeholders, a model for the joint management of trout populations could be developed, which can be useful for other transboundary waters where sustainable management of shared natural resources is needed.



Studying fish migration

A tagging campaign of brown trout was carried out in Paanajärvi NP, Olanga River throughout summer 2014. Brown trout individuals (n=352) were marked with Carlin-tags and radio transmitters, allowing the estimation of the total spawning population size after recapture data had been collected with help of Finnish fishermen.

Research showed that about 1200 trout ran to River Olanga, and 1000 further on into the Finnish rivers. The spawning population of Oulanka River, inside Oulanka NP, was estimated to be as small as 120 fish. Two rivers outside Oulanka NP received over 400 trout each. The tagging revealed that the proportion of hatchery-reared brown trout (adipose-fin-cut) in the spawning population was very small in 2014 (2,8 %), even though tens of thousands of 1-yearold hatchery-reared brown trout produced from the rivers' endemic parental fish have been stocked in the Finnish rivers since 2005.

Parks & Wildlife Finland is considering putting a closure on the brown trout fishery in Oulanka NP for a few years at least, helping spawning population to recover. Paanajärvi NP plans to prevent increase of brown trout mortality in Olanga River by limiting number of fishing licenses sold to park visitors. Harmonisation on both sides of the border of legal catch size limit for brown trout to 60 cm has been achieved which should allow more Oulanka River fish to reach their spawning grounds than previously. As hatchery-reared brown trout seem not to survive or adopt the natural migratory life cycle, resources from stocking will be better directed at enhancing the natural production of juveniles. This could be done e.g. by decreasing river fishing pressure in late autumn on the fish that are about to spawn.

Learning about fishermen

A survey was conducted among Paanajärvi NP visitors who bought river fishing licenses in 2013. Among the things asked were: their primary motivation to fish in Olanga River, brown trout catch, opinion about the most important measures that should be taken to safeguard the brown trout population, amount of money spent during fishing

Radiotagged brown trout © Igor Tyrkin

trip. A comparable survey was made in Finland; it covered fishermen of all rivers where the native brown trout run and was not restricted only to River Oulankajoki in Oulanka NP.

The combination of data from the surveys' catch reports and the mark-recapture study made it possible for the first time to present a satisfactory estimate on what proportion of brown trout are annually killed by fishers before start of the spawning season. Roughly every third brown trout on the spawning run gets fished before they get to spawn. This level of mortality is considered unsustainable under circumstances where the fishing mortality in the main feeding area (Lake Pyaozero) is on a steady rise. Of the possible measures that can be used to lower the fishing mortality, the practice of catch-and-release fishing was the most popular one among the 1200 respondents to the fisherman survey, rated as the measure of choice by every third fisherman. On both sides of the border, most of the fishers considered the landscape and nature of the riversides far more important factors in having drawn them to fish on the particular river (be it inside or outside the National Parks) than the opportunity to fish for native brown trout. The results from the surveys indicate that it is possible to restrict, or even ban if needed, fishers from taking brown trout as catch without compromising the fishing visitors' satisfaction with their stay in the transboundary parks Oulanka and Paanajärvi. Catch-and-release fishing rule could be directed to the endangered brown trout only, still allowing taking other, more abundant fish species as catch.

Telling the public

An awareness campaign on the biodiversity value and uniqueness of the native brown trout population and responsible fishing was carried out in the parks and in public media during the river fishing seasons of 2013 and 2014. It included printed brochures, social media, and appearances in several TV-programmes. The media was particularly interested in writing stories about "adventures" of the brown trout individuals that had been tagged with radio transmitters for research purposes.



Lessons learned

- The long term collaboration between transboundary parks of Oulanka and Paanajärvi, in course of which a high level of trust and good practices of collaboration and communication have developed, helped to proceed according to the plan and complete all the joint Finnish-Russian activities in a time when the high level political relationships between EU (with Finland as a member) and Russian Federation were quite challenging.
- Personal relationship and the commitment of single individuals are very important in transboundary projects.
- 3 The project model and logic can be used anywhere, especially when there are multiple stakeholders/landowners dealing with a common natural resource.

FURTHER INFORMATION

Oulanka and Paanajärvi National parks have a common history since the establishment of the latter, in 1992. Together they form a reasonably large (about 1340 km²) wilderness-like area that has attracted scientists, artists and tourists since late 1800's. The twin park is in its own class for biological diversity: Oulanka harbours more Natura 2000 habitats than any other National Park in Finland.

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Project website

http://www.kareliaenpi.eu/fi/teemat/ natural-resources/hankkeet/292 www.oulangantaimen.fi www.kumzha.com



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