ERS 2021 Session 2
Adaptation to climate change: the interest of basin management planning

STRATEGY FOR THE RESTORATION OF THE WATER COURSES IN THE CENTER RIVER BASINS DISTRICT
Vouga, Mondego and Lis rivers

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Strategy of APA/ARHC for the river network restoration

The EU Water Framework Directive: A revolutionary approach to water resource management

Mondego
6 659 km²

Vouga
3 680 km²

Liz
945 km²

RH4
12 144 km²

64 municipalities
2.7 million inhabitants
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River Basin Management Plan

Water body status

73% of the water bodies “rivers” are in good status or above good status

6 years cycle
Projet PerRIOS

Strategic study for river restoration

Project developed through a partnership between ARHC and the Faculty of Engineering of the University of Porto.
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Project PerRIOS - Methods

1. Watersheds characterization
2. Analysis of the River Basin management plan
3. Questionnaire of the local authorities
4. Analysis of the water bodies limitations and benefits
5. Measures proposed
6. Hierarchize the measures
7. Apply the measures at the river reaches defined
8. Protocols of solutions to be adopted
9. Material and financial resources
10. Intervention plan
11. Monitoring indicators
12. Results

Review each 6 years
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- Intervention plan
- Basic studies
- Monitoring of the interventions
- Guide for intervention
- Priority of each measure and the type of territory
- The costs of the restoration
- Information concerning cost and priority for each water body
- Overall costs.
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Intervention plan

Basic studies

Monitoring of the interventions

Guide for intervention

River basin characterization

River courses characterization

Biologic characterization

Technical measures sheets

Glossary
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From June to October 2017

Forest fires at the Center RB Districts affected ± 2 280 km²  
116 death

The government took action, financing urgent river restoration interventions, with an amount up to 16 M €

Our region became responsible for the management of 5 M €

ARH: Evaluation of the state of the water bodies
Interventions to
• Increase the resilience of water bodies
• Rebalance River Ecosystems
• Plan the Riparian Gallery
• Remove exotic species
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The fieldwork (carried out by municipalities and ARH) identified sections of river reaches in urgent need, in order to:

1. Ensure the natural flow in the water lines
2. Minimize soil erosion
3. Minimize flood and flooding effect
4. Ensure bathing uses
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Nature-based solutions
Pruning

Micro weir

Live staking

Live fascine
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Through strategic partnerships, we have been accomplishing our goals:

01. To protect, recover and promote ecosystems

02. To increase the protection of the populations facing risk

03. To increase the resilience to water lines

04. To guarantee the quality of water