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Federal Department of the Environment,
Transport, Energy and Communications DETEC

Federal Office for the Environment FOEN

Species, Ecosystems, Landscapes Division

Species, Habitats, Ecological Networks Section

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

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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: $\sim 88'000 \geq 50 \text{ cm}$
- Hydropower: 566 plants $\geq 300 \text{ KW}$





Swiss legislation on water protection

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

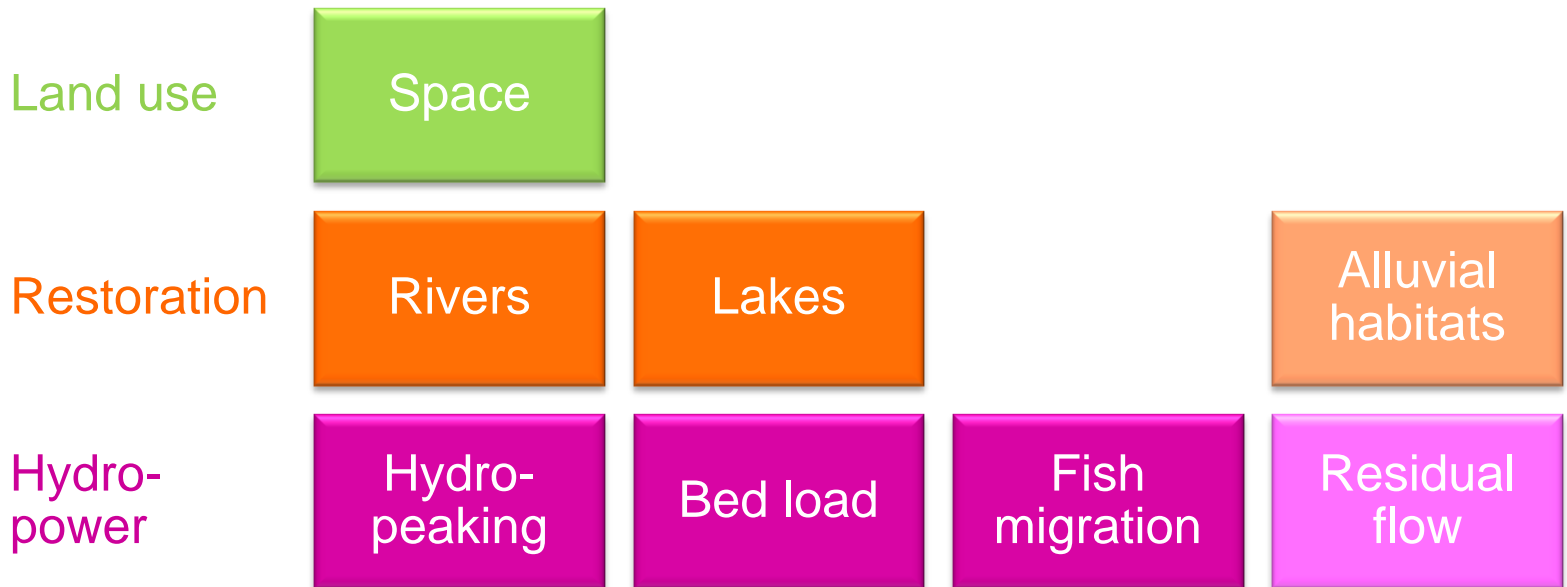
- Restore water bodies
- Eliminate negative impacts of hydropower plants





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.



Swiss legislation on water protection

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)

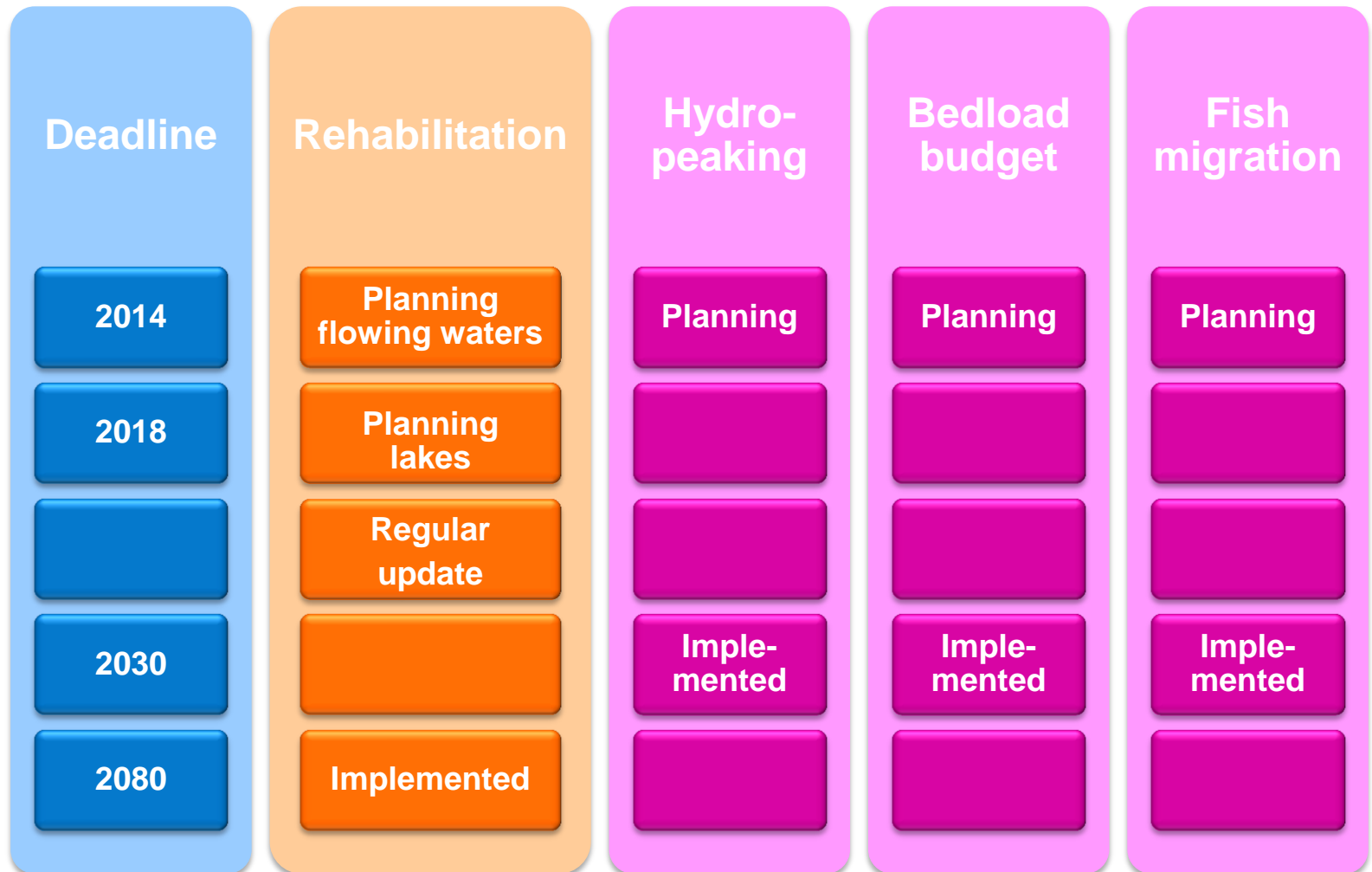
Ensure favorable conditions for aquatic animals in respect to: minimal flow by water abstractions, **free migration of fish**, natural reproduction, **injury prevention**, water depth, water velocity, temperature, etc.

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





Funding

Domain	Compensation	Who	Until
Space	20 Mio CHF/a	Agricultural subsidies	2018
Morphology	40 Mio CHF/a	Federal subsidies	2080
Hydropower	50 Mio CHF/a	Swissgrid	2030



First successes

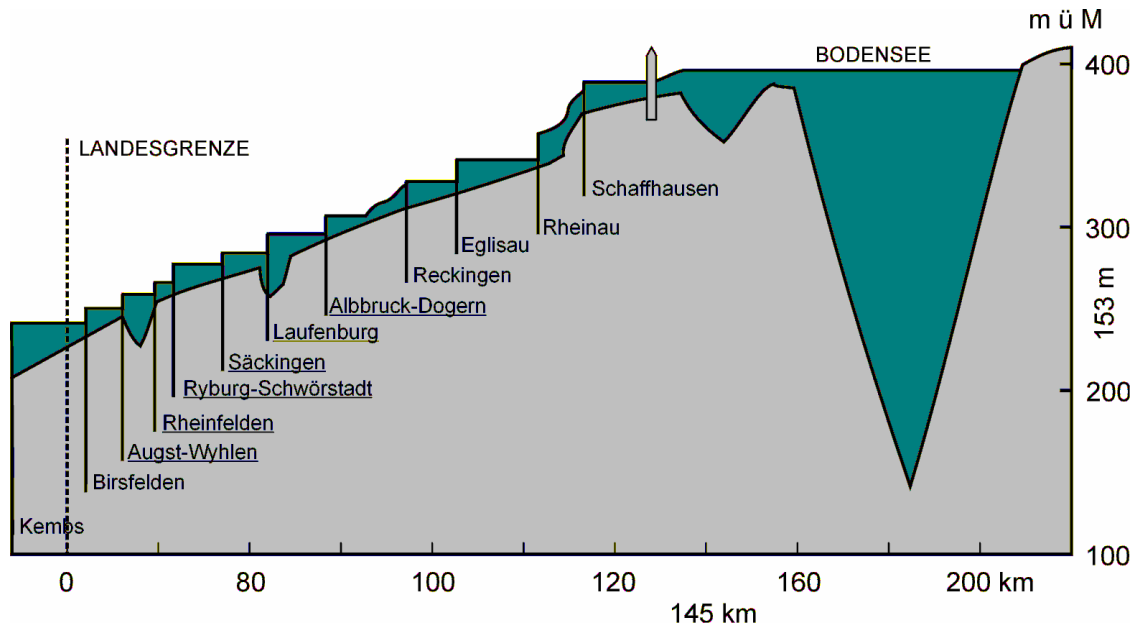
- Fishpasses and near natural structures at Ruppoldingen and Rheinfelden
- Comply with the legislation demanding free passage for fish
- Compensate other impacts of hydropower use





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



A scenic view of a river with turquoise water, a fallen tree trunk in the foreground, and a dense forest of green trees in the background. The text "Thank you for your attention!" is overlaid in white.

Thank you for your attention!