European Network for Rural Development

Restoration of the Röcknitzbach stream

EAFRD-funded projects

GERMANY

Water management

Location
Dargun

Programming period
2014 – 2020

Priority
P4 – Ecosystems management

Measure
M7 – Basic services & village renewal

Funding (EUR)
RDP support 1 550 000
EAFRD 1 400 000
National/Regional 150 000

Project duration
2014 – 2018

Project promoter
Stadt Dargun

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A project addressing the Water Framework Directive, by restoring the natural flow of a stream, while preserving the local cultural heritage and protecting from floods.

Summary

The Röcknitzbach stream in Mecklenburg-Western Pomerania, was blocked up in the Middle Ages by the construction of a dam at Klostersee Dargun. From the outlet of the lake to the original level of the stream below the monastery park, several gradient jumps were build with a total height difference of more than 8.5 km.

In order to allow fish to cross the stream once again, two new fish ladders were constructed. The pond in the monastery park was revitalised. Finally, a flood channel with an automatic weir was built to ensure flood runoff.

Results

The project 'Renaturierung Röcknitzbach' helped restore the ecological continuity and water flow of the Röcknitzbach stream. The method of construction made it possible for fish and other water animals to ascend and pass through the river from the Baltic Sea to the Klostersee.

The castle pond serves as a resting pool for the migrating fish. Then, they can continue swimming towards Klostersee.

Lessons & Recommendations

- ❑ The commitment of municipal actors was essential to the project's success.
- ❑ After the completion of the project it became clear that monitoring the number of fish and regular quality checks are necessary to ensure the long-term functioning of the fish ladders.

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Context

The Dargun monastery lake (Klostersee Dargun) lies west of Dargun in the Mecklenburg Lake District in Mecklenburg-Western Pomerania. The lake is approximately 25 hectares. It is about 1 350 meters long and 180 meters wide, on average.

It was built by the Cistercian monks of the Dargun monastery (probably in the 14th century), who blocked the Röcknitzbach stream with a dam, which connected to the Poggenteich pond. The monks used the energy produced by the dam water to operate a water mill below the lake. In addition, the reservoir was a water supply and was used for fishing.

The dam was built over gradient jumps. Therefore it was not possible for fish and other water animals to ascend and pass through the river from the Baltic Sea to the Klostersee.

Approximately 700 years after the construction of the monastery lake, the old weir and the old water mill were dilapidated and had to be renovated. In addition, the weir became strained by the increasing amount of water in the dam. Continuous rain meant that more water was in the lake than could be drained. Although the town of Dargun had not had a major flood, the water in the Röcknitzbach was accumulating and in several places it overflowed the banks. The adoption of the Water Framework Directive (WFD) in 2000, established common standards for the protection of water bodies in all EU Member States.

The free passage of migratory fish is a key requirement of the WFD. Although great efforts were made in Mecklenburg-Western Pomerania to implement the WFD, the results of the second inventory in 2013 were sobering and 97% of the watercourses failed to meet the WFD objectives by 2015.

Objectives

- The main objective of the project was to restore the flow of the Röcknitzbach stream and to contribute to the implementation of the WFD by helping sea trout and eels access the Klostersee.
- Renovation of a dilapidated bridge and the protection of the old water mill which has cultural heritage value (and is a 'monument', in this sense).
- The project should also contribute to flood protection.

Activities

At the beginning of the project, various implementation options needed to be examined. It was particularly important to ensure that the monument (the mill) would be protected.

The first step was to relocate the old lake outlet and to create a channel. In the construction phase, a waterfall was redesigned at the outlet of the Poggenteich pond. This was dismantled and the difference in height was overcome with concrete and stone bars. The ramp has a total of 94 bars with basins in between and a length of approximately 730 metres. In the course of this, the links between the Poggenteich and the Klosterpark had to be dredged to ensure the flow of water. At the same time, a flood channel with an automatic weir was installed to enable flood runoff.

As part of the separate road and bridge renewal on the Klosterdamm, the state road construction authority built a road bridge along the new lake outlet and renewed the pipe culvert, so that the Röcknitzbach can flow naturally again at this point.

The second phase included the construction of a flood channel. There the water is divided into a fish ladder and a spillway with adjustable weir. This fish ladder leads approximately 400m through the castle park. The gradient of about five metres is overcome by a multitude of pool passes. Once the fish ladder and the spillway have reunited to form a single body of water, the Röcknitzbach stream flows through the revitalised Poggenteich pond.

A feasibility study for the redesign of the upper reaches of the Röcknitzbach including the channel from Glasow was prepared by the water and soil association 'Obere Peene' in 2018.

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Main Results

The project 'Renaturierung Röcknitzbach' helped restore the ecological continuity and water flow of the Röcknitzbach stream. The construction makes it possible for fish and other water animals to ascend and pass through the river from the Baltic Sea to the Klostersee.

The castle pond is intended to serve as a kind of resting pool for the migrating fish. After they 'rest', they can continue swimming towards Klostersee.

In order to ensure that the fish ladder functions properly, regular inspections are carried out by the water and soil association 'Obere Peene' and the city of Dargun.

Key lessons

The commitment of municipal actors was critical to the project's success.

After the completion of the project it became clear that monitoring the fish population and regular checks are necessary to ensure the long-term functioning of the fish ladders.

Additional sources of information

Broschüre "Fische müssen wandern können"

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