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Session C3: Policy Shift In Reviving Migratory Fish Stocks - Examples From RESTORE Life+

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Policy shift in reviving migratory fish stocks - examples from RESTORE Life+

Jukka Jormola

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FISH PASSAGE 2015

International Conference on Connectivity Best Practices and Innovations
Groningen, Netherlands June 22-25 2015

RESTORE 2011-2013

Life + -project initiated and hosted by ECRR European Centre for River Restoration



- Contents to be seen on ECRR web site www.ecrr.org
 - Goals of RESTORE:
- Strengthening networking
 - Establishing new national River Restoration Networks
- Incorporating river restoration into the policy of water management
 - Implementation of Water Framework Directive, Habitats Directive, Flood Directive etc.
 - Solving conflicts with the Renewable Energy directive - Water power
- Creating River Wiki <https://restorerivers.eu>
 - Database of good river restoration cases in Europe (worldwide?)
 - Updated continuously (?)

How to restore constructed rivers with hydro power?

- Water Framework Directive about Heavily Modified Water Bodies:
- Maximum ecological potential will be gained
- "... once all mitigation measures have been taken to ensure the best approximation to ecological continuum, in particular with respect to migration of fauna and appropriate spawning and breeding grounds"
- Connectivity but also continuity - continuous series of habitats

- Problems in rivers with several dams - chain of lacustrine habitats, loss of rapids for reproduction, regulation of discharge regime

- Restoration goal: mitigation and compensation of impacts
- Fish passes up/down, compensative habitats, environmental flows

New EU-policies which can be utilized for policy shift for continuity

- Green infrastructure: Promoting ecological continuum
 - Strengthening connections between Natura 2000-areas
- Environmental/ecological flows
 - Ensuring ecosystem services for all functions and uses of watercourses
- Discharge demands for
 - Fish migration, attraction and fish passes
 - Spawning and rearing habitats year round
 - Flood discharges for sediment and habitat dynamics
- Applying national legislations to promote compensation of endangered habitats
 - Compensation required in impacts for Natura 2000 sites
 - Impacts of power plants for habitats should be compensated in permits

Dam removals

- Best option for restoration of connectivity
- Cultural history must be considered



Koskenkylänjoki, Finland

Measures for existing or new hydro power – best fish pass types



Kissakoski,
Finland

- Best practice of fish passes: Nature-like bypass channels
- Several ecosystem services can be gained
 - Migration for all species, also weak swimmers
 - Ecological corridors for mammals and bird juveniles
 - New habitats for spawnign and rearing can be created
 - Landscape values and tourism benefits by good design

Combining all functions in a bypass channel - Entrance

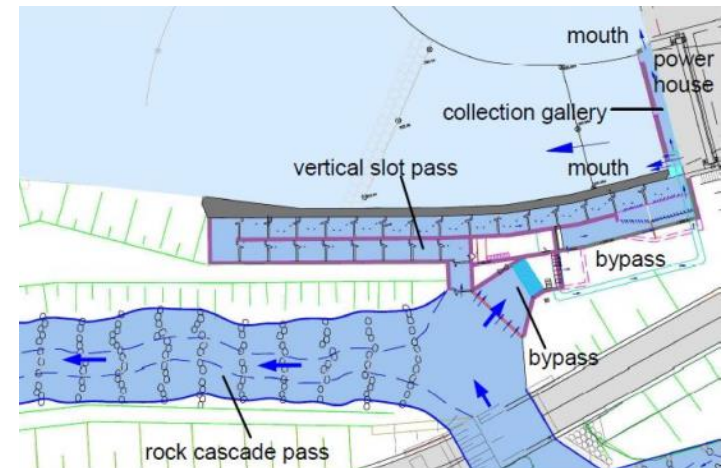
- Good location of entrance near to the obstacle

Kissakoski
Planner: Ecoriver



- Connection from a bypass channel to a fish pass, if needed

Albruck-Dogern, Rhine
Planner: R.J.Gebler



Design options of bypass channels

1. Bypasses with function as fish pass and habitats

Special sections with low gradient for habitats and steeper sections to allow migration

Kämärinkoski,
Finland



Parallel parts or arms for migration and habitats

Albruck-Dogern
Switzerland, Rhine



2. Channels with main function as habitats

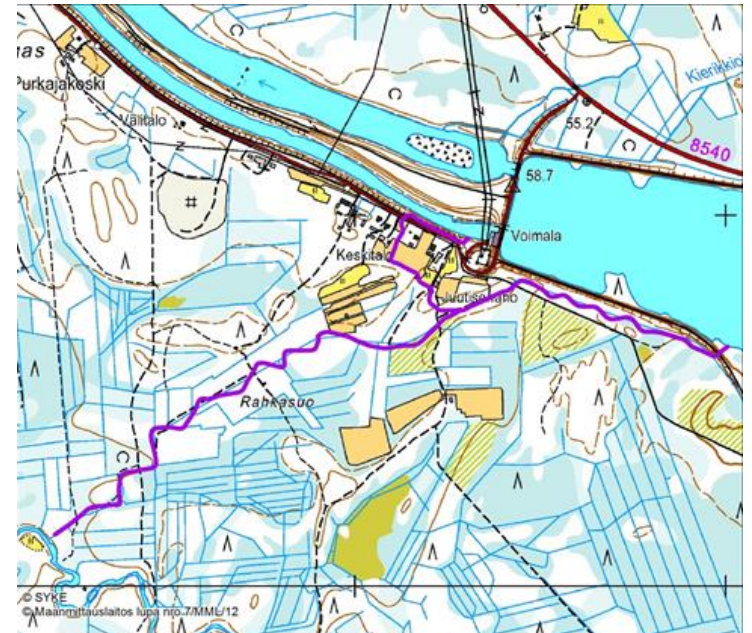
Separate arm for reproduction

Ruppoldingen
Switzerland



Combination of bypasses with
natural streams

Plan for
Ijoki, Finland



3. Reproduction channels

- Not necessarily any fish pass function
- Common in Canada

Imatra urban brook, Finland

- Serves as a compensative habitat for trout and as a touristic attraction
- Opened June 2015
- Design: MA-arkkitehdit, SYKE



River Wiki <https://restorerivers.eu> Database for river restoration cases

- Search according to country, measure type etc.
- Contains also cases about hydro power and connectivity



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RESTORE partnership
RESTORE web site

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Main Page

Welcome to the river restoration case studies **RiverWiki**. This tool is for sharing best practices and lessons learnt for policy makers, practitioners and researchers of river restoration. This site is funded through the **Environment Agency** (England) and managed by **the RRC** (UK).

This is an interactive source of information on river restoration schemes from around Europe!

Up to now, the database holds **882** river restoration case studies from **31** countries

HAVE YOUR SAY, we are happy to receive any suggestions for improvements to the site [please contact us](#).

The RiverWiki has been developed by the RESTORE partnership for sharing knowledge and promoting best practice on river restoration. The RESTORE partnership is made possible with the contribution of the LIFE+ financial instrument of the European Community. [Read more on the RESTORE partnership.](#)

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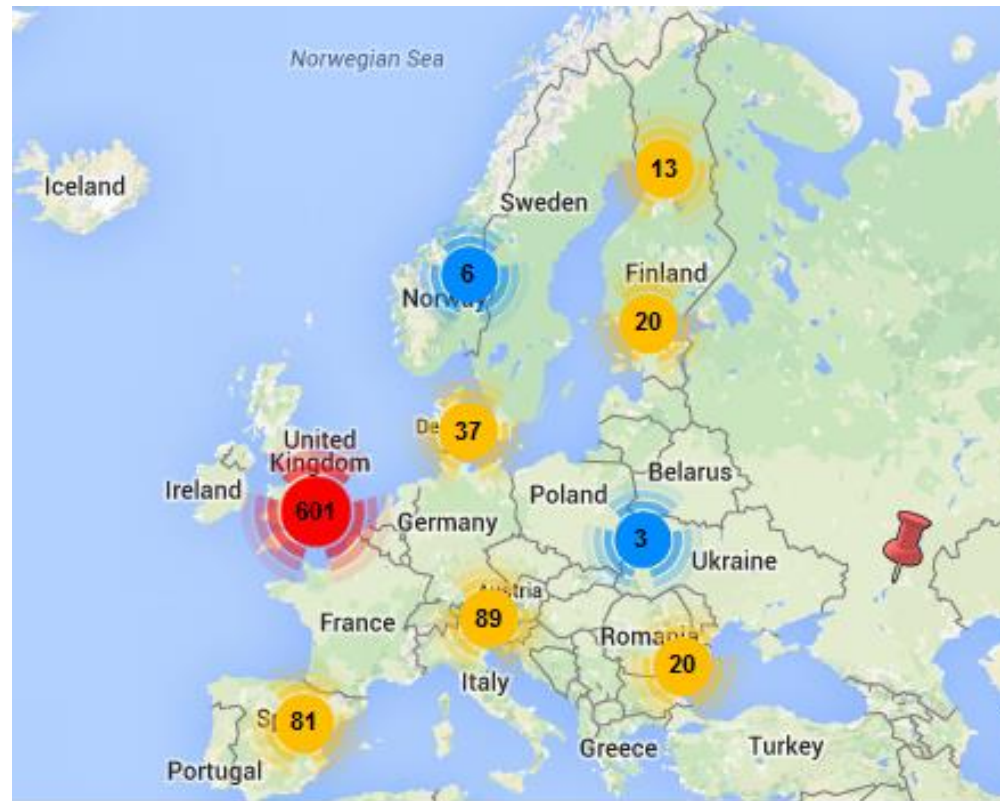
Latest updated case studies		Modification date	Country
MisbourneRiverAction		10 June 2015 22:40:59	England
Saving Chiswick Eyot		10 June 2015 10:27:57	England
River Gaywood – Seven Sisters Drain		9 June 2015 14:40:48	England
Assessing the habitats outcomes of Floodplain Forest restoration: the case study of the floodplain forest at the Ouse Valley Park		9 June 2015 14:39:59	England
Irpin river restoration		8 June 2015 12:00:34	Ukraine
more..			

Map of case studies



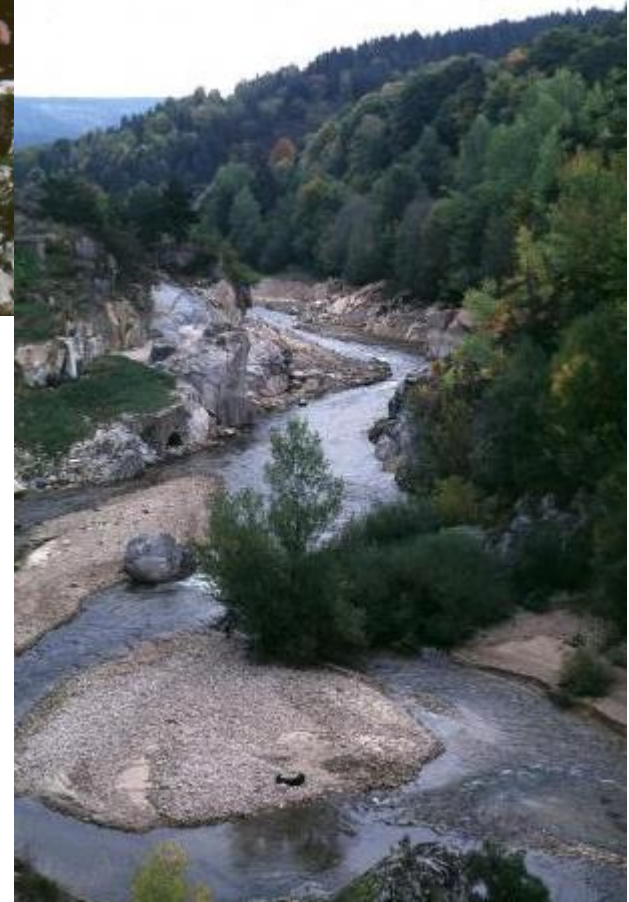
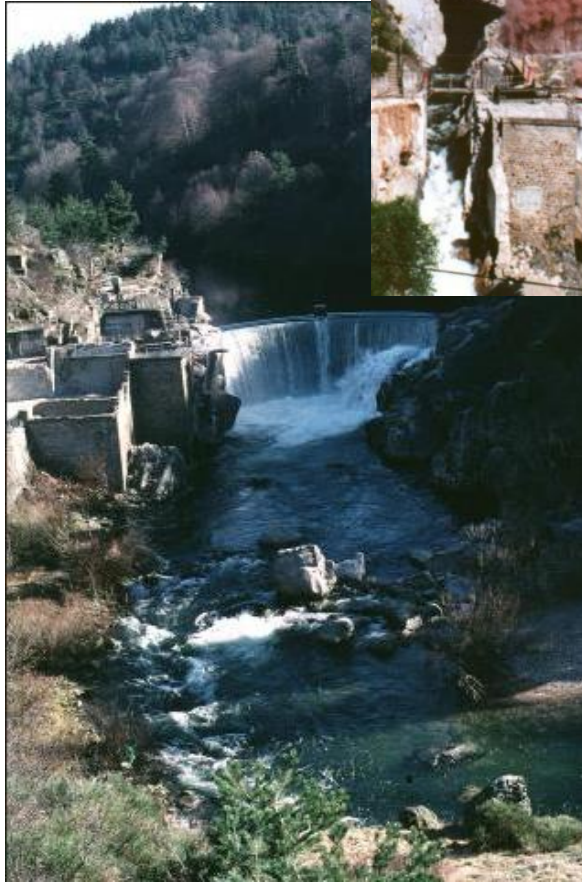
New cases are needed for good coverage

- UK dominates in updating, River Restoration Centre RRC is active
- One case from USA – do we want River Wiki to be international?



France

Case study: Removal of a dam on the Allier river in Saint-Etienne-du-Vigan



Case study: Eldbäcken

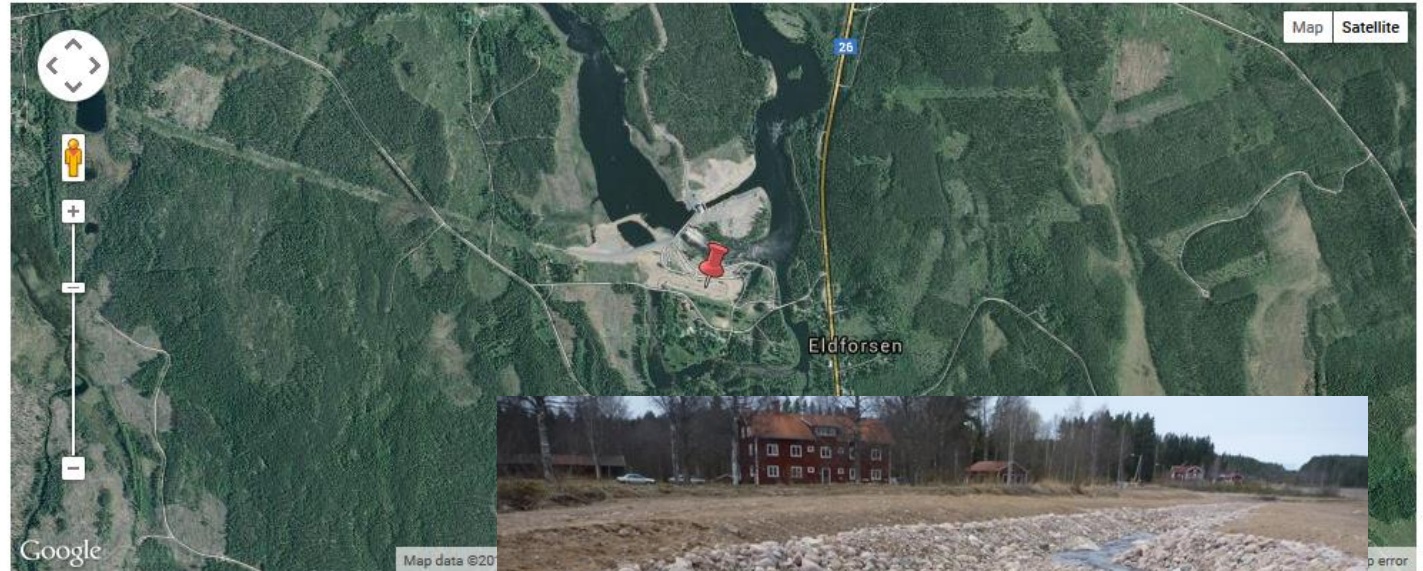
0.00 ★★★★★

To discuss or comment on this case study, please use the [discussion](#) page.

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Location: 60° 26' 10" N, 14° 13' 48" E

[Edit location](#)

- Biocanal, compensative habitat for trout and pearl mussel

Photo Olle Calles

Sweden

Case study: Ålgårda nature-like bypass channel at River Rolfsån

0.00 ★★★★★

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Location: 57° 29' 19" N, 12° 14' 27" E

[Edit location](#)



Left click to look around in the map, and use the wheel of your mouse to zoom in and out.



Photo Outi Laamanen

Sweden

Case study: Kvarnekulla nature like bypass channel at River Knipån



Photo Maria Arola

Norway

Case study: Built Kjøsnesbekken in the river Stjørdalselva

- Constructed side channel for habitat compensation



Finland

Case study: Sågarsfors



- Dam removal and bypass with habitats



Photo: Esa Lehtinen

Case study: Rheinfelden bypass

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Location: 47° 34' 12" N, 7° 48' 35" E

[Edit location](#)



- Reproduction channel
- Largest in Europe

Conclusions

- Policy shift is ongoing to compensating habitats in fish pass projects
- Good examples are available in River Wiki
- Need for more restoration projects, with monitoring results

Questions:

- How to get better coverage and updating in countries with no river restoration centre?
- How to spread out the information to promote policy change?

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Thank you!