How a restoration project can integrate different interests?

Liberty Island and side-branch restoration

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Preparations and project development

• Initiator: a mayor who put different level of interests together (local: recreation, regional: drinking water table, national: nature conservation)
• WWF: importance of field projects representing policy mission
• Extra value: conservation and economics meet in ecosystem services
• Partnership: 3 different sectors: state bodies on national (2) and local (1) level, NGO (1), corporation (1)
• Approx. 3 years preparation
• LIFE Nature: total budget: 1,795,529 Euro (60% EU, 40% own source)
Partners

NGO:
• WWF Hungary, project lead

State bodies:
• Danube-Drava National Park Directorate
• Lower-Danube-valley Water Management Directorate
• Transdanubian Waterworks Company
• Mohács Municipality

Commercial corporation:
• Coca-Cola Hungary
Description of area

Island
• 47 ha protected area
• Privately owned before, purchased within the project
• Alluvial softwood forests with invasive pressure

Side-branch
• 3 km long and 50-150 m wide (appr. 50 ha)
• Advanced sedimentation, stagnant water, degrading habitats
Problems targeted within the project 1.

Problem 1: no longitudinal connectivity of the side-branch

The rockfill-dam (built in 1982) blocked the waterflow for 360 days a year.

3 technical steps of restoration were needed:
1. Dredging the side-branch
2. Relocating the waterpipes in the dam
3. Opening the rockfill-dam
water wells

rockfill-dam

invasives

sedimentation
Problems targeted within the project 2.

Problem 2: quality of forests on the island

Commercial forestry in the past and invasive tree species threatened the area.

Two activities were taken:
• Conversion of the poplar plantation to semi-natural softwood forest
• Control of the invasive tree species on the entire island
Solutions
Ecological purpose dredging

Dredging was aimed:
• provide space for waterflow
• the river will take its morphological work
• requirement: the most self-sustaining way
• 3 km long and 30-50 m wide
• sediment placed in the main branch

After the first floods the river already forms such sand dunes which are typical for „living” rivers.
Opening the rockfill-dam and relocation of the waterpipes

- navigation purposes (1982)
- heightening (waterpipes, 1984)

In the project:
- the waterpipes were placed under the riverbed (HDD technology)
- dam: lowered by 2 meters and a 40-50 m long section is opened

Now:
- workflow all-year-round
- new sand-formations appeared already
### Problems and solutions

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<tr>
<th>Problem Description</th>
<th>Solution Description</th>
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<tbody>
<tr>
<td>Rockfill dam causing sedimentation and disconnected river stretches</td>
<td>Dam is opened&lt;br&gt;6.000 m³ stone is removed&lt;br&gt;Relocation of water pipes in the dam</td>
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<tr>
<td>Shallow standing water in the side-branch and poor water quality and degradation of habitats</td>
<td>Side-arm is dredged&lt;br&gt;160,000 m³ sediment is removed&lt;br&gt;• Shape: trapeze cross-section • Natural development: cup-shape after 1-2 floods • Re-appearance of natural shape sand dunes</td>
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<td>Side-branch and island would disappear</td>
<td>Longitudinal connectivity of the side-branch, flowing water, divers valuable habitats</td>
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<td>Commercial forestry (hybrid poplar plantations as well)</td>
<td>Island is saved, area purchased&lt;br&gt;Conservation oriented, later no-go forestry</td>
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<td>Invasive tree species (<em>Fraxinus pennsylvanica</em> and <em>Acer negundo</em>)</td>
<td>80% is eliminated, maintenance will go on&lt;br&gt;→ undisturbed floodplain forest</td>
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Results for nature

- longitudinal connectivity
- running water in the side-branch, divers ecosystem
- semi-natural alluvial forest on the island, halted invasives
- returning species – better life circumstances (beaver, black kite, otters, wader birds)
Results for people, ES

- clearer drinking water
- angling, fishing
- water sports – rowing club
- recreation, tourism (beach, canoe, excursions)
- aquarius nature study trail
- more space to the river >> flood peak mitigation
The flood level rises the information panels
The end of the pole stops the panel
Opportunities offered by the Liberty Island and side-arm

- Habitat for birds
- Free flowing river
- Forest: carbon sequestration
- Safe beach
- Fish nursery
- Natural filtration and cleaning
- Ecotourism and water sports
- Healthy environment
- Groundwater source
Before....
...and after.
Before...
...and after.
Thank you for your attention!

www.libertyisland.hu

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