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AUSTRIAN STRATEGY FOR RIVER CONNECTIVITY RESTORATION

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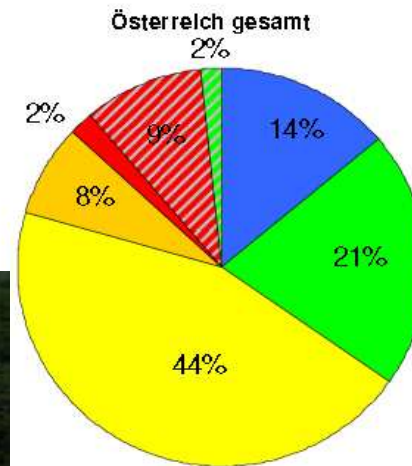


- **> 2/3 alpine character** (precipitation, incline)
- **high population density** in valleys and basins:
→ flood defense has long tradition!
- **primary energy resource:**
no oil, gas or coal - only **hydropower**



Oberach, Sohlabsturz - unpassierbar für Fische
(Foto: Ullmann)

continuity interruptions:
33.000 (1/km)



morphological alterations
(river regulation /straitening)
25% of river net

ponding: **4%**



reduced flow: **10% of river net**



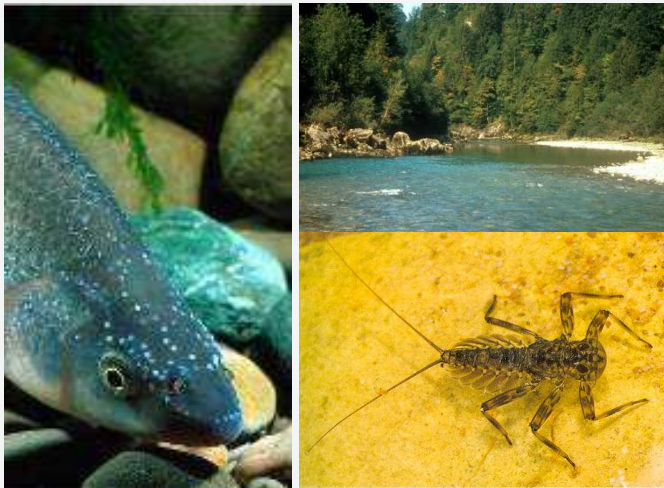
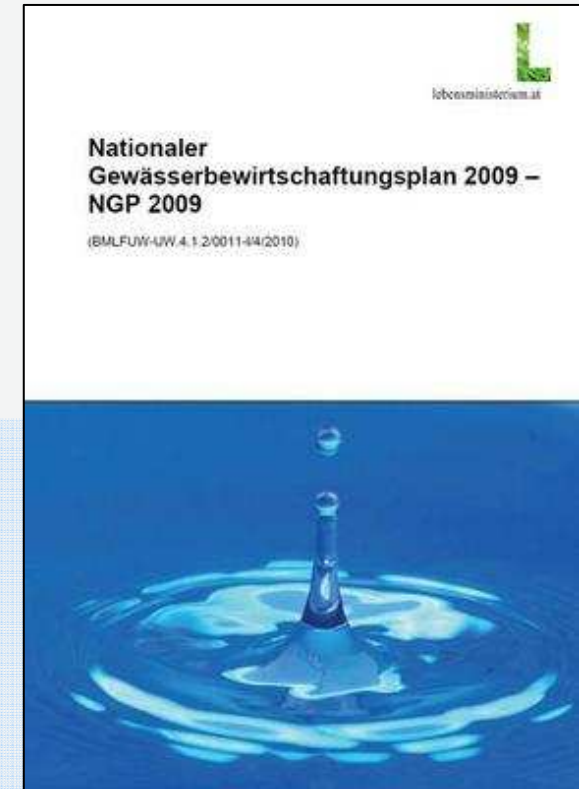
artificial flow/ water level fluctuations: **2%**

AUSTRIAN STRATEGY

1st River Basin Management Plan 2009

Programme of Measures based on

- biological effectiveness
- costs
- possible impacts on uses



- Implementation of legal regulations
- Prioritisation of restoration projects
- Financial support
- Supporting tools (technical, acceptance)

LEGAL REGULATIONS



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- **National Water Act - § 12 a**

State of the Art: River continuity has to be ensured at **every obstacle** in all rivers with natural fish habitats (**incl. flow requirements for fish passability**)

...relevant for new and existing obstacles

- **Quality Objective Ordinance – Assessment of Ecological Status**

Art. 13 – good ecological status:

Anthropogenic migration barriers occurring in the natural fish habitats must be **passable for fish all year long**.

Human impact on **habitat connectivity** shall only be **marginal**.

...river continuity usually also required for HMWB – “good ecological potential”!

- **Possibility to change existing permits**



PRIORITISATION – ECOLOGICAL CRITERIA



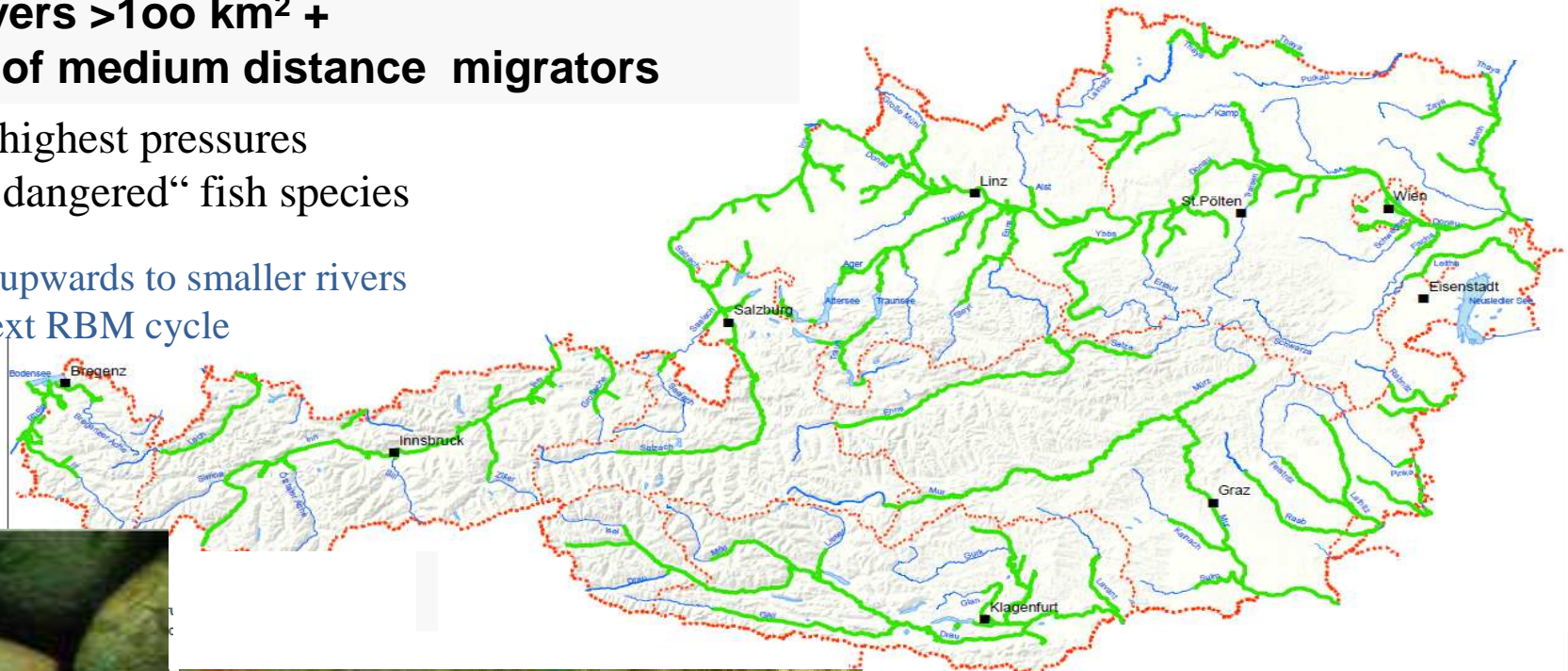
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Continuity restoration – 1st RBM Plan

**larger rivers >100 km² +
habitats of medium distance migrators**

- under highest pressures
- „most endangered“ fish species

... moving upwards to smaller rivers
in the next RBM cycle



OPERATIVE IMPLEMENTATION OF CONTINUITY RESTORATION



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Ordinance for continuity restoration (regional government)

- Owner of permit/licence has to **submit a restoration project** on river continuity (obstacles, insufficient flow) within 2 years
- In case of no submittance: license expires



FINANCING

„Polluter pays principle“

- **Financial incentives:** subsidy for investments (fish migration aids, ...)
- **Synergies** with measures financed by the Flood Management Fund
- **Use of EU funds** (Life+, EAFRD - Axis 2)

SUPPORTING TOOLS (technical, acceptance)

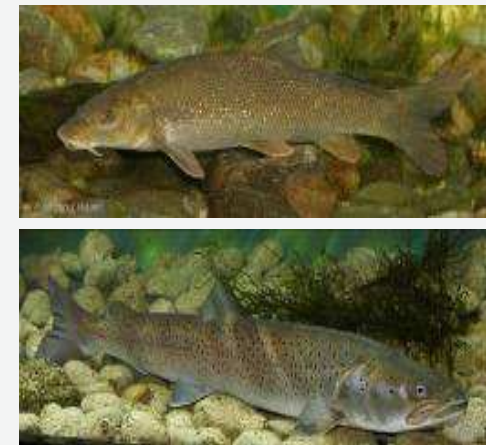


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Guidance for building fish migration aids

- accessibility
- passability
- design criteria (relevant fish species, ...)
- time of secured functioning



Advisory services for small hydropower

to minimize negative impacts

Increase **efficiency** &
improve ecology at the same time

-information on subsidies, ...

„win-win-solutions“

Increase in electricity generation of
30 % (average) by modernisation

Avoidance of production losses by
Installing a „residual water turbine“



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EARLY & ACTIVE STAKEHOLDER INVOLVEMENT

- Discussion on WFD with relevant stakeholders started already in 2001
 - Sector meetings (i.e. Hydropower sector)
 - Round table „Water“
 - Joint studies (i.e.)
 - to identify and quantify negative effects on use (scenarios)
 - cost effective restoration measures
- „Arguments based on facts“

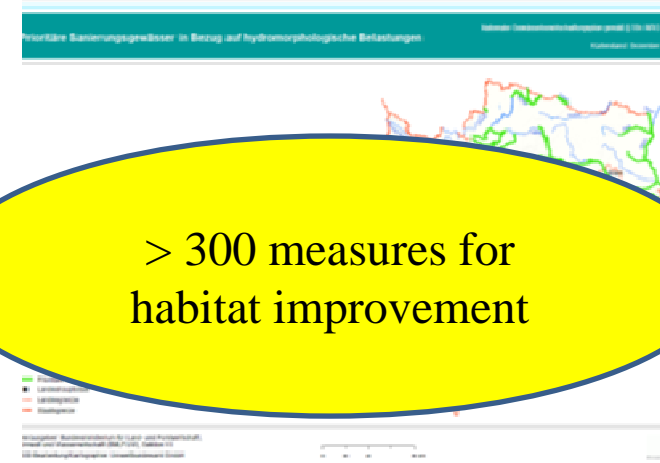


SUCCESS 2009-2015



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Restoration of upstream continuity at ca.
1000 migration barriers (400 hydropower plants)



Flow increased to restore passability
at ~ **200** sites (hydropower plants)



... to be continued in the 2nd River Basin Management Cycle -
restoration activities are „going further upstream“

Thank you ...

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