

## Preserving rivers

Preserving rivers and their habitats consists of avoiding their degradation, maintaining their good hydrological processes as well as the sediment dynamics of the river basin, and limiting pollution hazards.

### Objectives

#### Hydromorphological objectives

- Maintain the heterogeneity of habitats in the river bed and the floodplain.
- Encourage river dynamics and preserve the hydrological regime.
- Preserve lateral connections and regime regulation during low-flow periods using linked wetlands.
- Preserve the space required for the good functioning of the river.

#### Ecological objectives

- Preserve the species living in the river bed and the floodplain
- Preserve buffer zones and the river corridor.
- Consolidate river resilience and preserve its functions, which supports habitats and the quality of aquatic environments.

#### Other expected benefits

- Promote the landscape and generate recreational value.
- Set up quality labels for areas promoting environmentally-friendly farming.
- Protect the physical-chemical quality of water resources and/or reduce the diffuse pollution arising within the river basin.
- Preserve water resources
- Preserve the natural capacities of flood plains for flood flows and limit flooding.

#### Answers to preconceived ideas

*Protecting the areas along rivers does not necessarily mean prohibiting the use of those areas.*

### Examples of possible solutions

For the **river** itself :

- map the space required for the good functioning of the river;



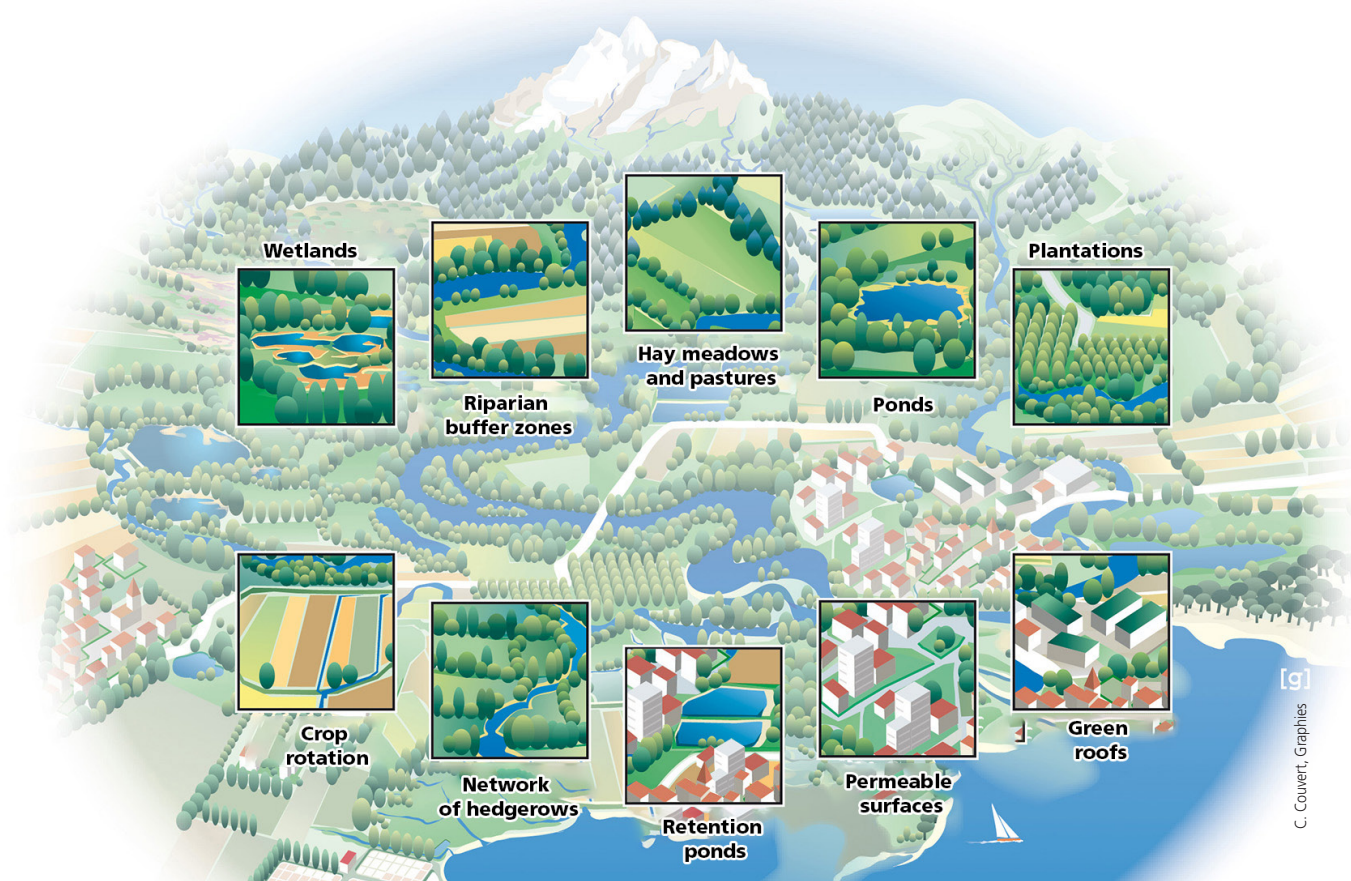
--- Mapping the space required for the good functioning of the river.

Graphics

- gain control over land use by purchases or contracts stipulating the management techniques for riparian zones along rivers;
- set up legal protection (biotope by-laws and ordinances, voluntary reserve zones, etc.) for the river;
- install fences to protect the river;
- encourage riparian vegetation.

Concerning **land use** in the river basin, set up practices and techniques to optimise management of water run-off and to reduce both diffuse pollution and land erosion:

- maintain, restore or create buffer zones, copses and hedgerows, hay meadows and pastures, ponds and wetlands;
- maintain, restore or create plant cover;
- maintain good farming practices;
- in urban areas, maintain or create permeable surfaces, green roofs, infiltration trenches along roads, retention ponds, infiltration basins and overflow zones for floods.



Examples of practices and techniques for land management within the river basin.

## Additional aspects

### ■ Complementary measures

- Set up suitable and sustainable management of water resources on the river-basin level.
- Intervene as little as possible in rivers.
- For the riverbed and the floodplain, set up rules for river management and, where necessary, access, that are pertinent for the type of river habitat.

### ■ **Pointers for project design**

- Detect any opportunities for land use control.
- Identify the relevant local management structures.
- Identify the potential obstacles and the available assistance (human and/or technical) in the implementation of the project.
- Prepare information panels.

### ■ **Technical bibliography for the design and implementation of the project**

- Internet site of the Technical workshop for natural areas, in the section on the legal tools available to protect natural areas (in French) : <http://bibliothequeenligne.espaces-naturels.fr/outilsjuridiques/>
- *A guide to support the selection, design and implementation of natural water-retention measures in Europe* : <http://nwrm.eu>
- *Ecological engineering for aquatic environments. Why? How?, 2013, an ASTEE guide (in French)* : <http://www.astee.org/production/ingenierie-ecologique-appliquee-aux-milieux-aquatiques-pourquoi-comment/>
- Link to the resource centre for ecological engineering (in French) : <http://www.genieecologique.fr/>
- Link to a brochure on nature-based solutions, published by IUCN France (in French) : <http://uicn.fr/solutions-fondees-sur-la-nature/>
- *Determining the space required for the good functioning of rivers, Rhône-Méditerranée-Corse Water Agency (in French)* : [https://www.eaurmc.fr/jcms/dma\\_41108/fr/delimiter-l-espace-de-bon-fonctionnement-des-cours-d-eau-basse-definition](https://www.eaurmc.fr/jcms/dma_41108/fr/delimiter-l-espace-de-bon-fonctionnement-des-cours-d-eau-basse-definition)
- *Guide on setting up buffer zones to limit the transfer of farm contaminants, 2017. In the Guides and protocols series, French Biodiversity Agency.* <https://professionnels.ofb.fr/en/node/678>