

Life is grand for graylings in the pure waters of Ounasjoki River



Uponor involvement

- ✓ 1 WehoPuts 400 treatment plant

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Located in Finnish Lapland, on the Ounasjoki River, the village of Kaukonen now treats its wastewater with a new WehoPuts 400 treatment plant. As in many rural areas, long distances make village treatment plants a more sensible alternative than transporting wastewater tens of kilometres to the nearest town.

Jouni Seppälä and Jouni Ojanperä have their hands full at the time of this interview in October. A WehoPuts 400 treatment plant has just been installed in the village. Now, the two men want to finish bypassing the last old, out-of-date septic tanks before winter's arrival.

"You better believe we pay full attention to the weather report every night", explains Ojanpera, who is an excavator operator. "We've worked long days. Now, the darkness is starting to slow things down. In the summer up here we can work day and night", he laughs.

"But, I'm not bothered if winter gets here first. We'll just pick up where we left off in the spring. Most of the work is already done – the treatment plant is already up and running", adds Seppala.

Project Facts:

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| Location | Completion |
| Kittilä, Finland | 2010 |
| Building Type | Product systems |
| Municipal | Sewer, waste water treatment |
| Project Type | |
| New building | |

Hard work

Seppala, who is chairman of the local water co-operative, says that the major wastewater project became necessary when the environmental permit for the village's stabilisation pond, which was built in the 1970s, had expired. The Finnish Environment Institute demanded that the plant, which is located right next to the natural reserve of the Ounasjoki River, produce better treatment results. The river is famous for its wild whitewater and coves as well as its grayling, salmon and northern pike populations.

"After comparing costs, we decided to get a new treatment plant for the village. Another much more expensive alternative would have been to run the wastewater forty kilometres through sewage pipe to Levi."

"But time passed and we weren't making any progress. It felt like we weren't really ready to start working on a major project. And it also became clear that a treatment plant alone wouldn't have been enough – we also had to renovate the sewage system."

Fixing the system

The water co-operative's project was given new urgency when the Environment Institute fined the co-operative. "After this happened, we appointed a head for the treatment plant project, who drafted a comprehensive plan for the project and work was soon underway."

The Environment Institute also withdrew the fine it had issued. Weho-Puts 400 was chosen as the central system treatment plant.

The treatment plant was installed in September 2010. Installation work was overseen by NCC Roads and representatives from the factory were involved in the pipe and electrical work as well as the system start-up.

Effective treatment, with new soil production to boot

Seppala explains that the treatment results of the WehoPuts plant are significantly better than the old stabilisation pond. "The treatment plant is also more user-friendly", states satisfied Seppala. Only grey water was led to the old stabilisation pond. Each home had its own septic tank, which the homeowners had to have emptied themselves. On top of all this, nutrients were not eliminated from the water in the pond, but rather ended up in the Ounasjoki River.

"Now, the biochemical process treats the wastewater effectively. And local residents don't have to empty their septic tanks." According to Seppala, once the old septic tanks were bypassed during construction of the new system, many people realised that the old system had not functioned effectively.

"Pipes leading to houses had in many places been compressed and the wastewater just stayed put."

The new treatment plant is located directly adjacent to the old open pond basin, which has already been filled. As the only elements of the treatment plant visible at ground level are a couple hatches and the control unit, it blends very well into the environment. The ground where the pond used to be is now a composting area. The sludge from the new treatment plant is mixed there with peat and the end product can be used as a soil conditioner. "We don't have to bring our sludge to Levi for composting anymore – that means big savings."

Reliable partners

Seppala says that the water co-operative's desire to partner with large, responsible operators played a major role in their decision-making. "We wanted to be sure that we'd hear from these guys again after they left town", laughs Seppala. He also praises, among other things, the treatment plant operation and maintenance training provided by the supplier.

Bank loan paid off with user fees

In addition to the savings earned by the water co-operative, a long-term bank loan was also required for the investment. “The bank loan is being paid off with user fees.

We’ve also sought investment assistance for the site from the Lapland Centre for Economic Development, Transport and the Environment”, explains Seppala.

Kaukonen’s far-reaching vision

The village treatment plant project sets an outstanding example for others to follow.

“These kinds of projects should be handled with the highest standard of professionalism. It’s vital to see the treatment of wastewater as a whole, not just focus on specific parts of a network. Naturally, done all at once this is a large scale project – but a chain is only as strong as its weakest link.”

“This is an investment that will pay off for decades to come. It also enhances the village image and makes it a more desirable place to live.”

Treatment plants perfect for Lapland

Miia John of Uponor Infra notes that, at least where the treatment plant is concerned, the village could handle even more households. “The plant is dimensioned for 400 people. Right now, the village has a population of around 300.” Miia John feels that there would be a great deal of demand for village treatment plants throughout Lapland.

“There is no shortage of sparsely populated areas in Lapland and distances are long. Village treatment plants are often a considerably more sensible alternative than transporting wastewater tens of kilometres.” “And the terrain is very varied, with lots of difference in elevation and wetlands”, she adds.

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