

Restoration project recreates variation in the Vindel River

November 3 2015



Abmobäcken stream before and after demonstration restoration. Credit: Daniel Jonsson

Vindel River LIFE is an EU project aimed at restoring tributaries in northern Sweden that were affected by a century-long timber-floating era. The project spanned over nearly six years and came to an end on 31 October 2015.

The project has worked with how to practically go about reducing the effects of fragmentation and channelization in 26 of the tributaries in the northern Swedish Vindel River as well as studying how to evaluate the effects of the restorations. Another objective was to re-establish a more diverse aquatic habitat similar to the one that existed before the onset of timber floating. This involved generating bendier, wider and more complex tributaries, which in future will lead to more diverse water flow and increased water levels so as to recreate a more diverse aquatic environment favourable for many animal and plant species.

"An example of how we have created variation is how blasted blocks in streams have been replaced with big boulders and trees collected from surrounding grounds. These objects break the currents, create favourable local floods of nutrient-rich water in the riparian zones and act as a food storage when leaves and grass are trapped by the branches and eaten by aquatic insects, which in turn are eaten by fish," says Johanna Gardeström, Department of Ecology and Environmental Science at Umeå University.

Previously, restoration was conducted in a very cautious way. Often, the action was limited to returning the blasted stone pieces from the riparian areas and watercourses were only rarely widened. The Vindel River LIFE project went one step further - performing so-called demonstration restoration. This means that present-day watercourse restoration is something completely different compared to only a few decades ago.

"Over the course of the project, close relations with the general public, land owners, schools and researchers both in Sweden and abroad were kept in order to spread our experiences of restoration," says project manager Johanna Gardeström.

The results of the Vindel River LIFE's new and exciting methods show clear hydrologic effects: the current velocity has decreased and the currents have become more variable. Streams have also been widened as a result of the restoration. The project has removed 20 splash dams for timber floating that have previously stopped fish migration, which means that approximately 250 kilometres of closed-off watercourses have now been opened. Furthermore, numerous side-channels have been opened after having been closed-off since the timber-floating era. These two measures have helped migrating salmon and trout, as well as given other animals and plants an opportunity to spread.

Other restoration projects have copied the methods developed and several research projects have chosen to locate their studies to the areas restored by the project Vindel River LIFE.

Despite the project now being over, future research will have great use of the restored areas. The recovery after restoration is slow and it is vital to follow the process in order to understand and possibly have an influence on it. The stones, boulders and instream wood will settle within a few years and the water currents will adapt quickly. Plants and animals, however, have more difficulties in benefiting from the restored environments immediately. This depends on many different factors, for instance lack of plants and animals in the local area as well as forestry in [riparian areas](#).

"Researchers believe that watercourses will continue to recover for many decades to come, which means that patience is required," concludes Johanna Gardeström.

Provided by Umea University

Citation: Restoration project recreates variation in the Vindel River (2015, November 3)
retrieved 14 May 2024 from <https://phys.org/news/2015-11-recreates-variation-vindel-river.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.