The new Swiss legislation on water protection: overview and first successes

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ERRC: Vienna, 11. – 13. September 2013
Current situation

• Water quality OK

• Channelling for flood protection and land use

• Hydropower
Current situation

- Space: ~ 40% without enough space
- Morphology: ~ 45% (below 600 m asl) in a bad state; total 15,000 km
Current situation

- Barriers: ~ 88’000 ≥ 50 cm
- Hydropower: 566 plants ≥ 300 KW
Swiss legislation on water protection

Changes to Water Protection Act (WPA) and Water Protection Ordinance (WPO) aim to:

• Restore water bodies

• Eliminate negative impacts of hydropower plants
Swiss legislation on water protection

- Six different aspects are treated by new WPA / WPO
- Other aspects are already well established
Swiss legislation on water protection

**Space: Art. 36a para. 1 WPA**
The cantons shall stipulate the spatial requirements for surface waters in order to guarantee the following functions:

a) natural functions of the waters  
b) flood protection  
c) water use

**Morphology: Art. 38a para. 1 & 2 WPA**
The cantons shall ensure that waters are rehabilitated. They take account of the benefits to nature and the landscape as well as the economic consequences of the rehabilitation. They shall plan the rehabilitation measures and specify the time schedule.
Hydropeaking: Art. 39a para. 1 WPA
Those responsible for hydropower plants must prevent or eliminate by means of civil engineering measures short-term artificial changes in the water flow on a body of water (hydropeaking) that cause serious harm to the indigenous flora and fauna as well as their habitats.

Bedload budget: Art. 43a para. 1 WPA
The bed load budget in the body of water may not be changed by installations to the extent that they cause serious harm to the indigenous flora and fauna, their habitats, the groundwater regimen and flood protection.
Swiss legislation on water protection

**Fish migration: Art. 9 para. 1 BGF (new installations)**
Ensure favorable conditions for aquatic animals in respect to: minimal flow by water abstractions, free migration of fish, natural reproduction, injury prevention, water depth, water velocity, temperature, etc.

**Fish migration: Art. 10 BGF (existing installations)**
Renovation of existing installations following the measures mentioned under Art. 9 para.1 BGF as far as these are economically affordable.
Time schedule

Deadline

2014
2018
2030
2080

Rehabilitation

Planning flowing waters
Planning lakes
Regular update
Implemented

Hydro-peaking

Planning
Implemented

Bedload budget

Planning
Implemented

Fish migration

Planning
Implemented
Funding

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<tr>
<th>Domain</th>
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<tr>
<td>Space</td>
<td>20 Mio CHF/a</td>
<td>Agricultural subsidies</td>
<td>2018</td>
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<tr>
<td>Morphology</td>
<td>40 Mio CHF/a</td>
<td>Federal subsidies</td>
<td>2080</td>
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<td>Hydropower</td>
<td>50 Mio CHF/a</td>
<td>Swissgrid</td>
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First successes

- Fishpasses and near natural structures at Ruppoldingen and Rheinfelden
- Comply with the legislation demanding free passage for fish
- Compensate other impacts of hydropower use
First successes

- 11 barrages along 147 km on the Hochrhein between Switzerland and Germany
- Study showing possibilities to reactivate sediment flow. Authors: J. Abegg, A. Kirchhofer and P. Rutschmann
First successes

- Guidelines published by the Swiss federal office for the environment, proposing how to evaluate impact on environmental flow at a large scale
- Available as download in German and French on www.bafu.admin.ch/umsetzungshilfe-renaturierung
Thank you for your attention!