



**Tagus and West River Basin District
Administration**

Riparian Vegetation conservation and enhancement in the Tagus and West River Basin District, Portugal

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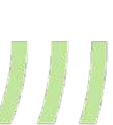
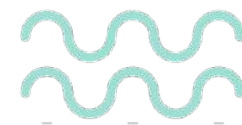
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Portuguese Water Law and Riparian Vegetation

Conservation, protection and enhancement of riparian vegetation are included in the objectives of the Portuguese Water Law (transposing WFD):

- **To prevent further degradation and protect and improve** the status of aquatic ecosystems as well as **of terrestrial and wetland ecosystems directly dependent on them**
- To guarantee the Good Ecological Status



Portuguese Water Law and Riparian Vegetation

To guarantee the Good Ecological Status

- Structure of the riparian zone is one of the morphological conditions considered as supporting element of the BQE (aquatic plants, macroinvertebrates and fish).

since it **shapes the aquatic habitats**:

- **Regulates the water temperature** by controlling the brightness
- **Ensures shading of the bed**, essential for aquatic species, namely for fish, functioning as a shelter
- **Decreases water velocity**
- **Protects river banks against erosion**
- **Contributes to water quality** through filtration, removal and adsorption of nutrients
- **Contributes to the retention of sediments** carried away by runoff waters when it rains



Portuguese Water Law and Riparian Vegetation

☐ Management and conservation measures for rivers and riparian zones:

■ Management:

- to allow the **drainage of water and sediments** (gravel, sand, sludge, etc.) in normal and extreme situations (floods).
- **to prevent and protect** river bed and rivers banks against the effects of **water erosion**, contributing to the stabilization of riverside lands.
- to **minimize flood risks** for people and goods.

■ Restoration of degraded rivers and streams and their riparian areas

■ Renaturalization of rivers

■ Environmental and landscape enhancement of rivers and surrounding areas



Implementation of the Conservation and Restoration Measures

Responsibility

Municipalities in the urban areas

- **Land owners** - outside urban areas and private river banks in urban areas
- **Regional and national** authorities in the remaining situations.

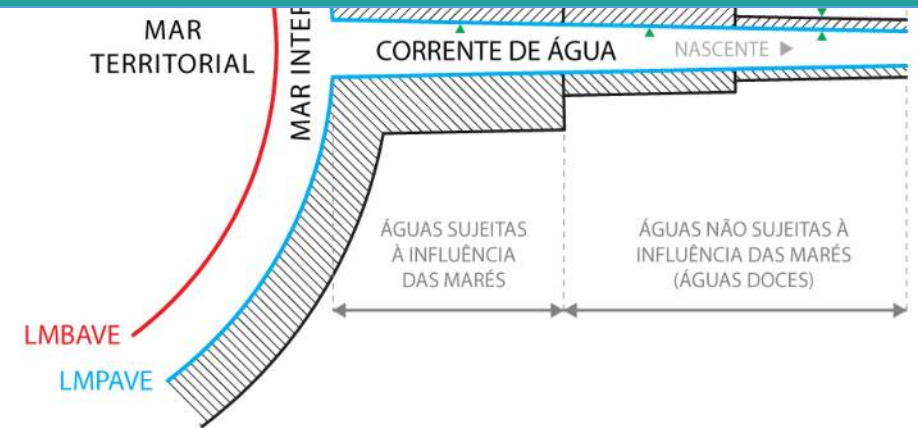
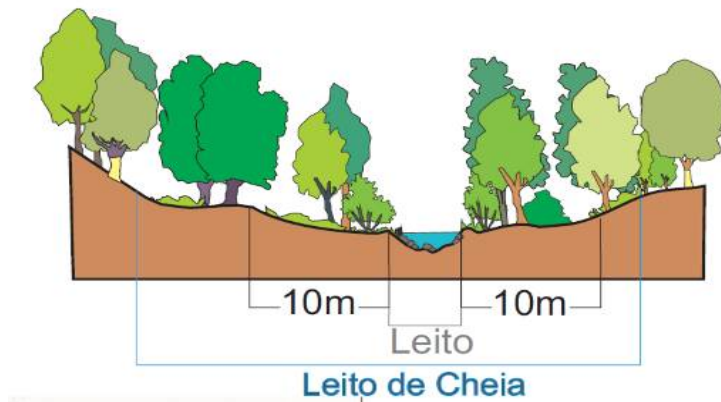


- Failure to carry out the operations is punishable by law, and a penalty is applied.
- The gravity of the offense increases when the person responsible does not obey to the order of the water authority.

Implementation of the Conservation and Restoration Measures

Intervention Area - Public Hydric Domain (River bed and rivers banks)

- **River bed** - covered by water at medium flood conditions



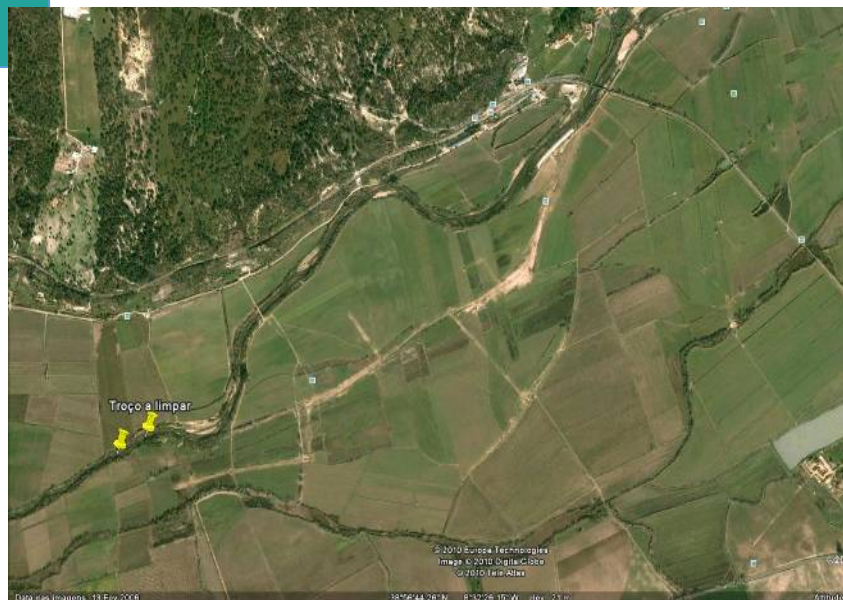
- **Rivers banks** - legally established width considering the limits of river bed
 - **No navigable or no floating rivers**, including temporary rivers - 10m width
 - *Non Aedificandi*: 5m width rivers of 1st to 3rd order (Strahler) and 10m for the other rivers

- **Navigable or floating rivers** - 30m wide
- **Rivers subject to the influence of the tide** – 50 m wide

River management

It is necessary to submit a **Request** to the Regional Water Authority

- ❑ Map at 1:25 000 scale with the location of the intervention
- ❑ Aerial photograph with the location of the intervention/GIS
- ❑ Brief description of the intervention including:
 - description of river bed and banks
 - operations to be carried out
 - equipment and methods
 - timetable



River management

The works are supervised by technicians with appropriate training



**Limpeza e conservação
de linhas de água,
um dever de todos!**

Como fazer!

Quem tem que fazer!

O que fazer!

3 . Novembro . 2011

18.30 horas

Auditório Municipal Beatriz Costa,
Mafra

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Public sessions for
general population,
farms, association of
farms to inform and
explain the best
practices



River Management Guidance



Limpeza e Desobstrução de Linhas de Água

Os rios e as
ribeiras devem
apresentar um
bom estado
ecológico e
químico.

O novo enquadramento legal, regulado pelo Decreto-Lei n.º 226-A/2007, de 31 de maio, deixou de considerar a **limpeza e desobstrução de linhas de água** como uma utilização. Não obstante, permanece a obrigatoriedade de o realizar, já que o artigo 33.º da Lei n.º 58/2005, de 29 de dezembro, prevê a limpeza e desobstrução dos álveos das linhas de água como uma das medidas de conservação e reabilitação da rede hidrográfica e zonas ribeirinhas e o n.º 5 do mesmo artigo estipula que estas medidas devem ser executadas sempre sob orientação da Agência Portuguesa do Ambiente através dos Departamentos de Administração de Região Hidrográfica (APA, I.P./ARH).

https://apambiente.pt/sites/default/files/_SNIAMB_Agua/DRH/Licenciamento/UtilizacaoRH/Manual_LimpezaLA_De2014.pdf

River restoration

Main goals

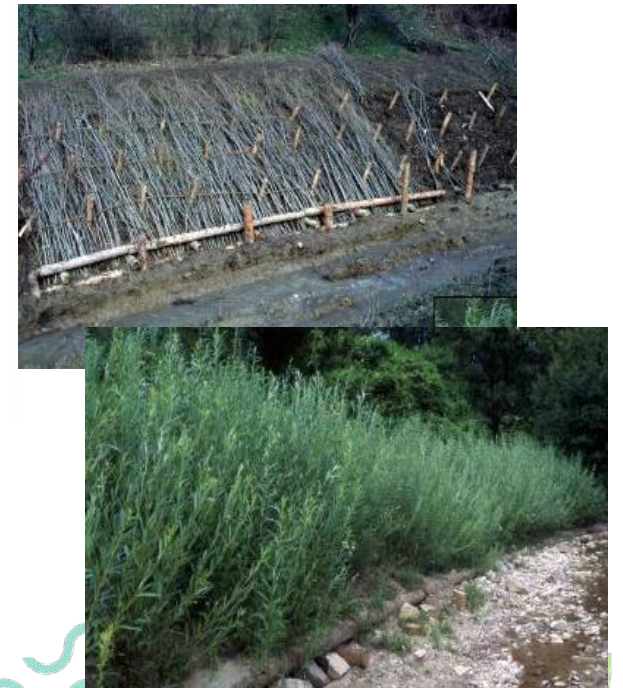
- ❑ To preserve the native vegetation and fauna characteristic of the region, promoting the rehabilitation of the riparian vegetation.
- ❑ Use biophysical engineering techniques for small structural interventions with the objective of stabilizing and avoid the erosion of river banks.

Financed by:

- National Environmental Fund (Water resource fee charged to users + European funds)
- Rural Development Program



Guidance Guide for intervention in rivers and streams



https://apambiente.pt/sites/default/files/_SNIAMB_Agua/ARH/EstudoIntervencaoRedeHidro_ARHCentro/GuiaIntervencaoLinhasAguaARHC.pdf

River restoration

Until now the restoration projects:

- Usually promoted by municipalities, at a local scale, not always with the objective to reach Good Ecological Status.
- Often associated with projects for recreation and enjoyment of the population, mainly in urban and peri-urban areas



River restoration

After the fires in 2017, several projects were developed in order to promote the natural recovery of the affected rivers.

❑ Ensure the flowing of water in the river

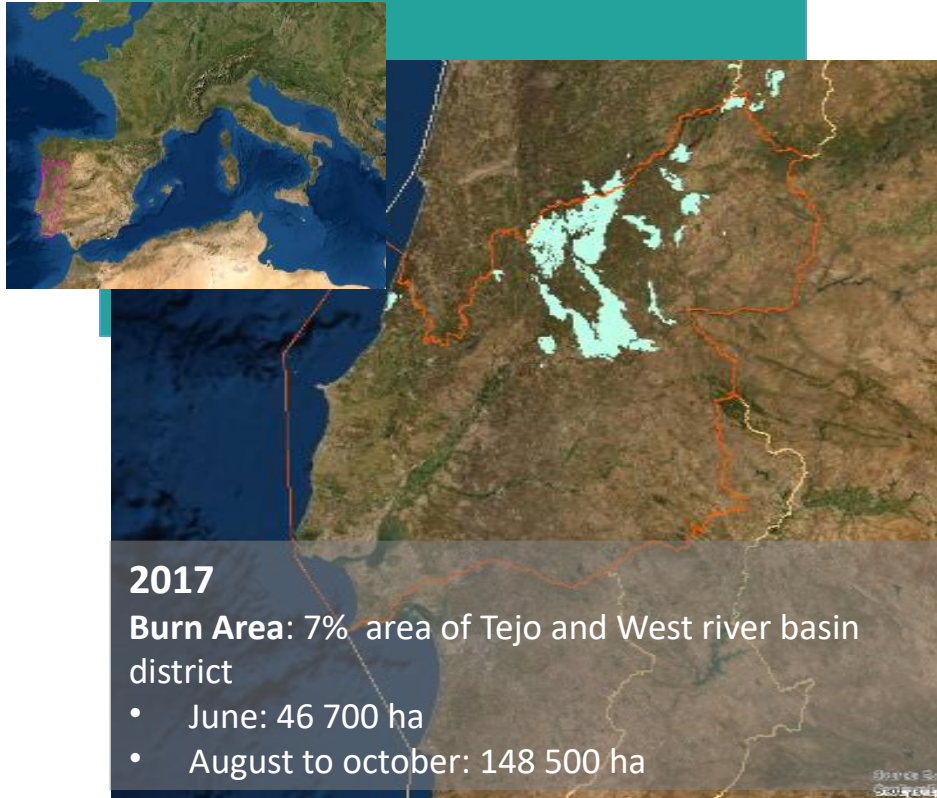
- Cutting and removing burnt trees and shrubs
- Removal of sediment and other material from river bed
- Removing exotic invasive plants
- Recovery of culvert section

❑ To minimize the effect of floods

- Construction and/or recovery of water retention basins

❑ To minimize erosion and sediment transport

- Consolidation and recovery of river banks
- Replacement / rehabilitation of the riparian vegetation (planting and/or sowing native species)
- Construction of small weirs to diminish water velocity and prevent erosion



Coconut Bio roll vegetated



River restoration

❑ Program of Measures (PoM) River Basin Management Plan 2022-2027

- National Strategy for the Rehabilitation of Rivers and Streams (EN3R)
- National and local action plans to control, contain or eradicate exotic invasive species (eg. *Arundo donax* and *acacia* sp.)
- Fluvial reserves



PLANO DE GESTÃO DE REGIÃO HIDROGRÁFICA

3.º Ciclo | 2022 – 2027

TEJO E RIBEIRAS DO OESTE (RH5A)



Parte 1 | Enquadramento e Aspetos Gerais

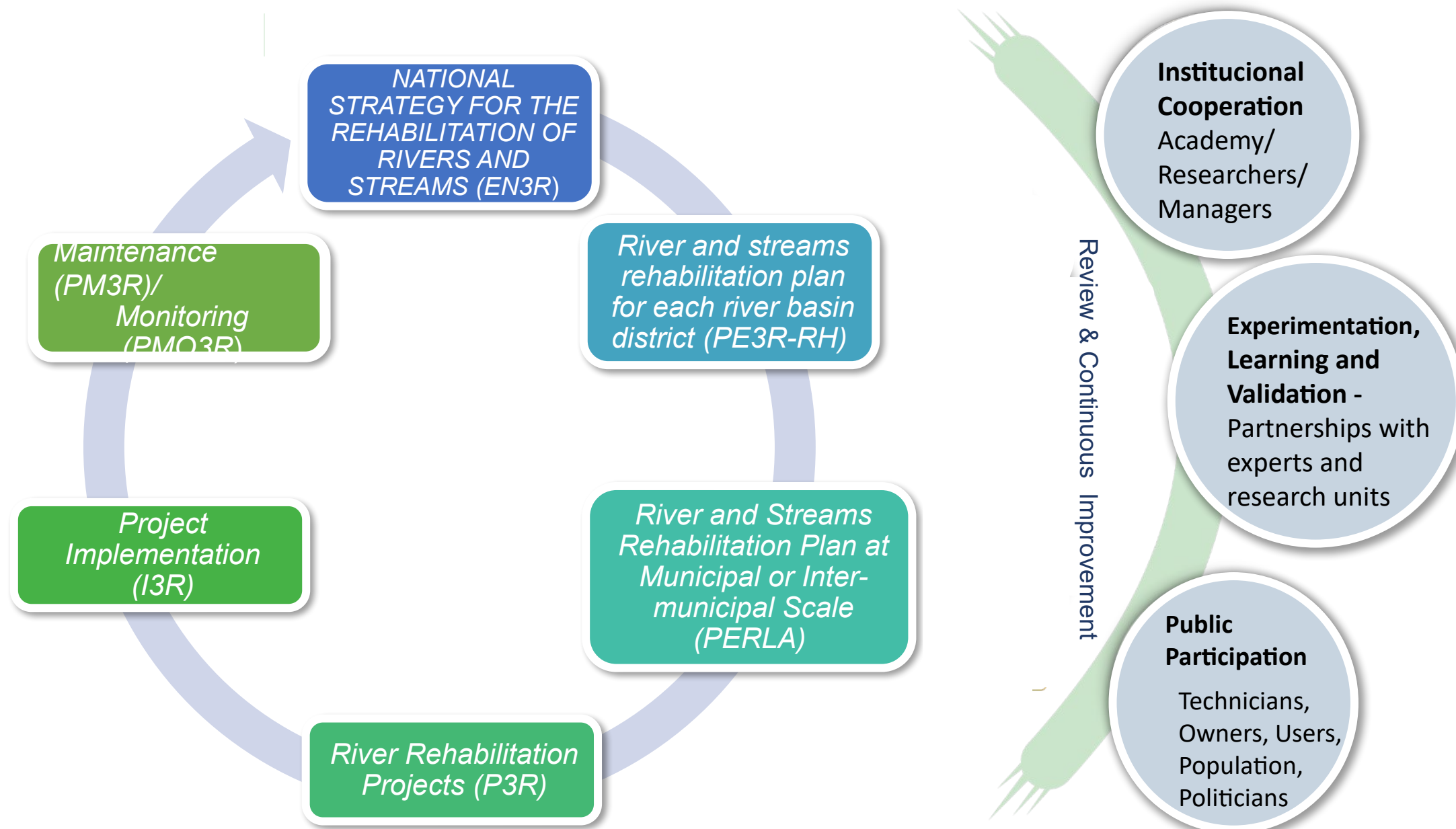
Janeiro | 2022

National Strategy for the Rehabilitation of Rivers and Rivers (EN3R)

- ❑ Contribute to the pursuit of objectives of the WFD and **other strategies, such as biodiversity, climates change.**
- ❑ Implement conservation and rehabilitation measures of river network and riparian zones, privileging the use of **natural engineering techniques and "nature-based solutions"**, safeguarding the **importance of restoring the hydromorphological processes**
- ❑ And simultaneously **guarantee safety of people and goods, people health, and environmental enhancement.**
- ❑ Inform, raise awareness and train to promote an effective **change in the behavior** of all those directly involved in river restoration
- ❑ **Promote public participation and active user involvement**

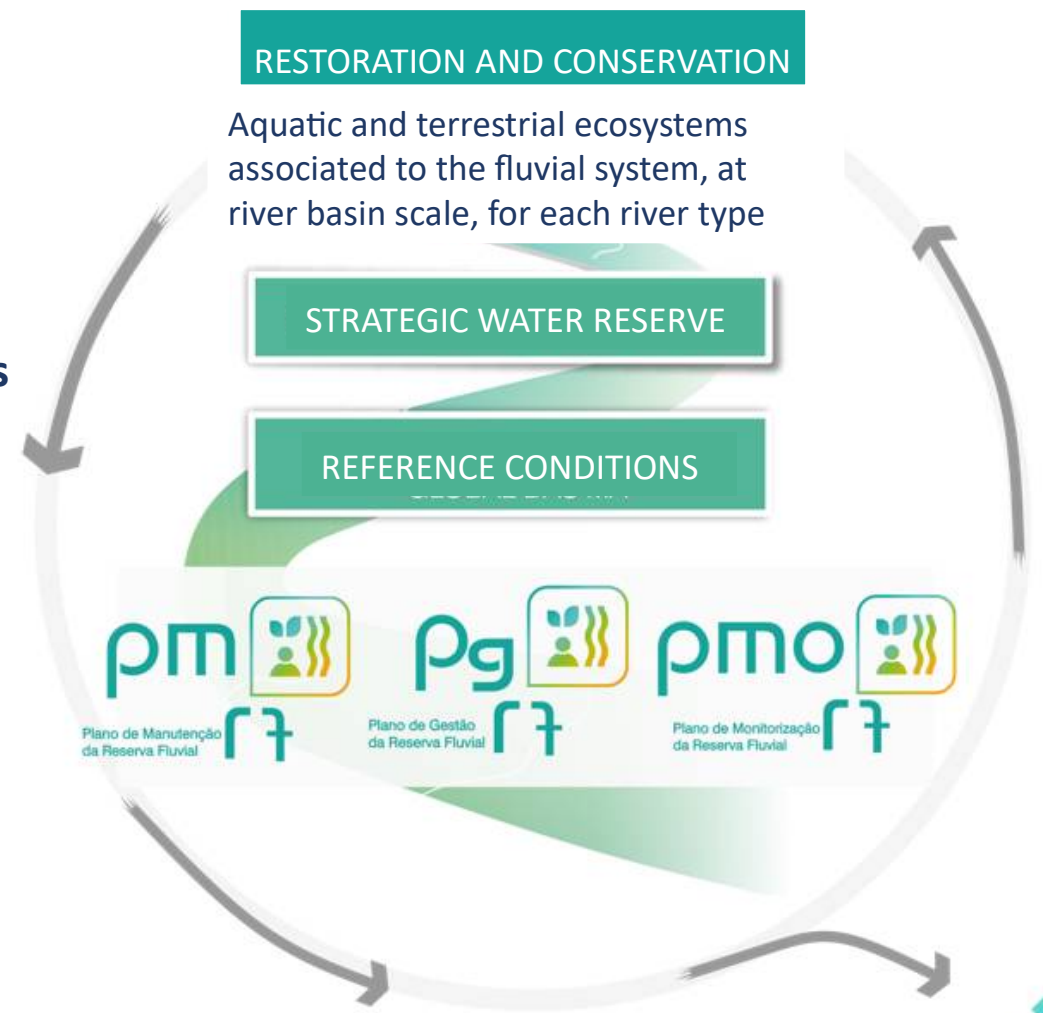


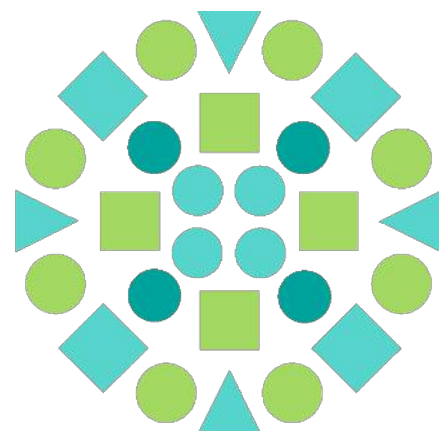
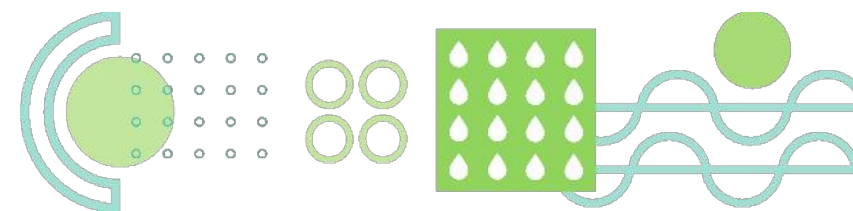
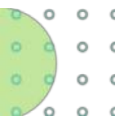
National Strategy for the Rehabilitation of Rivers and Streams (EN3R)



Fluvial reserves

- **Diagnosis of the conservation status** of river or river stretches to be preserved ("no go areas"), considering the water bodies with good or better status.
- **Establishment of conditions for the licensing** of activities on the river and river stretches and their drainage basins
- **Identification and implementation of the conservation measures**





apa
portuguese
environment
agency

THANK YOU

