Interreg
Alpine Space
EUROPEAN UNION
SPARE
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ALPINE RIVERS AS SOCIETY'S LIFELINES

AN OVERVIEW OF THE ALPINE SPACE PROJECT SPARE

INTRODUCTION

SPARE: STRATEGIC PLANNING FOR ALPINE RIVER ECOSYSTEMS

Rivers are the lifelines of sustainable development in the Alps and their surrounding regions and big metropolitan areas. They provide water for human consumption, agriculture, industry, energy and support tourism and recreation, fishing, and quality of life. They are a core part of the European natural capital and shelter a unique and, at the same time, highly threatened diversity of fauna and flora. To maintain the manifold functions of healthy rivers and balance their use in future, SPARE provides essential tools.

From 2016 to 2018, nine project partners from six different Alpine countries have been working together to improve river management and better integrate and balance various human activities. A lot of methods and practices have been analysed, further developed and applied as “adapted models” in SPARE’s five pilot areas: Dora Baltea in Italy, Drôme in France, Inn-Engadine in Switzerland, Soča in Slovenia and Steyr in Austria.

The mutual exchange of data, knowledge and experiences in the pilot areas as well as the monitoring and evaluation of these processes feed into common strategies and guidelines. They have been developed by the SPARE team in cooperation with manifold stakeholder groups from the pilot areas, assisted through recommendations of international experts. Key project results such as a “decision and participation workflow” with several participation tools that are adapted to the Alpine space, a database on reference examples for integrated river basin management as well as an Alpine-wide overview of the environmental status and protection priority of rivers will contribute towards a transboundary perspective to better manage our Alpine rivers in the future.

PILOT CASE STUDIES

DORA BALTEA

Dora Baltea is a glacial river basin of almost 4000 km² in the northwest of the Italian Alps with the typical natural attributes of mountain rivers: A high average altitude, very low water temperature, steep slopes, high water speed and natural rate of discharge, dominance of rocky substrates, riverbeds with low exposure to the sun and high sediment transport.

In the last century, the river has been heavily exploited in support of economic growth and urban expansion, eroding ecological assets such as riparian vegetation, floodplains and natural water discharge. In particular, hundreds of hydropower plants have been built in a river network already affected by withdrawals for irrigation and, more recently, major hydraulic works.

The SPARE challenge was to develop a quantitative assessment approach to the compatibility of different ecosystem services, based on a data-driven improved management and planning model fed by continuous water discharge monitoring data. The approach included step by step participation by stakeholders; a monitoring demonstration site and a website to ensure transparency and facilitate the application of results in other river basins.

Information about the partner: www.arpa.vda.it

PILOT CASE STUDIES

INN

The Engadine, as an inner-Alpine dry valley, is situated in the eastern part of canton Grison. The stream source of the Inn, which is approximately 517 km long, is one of the longest alpine rivers and is located in the Upper Engadine from where it follows the valley for about 100 km. The valley has two rather different landscape types: the Upper- and the Lower Engadine.

Within the SPARE project, an integrated river basin management plan for the 1.945 km² Inn river basin was developed. The aim of the project was to use participatory processes to balance the use and protection of water sources – that is, to consider the ecosystem services as well as human use in the Engadine region. The result is an integrated, innovative management plan which contains a variety of projects whose implementation will enhance biodiversity and human welfare in the Engadine valley.

Information about the partner: www.proterrae.ch

PILOT CASE STUDIES

SOČA

The Soča (Isonzo) basin is an Adriatic basin which straddles the boundaries of Slovenia and Italy. The upper Soča basin is entirely within Slovenia, and covers Alpine and subalpine areas downstream to the confluence with the Idrijca river or Idrijca catchment area. The middle part of the Soča river is situated in Goriška/Gorizia area. The lower part of the Soča river is located in Italy where the river flows into the Adriatic Sea.

Many initiatives put additional pressure on water and riparian zones in the area; however, at the same time action is undertaken to preserve the river basin's natural characteristics. The objective is therefore to support implementation of integrated river management, and to promote inter-sectoral cooperation, harmonization and decision making which takes into account the importance of intact river ecosystems while enabling social and economic development of the area based on the principles of sustainability and the application of the ecosystem services concept.

Information about the partner: www.izvrs.si

PILOT CASE STUDIES

STEYR

The mountainous basin of the Steyr River is situated in the south-eastern part of Upper Austria. The southern part of the basin belongs to the Kalkalpen National Park, an almost 21,000-hectare large forest wilderness and one of the last ancient forests in Central Europe. Compared to other Upper Austrian regions it is unique that many river stretches are in a natural status. Within the SPARE project a participatory process was carried out in the Steyr river catchment with the following objectives:

- ➔ To show interests and conflicts over the use of water and to offer a platform for actors with conflicting views to come together and work on sustainable perspectives for the region.
- ➔ Together with stakeholders evaluate the multiple ecosystem services related to the rivers and create awareness on water management and water usage
- ➔ together with stakeholders, derive development objectives to ensure sustainable water management (balance protection and development needs) in the Steyr River catchment.

The results of a large scale online survey done during the process showed how much the river is perceived as a unique “jewel” that needs to be maintained. The results will be used as a basis for regional development and river management.

Information about the partner: www.land-oberoesterreich.gv.at

PILOT CASE STUDIES

DRÔME

The Drôme is a sub mediterranean torrential river characterized by substantial floods and drying, and by its braised configuration. The catchment area, mainly rural, covers 1670 km² for 51200 inhabitants. Following the agricultural decline of the 70's, local communities focussed on specific cultures (maize seeds, aromatic plants, organic cultures) together with tourism. The river was intensively exploited for its gravel — and water resources and this remains a serious environmental concern.

Thanks to the SPARE project, the project partners were able to design a river plan more adapted to local issues, better understood and acknowledged by stakeholders. The aim was to enhance the local problem solving capacity, tuning to local knowledge and practices, and to be able to manage conflicts in the long term.

Information about the partners: www.irstea.fr & www.riviere-drome.fr

PARTICIPATORY METHODS

The SPARE project was a unique occasion to test and work with different participation processes on the topic of river management. From youth summer camps, face to face meetings, to thematic commissions, public forums and workshops, more than of 435 persons were involved in the process.

Furthermore, the following tools and methods were developed within the SPARE project:

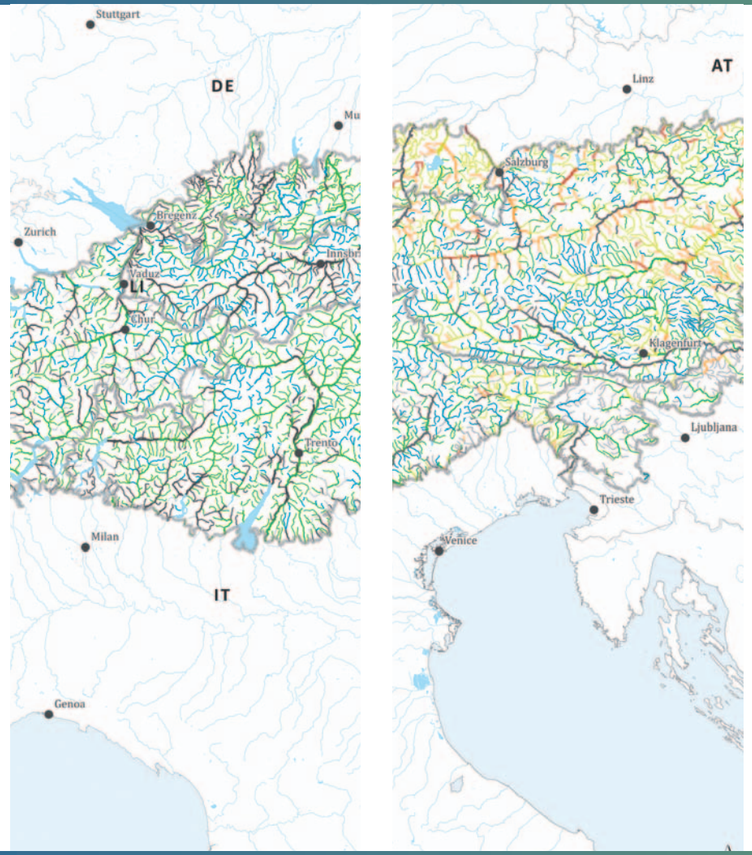
- **SMAG** “Self-Modelling for assessing governance”: a quick and easy method for self-diagnostic of past river protection and management
- **ROCK** “River Observation & Conservation Kit”: a simple tool for participatory design of river observation and conservation processes, to help citizens exploring and understanding links between them, activities, and changes, and select useful information collection and systems
- **My River Kit:** an easy-to-play role-game dedicated to awareness raising of ecosystem services in aqutic environments

As a reminder, the main innovations in terms of participation proposed in the frame of the SPARE project were:

- **Including citizens,** and not only intermediary stakeholders, in the strategic planning of Alpine rivers,
- **Very early participation,** i.e. including citizens in the engineering of their participatory process
- **Developing and testing new participatory tools** (MyRiverKit, SMAG),
- **A monitoring and evaluation protocol** adapted to local needs and supporting the piloting of the participatory process.

ACTIVITIES AND MAIN OUTPUTS

SPARE contributed to a further harmonization of protection needs and human use requirements.



Examples of maps produced during the SPARE project

The main aims were to:

- ➔ Increase the awareness and knowledge level of functions and services healthy rivers provide
- ➔ Improve existing river management practices by integrating ecosystems services and participatory approaches
- ➔ Enable decision makers and river managers to select and apply strategic planning approaches according to their needs.

The main activities that were implemented within SPARE were:

- ➔ To provide a pan-Alpine overview of priority rivers with high protection needs
- ➔ To collect examples of successful river management in the Alps through a database of past and existing use cases and best practices in integrated river basin management
- ➔ To enable river managers in five pilot areas to plan, apply and evaluate participatory methods through a Massive Open Online Course (MOOC), an E-learning platform where key outcomes are prepared as online course (lectures, interviews, charts, videos,...)
- ➔ To test integrated and participatory river management approaches
- ➔ To make the lessons learnt from the collected river management examples from the case studies available for other Alpine rivers

DID YOU KNOW?

RIVERS WITH HIGH ECOLOGICAL STATUS (INTACT AQUATIC BIOCENOSIS) ARE ALREADY LIMITED TO 14% OF THE ALPINE RIVER NETWORK

LARGE RIVERS ARE SEVERELY AFFECTED BY HUMAN PRESSURES

77% ARE AFFECTED BY HYDROLOGICAL PRESSURES (WATER ABSTRACTION, HYDROPEAKING, IMPOUNDMENTS)

42% HAVE A MORPHOLOGICAL STATUS "MODERATE" OR WORSE

22% OF THE SMALLER RIVERS ARE CLASSIFIED AS BEING AFFECTED (DATA INSUFFICIENCY SHOULD BE TAKEN INTO CONSIDERATION).

ONLY 9% OF ALPINE RIVER WITH FLOODPLAINS/WETLANDS ARE MAINTAINED

A STRATEGIC PLANNING APPROACH IS NEEDED: FROM AN OVERALL PERSPECTIVE TO A REGIONAL/LOCAL EVALUATION AND DECISION OF FUTURE PROJECTS

LESSONS LEARNED CONCERNING THE PARTICIPATORY PROCESSES

Visit:
spare.boku.ac.at

Time is a key component:
The coordination of participatory processes with institutional decision-making processes is strongly dependent on **timing**: in Drôme and Steyr, calendars of participatory processes could be aligned with institutional decision-making processes, in other places it was an issue to coordinate different processes.

Be aware of institutional reforms and water governance:
Participatory processes are strongly dependent on **institutional reforms and changes in water governance**: both modify the allocation of competences related to water management, the ability of participatory process managers and facilitators to guarantee that results of the participatory process will be taken into account in the institutional decision-making process, their legitimacy towards citizens and decision-makers. Two out of five case studies were directly impacted by such reforms and changes (Dora Baltea and Soča) and one was indirectly impacted (Drôme).

Get some support:
Participatory processes need political support: even if not all **politicians support** the participatory process, support of a few key decision-makers from the beginning is necessary. Pilots of participatory processes need to be aware that both political priorities and personalities can change over time. In both Drôme and Steyr, key decision-makers allowed technicians/managers to implement participatory processes. On the opposite, Dora Baltea, Inn and Steyr were severely impacted by a withdrawal of political support while participatory processes were starting or ongoing.

CONCLUSIONS AND PERSPECTIVES

As our rivers are very valuable and at the same time endangered ecosystems, their protection at the catchment level is very important. Due to the high pressure of use on our Alpine rivers, Integrative River Basin Management beyond national borders and a joint coordination of the different stakeholders is a key factor, which is becoming more and more important not least due to the effects of climate change (reduced runoff or postponement of runoff).

Participative decision-making processes are challenging, but also offer a great opportunity for the sustainable development of our river landscapes. The involvement of all stakeholders and the exchange between them strengthen mutual understanding. The willingness to support decisions is higher when agreements are made jointly.

In some SPARE pilot areas, newly initiated processes extend beyond the duration of the project. In the Engadine, for example, an integral approach is now planned for all water-relevant projects and firmly anchored in the working structure of the region. At the Drôme, some participants in the participation process are now part of the local water committee.

The greatest challenge in projects such as SPARE is to ensure that the results achieved are maintained even after the project has been completed. Particularly in (participation) processes, it is important to anchor newly created structures or cooperations in the administration.

One way of achieving this long-term anchoring of the project results is networking beyond national borders, for example via the Action Group 6 of the EU Strategy for the Alpine region (EUSALP). Within this framework, the sustainable and integrative management of river landscapes and the dialogue between various stakeholder groups, both on a horizontal and vertical level, is strongly emphasized.

IMPRESSIONS

PARTNERSHIP

BOKU-IHG | University of Natural Resources and Life Sciences Vienna, Institute of Hydrobiology and Aquatic Ecosystem Management
Lead Partner of SPARE, which includes the technical and financial management, coordination of project partners' activities and supervision of the project's content alignment.

ARPA VDA | Regional Agency for Environment Protection of the Aosta Valley
coordinated pilot case studies dealing with several environmental management areas such as hydropower projects and environmental planning, definition of river monitoring standards and the implementation of decision support systems.

IzVRS | Institute for Water of the Republic of Slovenia
responsible for the identification and provision of integrated river ecosystem management practices (IRMP), support to knowledge exchange and for the promotion of IRMP.

IRSTEA | French National Research Institute for Science & Technology for the Environment & Agriculture
IRSTEA led the activities on participatory methods and provided its expertise on robust and efficient participatory methods and practices in integrated river management and the design, implementation and support of unique pilot participatory process.

CIPRA International | International Commission for the Protection of the Alps
CIPRA International lead the external communication within SPARE.

ARPA Veneto | Regional Agency for Environmental Protection and Prevention of Veneto
Activities from communication and information, to analysis and use of aquatic ecosystem management methods through experimentation of a participatory management approach.

Upper Austria | Water Management Planning Upper Austria
Participated in the SPARE project as a "pilot case study" and in this frame tried out new forms of cross-border public information activities during the SPARE project.

SMRD | Mixt association of Joint venture of the public authorities of the river Drôme basin
Share 30 years of concerted water management experience with its Alpine space partners, and lead an experimental and innovative participatory approach with IRSTEA to include all inhabitants of the catchment area.

PTE | Foundation Pro Terra Engadine (PTE)
participating in the SPARE project as a "pilot case study" to improve developed approaches for innovative strategic planning instruments for Alpine riverine ecosystems.

Co-financed by the European Regional Development Fund through the Alpine Space Programme

www.alpine-space.eu/projects/spare

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