

EEA-34 Fragmentation of River Networks



Ministerstvo životního prostředí

Supported by grants from Iceland, Liechtenstein and Norway.

NEWS

Project name: Development of strategy for mitigation of river fragmentation impacts in the hydrological network of the Czech Republic

Project Nr.: EHP-CZ02-OV-1-016-2014

Project location: Various locations throughout the Czech Republic All over the Czech Republic

Financial support: EEA Grants, The CZ02 Programme – Biological Diversity and Ecosystem Services / Monitoring and Integrated Planning and Control in the Environment / Adaptation to Climate Changes

Total Resources: 28,653,241 CZK incl.VAT

Funding: Financial resources from EEA Grants are assigned in the amount of 22.922.592 CZK, which is 80% of the anticipated total project expenditure. The State budget grants financial resources in the amount of 5.730.649 CZK, which is 20% of the anticipated total project expenditure.

Project period: 1.1.2015 – 30.4.2017

Project partners:

- Výzkumný ústav vodohospodářský T.G. Masaryka, v. v. i. (T. G. Masaryk Water Research Institute)
- Beleco, z. s.
- Norwegian Institute for Nature Research (NINA)

Project guarantee:

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Project Objectives and Scopes:

Presented project is based on the actual conditions of migration permeability of watercourses in the Czech Republic, therefore the primary objects are following:

- To document the condition of watercourses fragmentation in order to propose a procedure for removing migration barriers .
- To improve the knowledge of fish migration, including the evaluation of the effectiveness of previously implemented fish ladders.
- To disclose the data mentioned above to target groups in sufficient degree of interpretation.

The project activities are structured in accordance to main aims for reaching application results as following:

- The optimal targeting of subsidy instruments of MoE in the area of reducing the fragmentation of river ecosystems.
- The specific (localized) proposals for action in the context of water management planning (programming period 2021-2027).
- To correct or complete the conceptual and methodological documents including the development strategy of migration permeability of watercourses based on the obtained data.

Specific project activities:

- A1 Creating the strategies of migration permeability of watercourses
- A2 Monitoring of the migration of fish populations
- A3 Preparation of pilot projects
- A4 Publicity and presentation of project

The strategy of migration permeability of watercourses

The aim is to create a broad strategy for bidirectional migration permeability of watercourses, considering the interests of nature conservation in special areas of conservation and areas of Natura 2000. As part of the solution, mainly National Parks (NP), Protected Landscape Areas (PLA) and Sites of Community Importance (SCI) will be examined with respect to the incidence of subjects of conservation linked to the protection of non-fragmented environment where the solutions for migration permeability of watercourses is necessary. The main courses of the river network in the Czech Republic, which have an importance for the catadromous and anadromous species migration with the extent to the international river basins, will be addressed.

Similarly, the national categories of special areas of conservation will be examined excluding those located in the PLA and SCI areas. The output will be a set of defined sections of watercourses with the priority interest in solving the migration permeability and a list of migration barriers. Furthermore, an appropriate measures to protect the downstream-migrating fish will be proposed if the defined sections will be relevant for the downstream migration of fish.

The strategy will be also focused on the important issues of water management (accumulation of water withdrawals, minimum flow rates, etc.), which may also represent a significant factor of watercourses fragmentation, as well as on the possible solutions of this problem.

Description of individual activities

A1) Development of strategy for migration permeability of watercourses

The aim of the project is to develop a comprehensive strategy for interventional watercourses. In these area the current situation of watercourses fragmentation will be evaluated, the streams will be classified according to the urgency for solution and the schedule of solutions will be set up.

During the condition survey basic information about cross-objects (the type, current state, etc.) will be collected, as well as the degree of their barrier effect. Based on additional analysis of the interventional watercourses, the categorisation according to urgency from the passability point of view will be set.

Stated analysis will be complemented by numerical functional analysis of historical and current areas of target species of fish and lampreys, analysis of the interaction of cross barriers with ecological states and hydrological situation, including the prediction of migration options.

The literary search of watercourses fragmentation issue in relation to the hydrology in terms of minimum and environmental flows will be compiled. The issue of the impact of water use on the watercourses fragmentation will be generalized for the needs of the overall strategy and will be finalized in detail for streams in national parks.

The resulting spatial and descriptive data will be gathered in a single database operating under the Information System of

Conservation (ISOP). The database will be accessible via remote access through modules defined according to user needs (target group). The output will show a map of these barriers and a set of attributes associated with the individual obstacles (basic information about the obstruction, photographs, etc.). Within the database well-arranged user manual will be created.

A2) Monitoring of migration and fish populations

The monitoring of fish migration in previously realized measures – fish ladders will be carried out. As well as the monitoring of bidirectional migration of two flagship fish species – European eel and Atlantic salmon in their native range (Elbe River basin). Consequently with monitoring of migrating individuals, monitoring of hydrological dynamics as crucial factors influencing migration itself will be carried out. The aim of this activity is to complete the information about the evaluation of current success rate of particular solutions and creating of the suggestions for application of model realizations of migration permeability in operation. The overview of the occurrence of subjects of protection (fish and lampreys) in fragmentation endangered SCI's will be processed as well.

A3) Preparation of pilot projects

The feasibility studies for specific solutions of selected key cross barriers in the Czech Republic will be conducted within the pilot projects. Mainly Střekov Hydroelectric Power Plant and obstacles in the Czech Switzerland National Park territory will be dealt with due to their current priority importance from the spawning migration of salmon and other anadromous fish point of view.

A4) Project Publicity

Besides the "mandatory" publicity of the project which is set by the terms of the EEA funds, the presentation of results to professional as well as to general public is a concern of project performers in order to get the feedback within solved issue. This includes conferences, seminars, on-line tracking of migrating fish etc. The principal activity is also sharing the knowledge and experience comparison with the Norwegian project partner, which will take place in the planned workshops.

Partner logos:

