

# Restoring Europe's Rivers

## RESTORE

**partnership for sharing knowledge &  
promoting best practice on river restoration  
in Europe**

The RESTORE project is made possible with the contribution of the LIFE+  
financial instrument of the European Community



and works in partnership with



# RESTORE Partners



*RESTORE is implemented by 7 partners:*

- *Environment Agency - England and Wales,*
- *UK River Restoration Centre (RRC),*
- *Finnish Environment Institute (SYKE),*
- *Italian River Restoration Centre (CIRF),*
- *Dutch Gov't Service for Land and Water Management*
- *Wetlands International*
- *NIHWM - Romania*

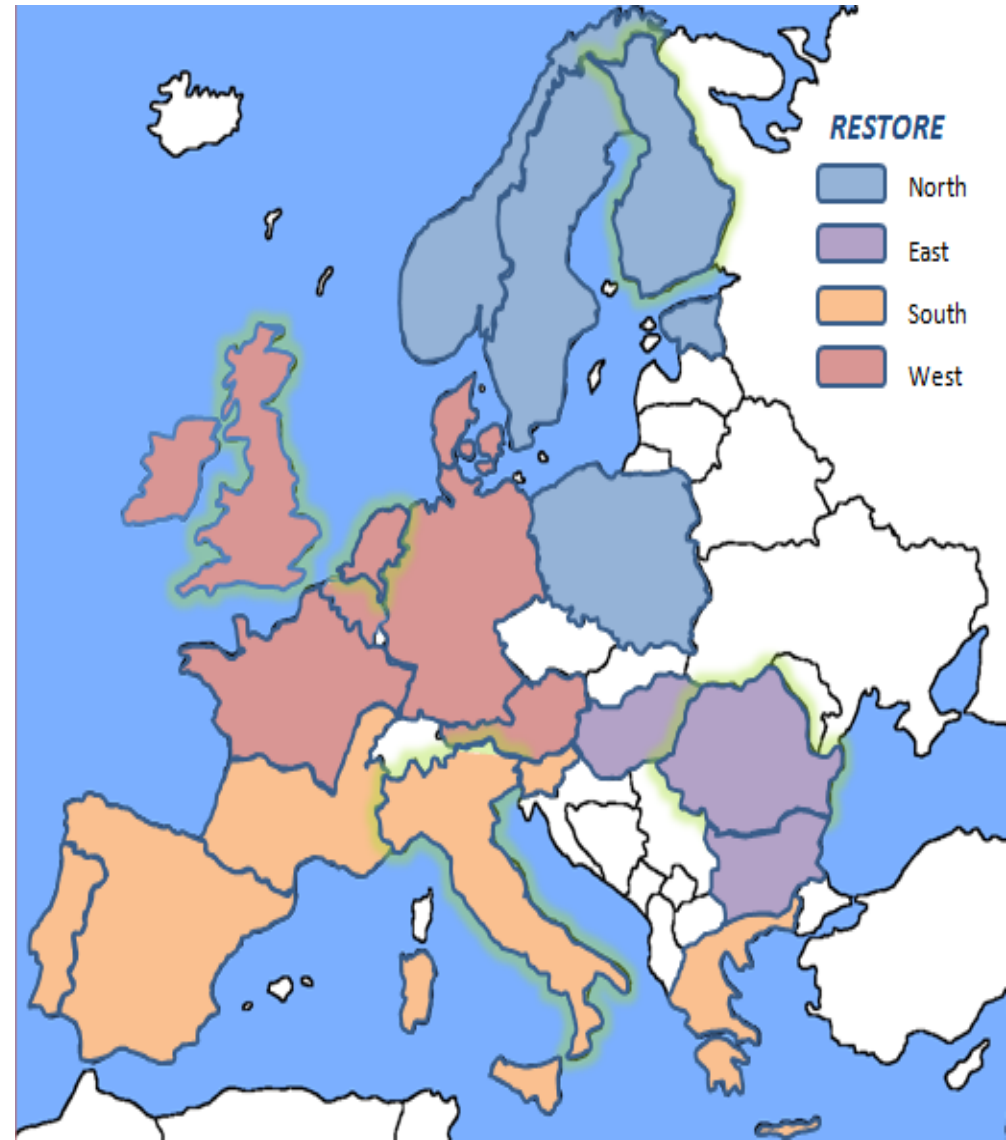


# *RESTORE* countries

## ***Regional Leads***

N – Finland (SYKE),  
E – Netherlands/ Romania  
(DLG),  
S – Italy (CIRF),  
W – UK (RRC).

Remaining countries via  
wider media &  
communication.



## 3 years - 3 stages

- information collection and collation.
- engagement.
- knowledge transfer.





# What do we mean by river restoration?



**Before**



**After**

# RESTORE Project review of EU policy drivers

- Those which **drive** river & catchment restoration, e.g. WFD, Habitats & Birds Directive, Floods Directive, climate change, urban development, tourism
- Those which **support** the delivery of river restoration, e.g. CAP, Nitrates Directive



# obstacles to river restoration implementation

## Policy

- inflexibility
- alignment of multiple policies

## Financial

- limited funding
- funding arrangements

## Societal

- Institutional and administrative boundaries
- (lack of) capacity building
- lack of understanding
- stakeholder involvement

## Spatial planning

- agricultural land use and practices
- multiple and competing floodplain uses

## Land use

- requirement to purchase land
- land use change / planning

## Other

- promotion of hydropower schemes
- water quality
- time scale



# Delivering River Basin Planning

- The WFD is challenging, but sound in its conception.
- Integrated water and land management to secure healthy ecosystems.
- Not just about improving the environment for its own sake





# Restoring Europe's Rivers

Member State (MS)	Good Status 2009	Good Status 2015	Change in Good Status	Area of Member State (km <sup>2</sup> )	Population of Member State <sup>3</sup>	Population density of MS (pe/ km <sup>2</sup> )
Bulgaria	37%	88%	+51%	110 994	7.5 M	68
Czech Rep	12%	14%	+2%	78 866	10.4 M	132
Estonia	55%	75%	+20%	45 227	1.3 M	29
France	40%	67%	+27%	543 965	62.3 M	115
Germany	22%	29%	+7%	357 027	82.2 M	230
Ireland	44%	81%	+37%	70 182	4.5 M	64
Netherlands	4%	20%	+16%	41 864	16.6 M	397
UK	24%	37%	+13%	242 514	61.6 M	254

# What is the approach in the western Europe?

Historically single site, single funder and single policy driven

- Narrower range of benefits
- Smaller scale of impact

Increasing range of relevant EU policy drivers e.g.

- Water Framework Directive
- Floods Directive
- Habitats and Birds Directive

More recently increasing landscape scale approaches

- Multiple benefits





Water resource  
management does not  
start at the point of  
abstraction; it's about  
managing the  
catchment in its  
entirety.

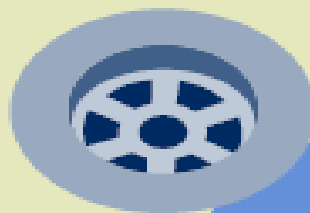
1. Diffuse pollution enters water catchments from various sources



3. If the quality of the water that the companies take from the environment is poor, they will have to treat it more to make it fit to drink



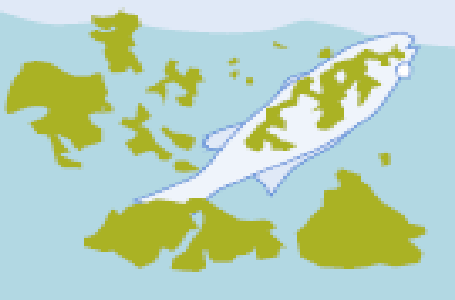
5. After customers have used the water, the sewerage companies take it away and treat it to make it safe to release back into the environment



7. This is so the water that goes back into the environment dilutes the pollution to meet legal standards



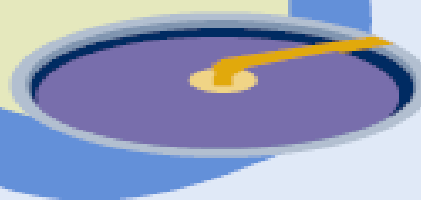
2. This can cause toxic algae to grow, which can harm plants, animals and fish, and affect water quality



4. Customers pay for the cost of extra treatment through their water bills



6. If there are high levels of pollutants in the water, the companies have to treat it to a higher standard



8. Customers pay for the cost of this treatment through their sewerage bills





# Replacing lost space – flood risk management on the River Rhine







# Southern Region

- historically no national databases of projects (except France)
- events on cost benefit evaluations
- field trips to look at restoration activity



# Eastern Region

- collating case studies
- holding events
- improving networking between organisations





# Northern Region

- strategic approach to fish passes
- hydropower
- agricultural drainage



# Thematic Approach in Northern Region

## Restoration constructed rivers

- Removing dams
- Construction fish passes
- Construction of habitat compensation





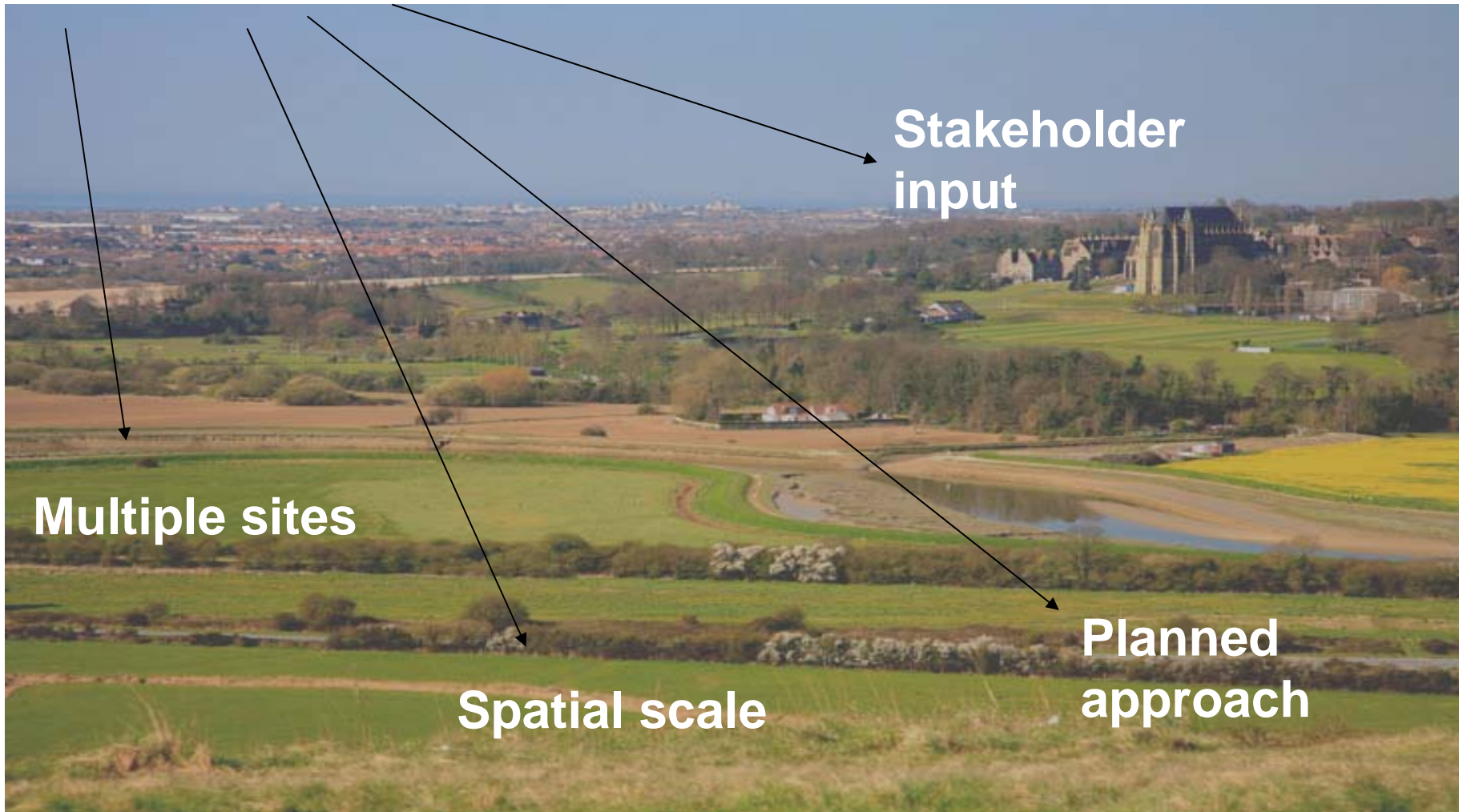
# Conflicting Drivers





# Catchment Planning

How to do it ?





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## Innovation

"If the only tool you have is a hammer,  
you tend to see every problem as a nail."

**Abraham Maslow**  
(1908-1970)

"Discovery consists of seeing  
what everybody has seen and  
thinking what nobody has  
thought. "

**Albert Szent-Gyorgyi**  
(1893 - 1986)

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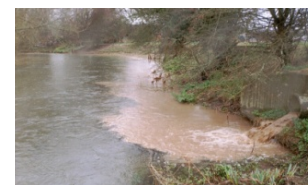
## A Catchment Based Approach





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## Integrated Catchment Management





# Good farming practice supports a range of uses





# As RESTORE we are looking to reach other sectors.

Can our planning systems deliver river restoration?













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## Catchment Detox



## WHAT IS A CATCHMENT?

Rain falls on the land and runs off into the river or percolates through the ground towards the river. The area that feeds water into a river is known as its catchment.



1/9 NEXT ➡

## Catchment Detox



## A SYSTEM IN BALANCE

The river and its catchment exist as a connected ecosystem – events like clearing native bushland or raising groundwater done in one part of the catchment can have an effect on the whole catchment



2/9 NEXT ➡

## Catchment Detox



## THE IMPACT OF PEOPLE

We rely on healthy rivers and catchments for our clean water, fresh air and to support our agriculture and industry



3/9 NEXT ➡

# Social & health benefits of a quality environment

- visits increased by 73%
- People stay longer
- Total time spent in the park increased
- 28% of people started visiting only recently





# Are ecosystem services the answer?





# Funding river restoration ?





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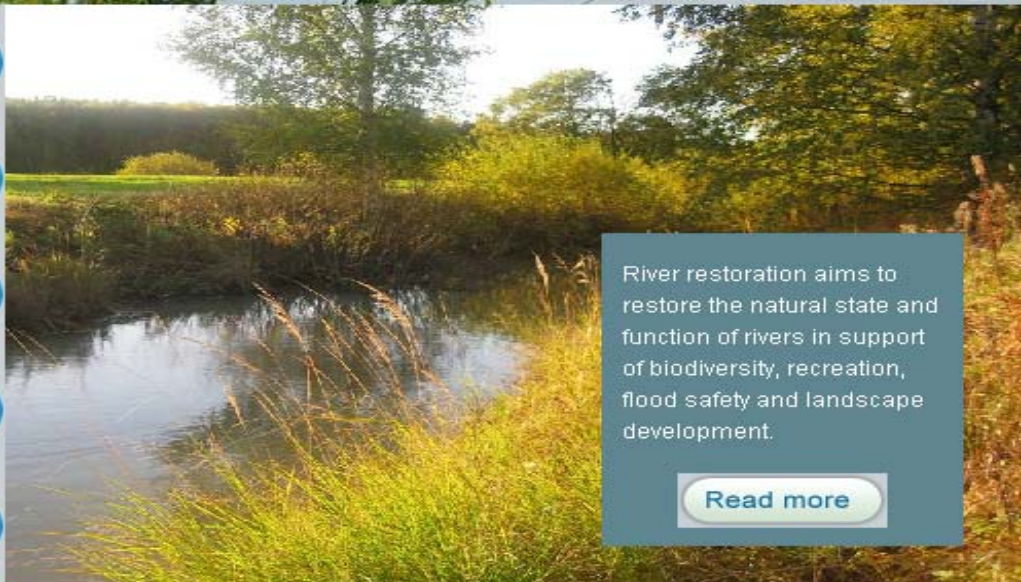
What is river restoration?

Economic benefits

Flood risk management

Habitats and biodiversity

Hydropower



River restoration aims to restore the natural state and function of rivers in support of biodiversity, recreation, flood safety and landscape development.

[Read more](#)

Draft water resources planning guideline

12 March 2012

Restoring urban brooks - a new guide on the restoration of brooks in urban areas

28 February 2012

New guidance for working with natural processes in flood and coastal erosion risk management

21 February 2012

RESTORE – the case study repository is coming...

16 February 2012

[Visit the News and Updates page.](#)

### ♥ Welcome to the RESTORE partnership for river restoration in Europe

RESTORE is a partnership for sharing knowledge and promoting best practice on river restoration in Europe. We encourage the restoration of European rivers towards a more natural state for increased ecological quality, flood risk reduction, and social and economic benefits.

#### What is River Restoration?

River restoration is action that restores the natural state and functioning of a river system in support of biodiversity, recreation, flood safety and landscape development. [Read more...](#)

### ♥ New publication

**2nd Workshop on Water Management, Water Framework Directive and Hydropower**

### ♥ Upcoming events

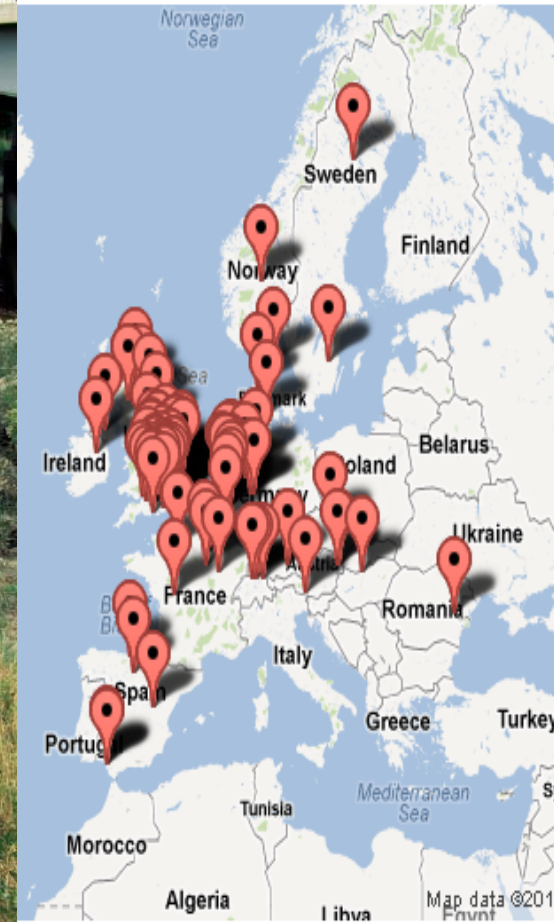
World Water Forum 6, Marseille, France - 12/03/2012 23:00

INTEGRATED RIVER BASIN MANAGEMENT: Civil Engineering & Geosciences Professional Devpmt Unit course - 12/03/2012 23:30

HYDROLOGY OF ARID ENVIRONMENTS CONFERENCE, Hannover Germany - 14/03/2012 23:30



# CASE STUDIES



*The RESTORE database of river restoration projects is currently being developed*

<http://riverwiki.restorerivers.eu>



The background of the slide is a photograph of a river restoration project. It shows a wide, shallow river with a sandy and gravelly bed, bordered by grassy banks and bare trees. A paved path runs alongside the river. The sky is overcast.

# *RESTORE* Outputs

- 36 events in over 10 countries
- 1200 persons engaged through events
- 500 case studies on the WIKI case studies database
- 90,000 persons through project outreach
- **International River Restoration Conference**

**[www.restorerivers.eu](http://www.restorerivers.eu)**  
**[restore@environment-agency.gov.uk](mailto:restore@environment-agency.gov.uk)**