

Renewing Life

Corps teams up with Army depot to restore the ecosystem of a stream with connections to the Rhein

Story and Photos by
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A few miles from the 284th Base Support Battalion, in Giessen, Germany, a small stream begins, which eventually runs through the main Army depot.

As the water swiftly rushes through its concrete basin on the depot, into a swirling pool, through tributary waters – it makes its way into the illustrious Rhein River.

Since this relation to the Rhein exists, there's a connection to a larger ecosystem, said Pat Cagney, biologist, U.S. Army Corps of

Engineers, Europe District.

"It was a heavily impacted stream," said Cagney of the project called *Oberlache*. "It's a re-naturalization of a small stream."

Stream re-naturalization is not new in Germany, and the roots of this project stretch back to 2001. "We received a letter from the host nation asking us to bring this oberlache stream back to its natural condition," said Thomas Cahn, chief, Environmental Management Office, 284th Base Support Battalion Directorate of Public Works.

A team was formed to re-naturalize the 350 meters of the stream that runs through the depot, to include the City of Giessen, the Corps of Engineers, IMA-Europe (Installation Management Agency-

Europe), the 104th Area Support Group, and the 284th Base Support Battalion.

"There is a regulation within the State of Hessen, that once the use of a stream changes and you no longer need it, then you have to re-naturalize it or restore it, as close as you can, back to the original condition," said Cagney.

With the backing of German officials from the City of Giessen, Europe District teamed with the Giessen DPW to start a project on this stream that would give it its vitality back.

It was something the DPW wanted to do alongside the German authorities, and asked for help from Europe District.

"We had a good working relationship with the host nation since the beginning," said Cahn.

In years past, it had been fashionable to take small streams similar to this oberlache and make them linear and line them with concrete, said Cahn.

Weirs (low dams) were also put in place in these streams, which obstructed fish movement, said Cagney.

Though these cosmetic features may have seemed like good ideas at the time, it has turned out they weren't so good for these streams – causing them

to flow too fast and overflow very easily, said Cahn.

The stream had been impacted from many different face-lifts that it had received. The latest was when it was being used to feed a steam plant, said Cagney.

It may have been a good way to feed the steam plant, but the 350 meters that are being re-naturalized were the worst part.

"The water itself is in very good condition," said Konstantin Gross, environmental engineer, Environmental Management Office, 284th Base Support Battalion Directorate of Public Works, because no waste water is running into the stream.

The water's condition is a major factor and contributor in re-naturalizing the stream. Without the clean water, the task would be much more difficult, said Gross.

What makes this area of the stream so bad is that this is the narrow, straight, concrete portion where the water flows very fast.

This has made it difficult for many species that would occur naturally in a stream of this type to inhabit this ecosystem, said Gross.

"Only a very small population of special kinds of fish can live in here, under this condition," said Gross.

Streams that have been lined with concrete and have had blockages put in become "sterile areas," said Cagney. And that is one reason why the concrete is being replaced with local rocks and stones.

The process of getting back to a functional condition does take effort. Curves will be put back into the stream and it will be widened. Removal of the concrete will also help the water's ability to seep into the banks and ground and rocks will give a place for fish to hide, said Gross.

All of these factors will also help contribute to a much needed element for life – oxygen. The increased surface area allows the water to become more oxygenated, said Gross. The increase surface area also increases the humidity in the air with evaporation, which, in turn, will increase the plant population and increase the quality of the air as well.

"Our first thing is to get fish and the second thing is to let



To re-naturalize the oberlache, a backhoe is used to remove dirt from its banks to widen it and put it back into its original condition.



Thomas Cahn (left) and Konstantin Gross (center) of the Directorate of Public Works at the 284th Base Support Battalion in Giessen, Germany, discuss the process of stream re-naturalization with the contractor.

local flora and fauna re-establish," said Cahn.

While only a select few species of fish are able to live in this habitat now, after re-naturalization, it should be habitable for 10 to 12 different kinds, said Gross. More insect species will also be able to inhabit the area.

"You build up a place where different species can live. Some may come from upstream and some may come from downstream," said Gross.

After construction is completed, which is expected sometime in January, it may take a few years for all these plants and animals to repopulate this portion of the stream, said Gross.

Projects, such as this one, are something the Corps of Engineers does as part of being good stewards to the environment, said Cagney.

While the Corps may have the environmental specialists and expertise, it took many to get this project underway.

"It really was a homegrown effort from the City of Giessen and ... the BSB. Without their help, we couldn't have done it," said Cagney. "I think it is a project that people enjoy working on."