European River Restoration Conference
Featuring the IRF Riverprize

Celebrating Successes and Addressing Challenges
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SESSION 4 CONVERTING POLICY INTO ACTION: FROM COMMUNITY ENGAGEMENT TO STAKEHOLDERS COMMITMENT

Planning and decision support tools in contemporary river corridor management

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Rationale:

Supporting the decision processes for the development of Sustainable River Corridors and the Restoration of European Rivers entails a continuous stakeholder engagement. In turn the demand for transparent, retraceable and efficient planning and decision processes penetrates the public debate and is partly recognized as an important issue by the very same stakeholders.

This was recognized within the frame of the **SEE River project** as one relevant issue in Contemporary River Corridor Management.

Tools to support Cross-Sectoral Cooperation:

As contributions to the SEE-River toolkit **5 TOOLS** to support both planning and decision processes have been developed, tested and adapted.

1) **The IDRAIM-IQM methodology** has been adopted to retrace the hydromorphological footprints of the river as a basis for a rational identification and characterization of the river corridor (Rinaldi et al., 2011);

2) **A Complete Operational Target System** has been structured as orientation for the problem setting and problem solving (i.e. planning) processes at river corridor scale (Nardini and Mazzorana, 2013);

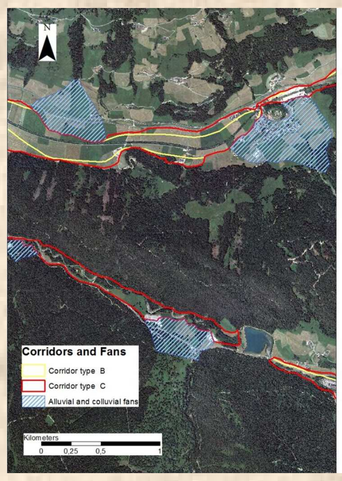
3) **GIS based Think Tools** have been developed and tested to visualize the flows of benefits and costs of envisaged flood risk mitigation strategies on a distributed basis. Such flood risk representations can be used in an iterative design process to fine-tune the effectiveness of envisaged projects (Fuchs and Heiser 2014);

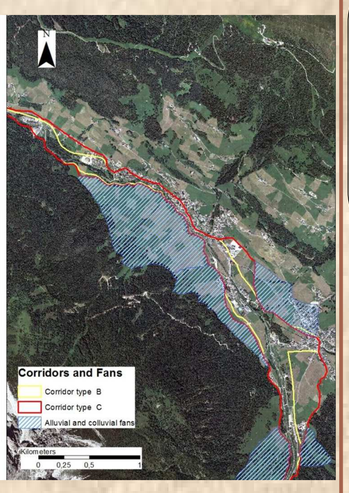
4) **A Method to "Visualize the Stakeholders' Vision"** has been explored both in theory and in practice (Korber, 2014) with the objective to align as far as possible distorted perceptions of stakeholders and decision makers about the fundamental objectives and the associated developmental pathways at a river corridor scale;

5) **A Land Acquisition/Exchange Model** has been drafted to identify and quantify in monetary terms necessary private land acquisitions and feasible land exchange opportunities as a basis for a river restoration.

Example of the application of the IDRAIM-IQM Methodology on the Drava River in Italy

1

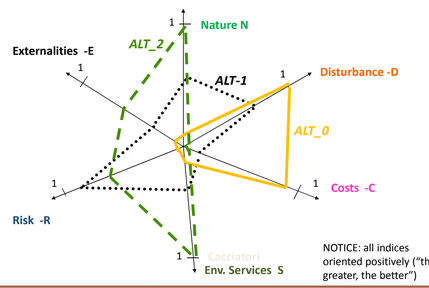




River Corridor Performance Target System

2

MultiCriteria performance of R. Corridor ALTernatives
(one of many possible presentations: "radar" format)



NOTICE: all indices oriented positively ("the greater, the better")

Corridor's KEY Objectives

R : hydro-morphological **R**isk reduction (or safety enhancement)

N: **N**ature conservation and enhancement (river ecological status, ecological network, terrestrial ecosystems, landscape)

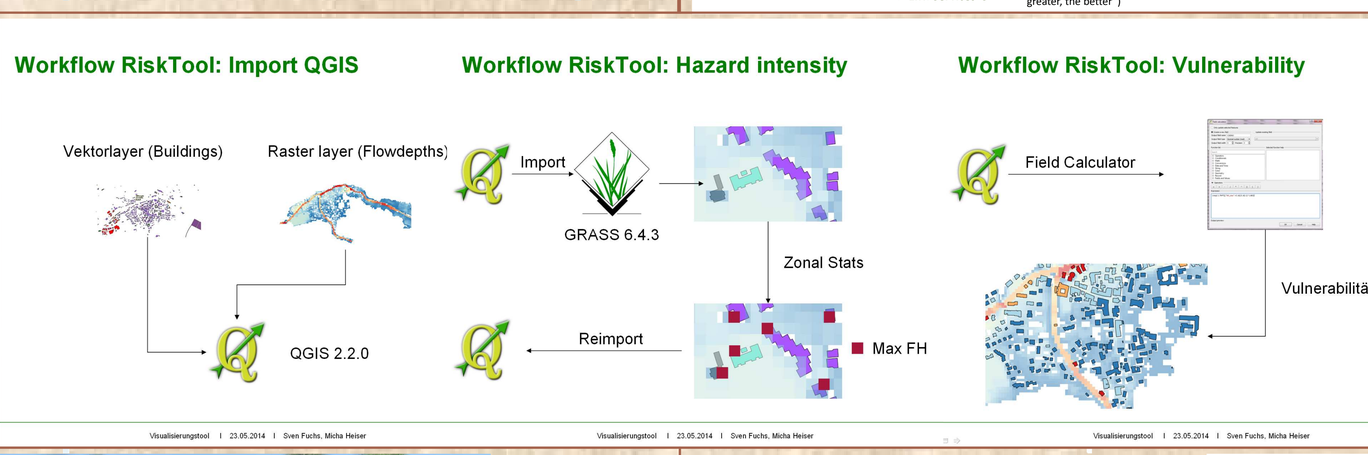
C: reduction of overall investment and management **C**osts

S: maintenance and enhancement of environmental **S**ervices : e.g. water supply; hydropower production; fishery; navigation; land availability for residential and productive activities; recreation (fishing, canoeing/rafting, bathing)-amenity; cultural identity support; waste water disposal; ground water recharge; abatement of pointwise and diffused pollutants; CO2 capture, …)

E: export (from sub-basin or country) as few negative **E**xternalities as possible: i) flood peak; ii) solid transport; iii) pollutants load; iv) longitudinal continuity; v) biodiversity support; …

GIS based Think Tools to visualize the flows of costs and benefits of flood risk mitigation strategies

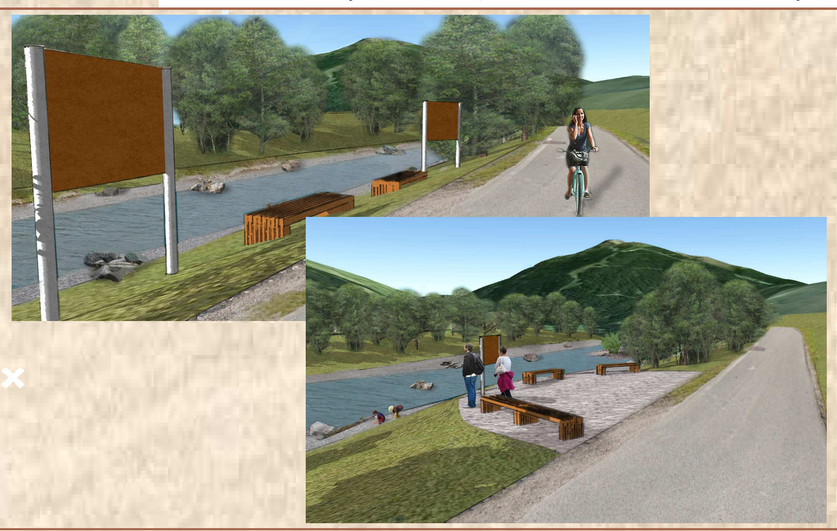
3



A Method to "Visualize the Stakeholder's Vision"

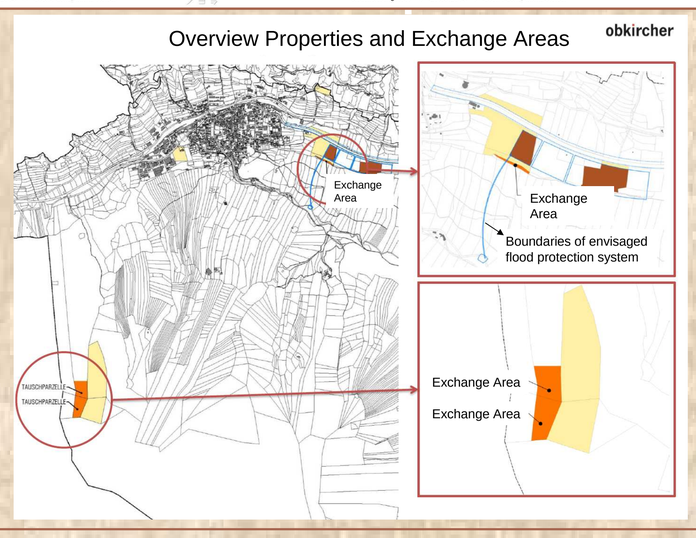
4

DETAILS: ORAL PRESENTATION – SAME SESSION: "Visualization of the Drava River Corridor "Leitbild": Concept of Methods"



A Land Acquisition/Exchange Model

5



References:

Fuchs, S. and Heiser M. (2014): Q-GIS Application workflow for Risk Computation (unpublished)

Korber S. Visualization of the Drava River Corridor "Leitbild"- Pilot Area Sexten/Innichen Concept of Methods and Visualization of two Stretches, Interim Product of the SEE-River Pro-ject, 2014.

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Nardini A, Mazzorana B. Contribution to the develpoment of the SEE River Toolkit: A multi-criteria approach. European River Restoration Conference, Vienna, 2013.

Rinaldi M, Surian N, Comiti F, Bussettini M. The morphological quality index (IQM) for stream evaluation and hydromorphological classification. Italian Journal of Engineering Geology and Environment 2011;11(1): 17-36.

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