Restoring rivers and streams: Effective outcome evaluation

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In many places in Switzerland, rivers, streams and lakeshores are being restored. The new practice documentation “Evaluating the outcome of restoration projects” by Eawag and FOEN provides the basis for joint learning across project boundaries.

Canalisation, sewage disposal and hydropower exploitation – rivers are among the most heavily impacted ecosystems worldwide. At the same time, rivers and streams are highly dynamic systems of exceptional biological diversity and social importance. In this area of conflict between protection and exploitation, Switzerland will implement numerous restoration and mitigation projects in the coming decades. By the year 2090, for example, 4,000 kilometres of rivers, streams and lakeshores are to be restored.

Collaborative learning for the future

“Restoring means experimenting and learning,” says the renowned US geomorphologist Mathias Kondolf. From river engineers and anglers to ornithologists: in restoration projects, everyone can expand their knowledge of rivers and streams, their dynamics and their ability to recover. The great variety of projects in Switzerland – from a culverted stream in a small town to a straightened river in an agricultural zone – offers the opportunity to exchange different experiences, learn from each other and thereby continuously improve the projects.

In order to facilitate a joint learning process across projects, the Swiss Federal Institute of Aquatic Science and Technology (Eawag) has been working since October 2015 on a concept and practice documentation for outcome evaluation of river restoration on behalf of the Federal Office for the

Environment FOEN and in close cooperation with three advisory groups – Eawag internally, nationally and internationally. The needs of the cantons carrying out or commissioning work were collected in an iterative process and incorporated into the concept. Since January 2020, outcome evaluation in Switzerland has followed this uniform approach. In this way, it is ensured that:

- Information on the implementation and outcome of the restoration projects is available throughout Switzerland
- The data are comparable
- Both short-term changes and longer-term impacts are recorded
- The causes of a particular effect are identified (e.g. influence of the length of the restored reach and degree of fragmentation)

The new outcome evaluation consists of two elements – STANDARD outcome evaluation and EXTENDED outcome evaluation. The two elements complement each other. For example, STANDARD outcome evaluation uses before/after comparisons to track the development of numerous restoration projects. As far as possible, the entire spectrum of restoration measures, river types and regions is represented. With EXTENDED impact monitoring, on the other hand, specific questions with very concrete project requirements can be addressed promptly. For 2020 to 2024, the focus is on the restoration of small streams.

Under the responsibility of FOEN, the results from the STANDARD and EXTENDED outcome evaluation will be combined and recommendations for action derived. In this way, future restoration projects can become even more cost-effective and make a significant contribution to the conservation and promotion of local biodiversity.

Further information

Evaluating the outcome of restoration projects – collaborative learning for the future (FOEN)

The practice documentation is currently available in German and French, while Italian and English versions will also be available from summer 2020.

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https://www.eawag.ch/en/info/portal/news/news-archive/archive-detail/restoring-rivers-and-streams-effective-outcome-evaluation

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