



Autorità di bacino distrettuale del fiume Po

“Working with Nature in the Po River Basin: Integrated Management and Enabling Conditions for Effective Ecological Restoration”

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Po River Basin Authority

Nature-based Solutions:
No-Regret measure for Climate Adaptation and
Ecosystem Restoration at Basin Level

21st of October 2025

The Po River Basin: A Living System Under Pressure



687 Natura 2000 sites



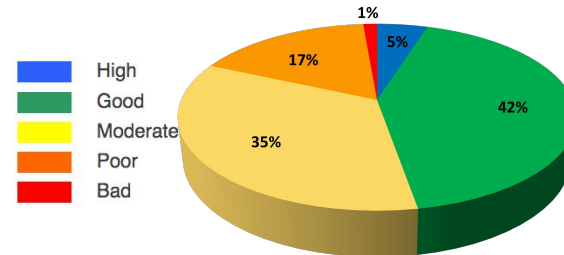
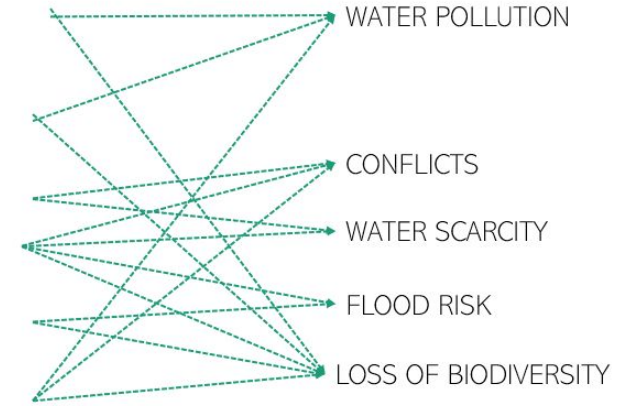
**487 Protected Areas
(national and regional
Parks and Reserves)**



**18 Wetlands of
International Importance
(Ramsar)**



1. POINT DISCHARGES FROM URBAN SETTLEMENTS AND INDUSTRIES
2. DIFFUSED POLLUTION FROM AGRICULTURAL RUN OFF
3. WATER ABSTRACTION
4. CLIMATE CHANGE
5. HYDROMORPHOLOGICAL ALTERATIONS
6. PRESENCE OF INVASIVE SPECIES



Ecological status surface waters
(PdGPo, 2021)



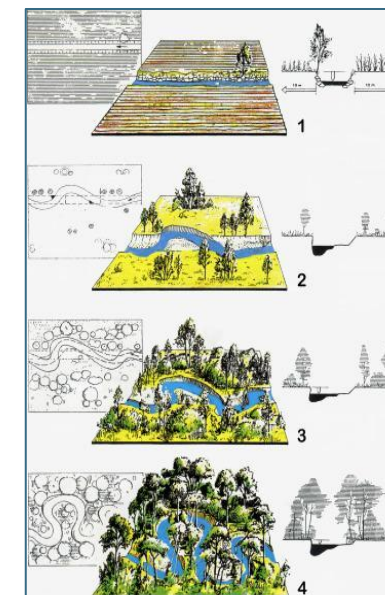
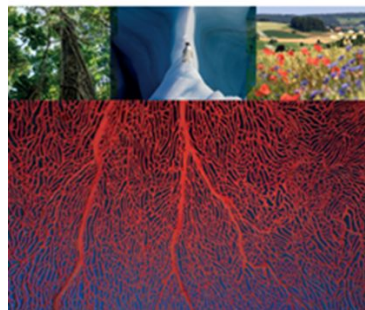
Working with Nature: Integrated Planning



reduction of hydraulic risk and identify the morphological and ecological recovery measures of river beds

improvement of the ecological status of watercourses and the protection of ecosystems and biodiversity

IPBES-POC CO-SPONSORED WORKSHOP
BIODIVERSITY AND CLIMATE CHANGE
Scientific outcome

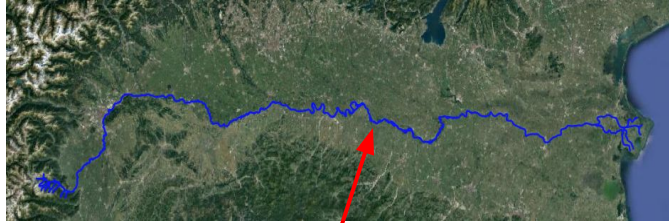


The Biodiversity Strategy calls for greater efforts to restore freshwater ecosystem and the natural functions of rivers, to achieve not only the WFD objective of achieving good ecological status, but also the objective of habitat and species restoration

From: Binder, W., et al. *International Soil and Water Conservation Research* (2015), <http://dx.doi.org/10.1016/j.iswcr.2015.04.004>

From Knowledge to Action: Scaling Up from a Pilot NbS Project to a Large-Scale Initiative

BEFORE

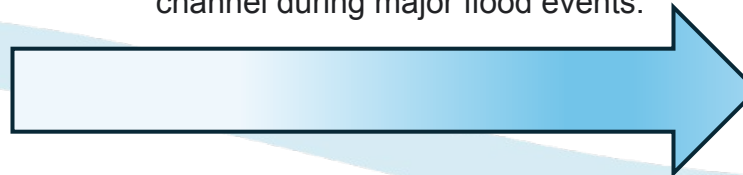


Intervention carried out October 2022 – April 2023



Lowering river groynes to restore lateral connectivity

The aim of the project is to increase the frequency of flooding from the main channel of the Po towards the secondary channel (oxbow lake) and consequently decrease the flow rate in the main channel during major flood events.



AFTER

May 2023

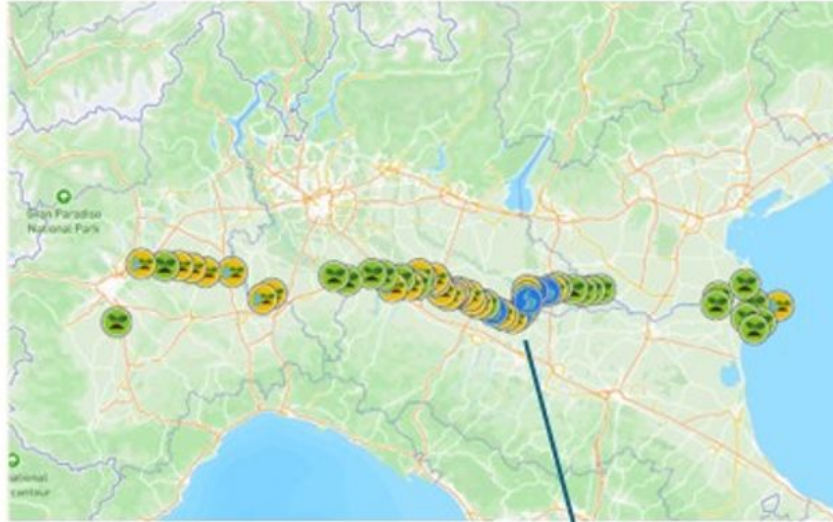


March 2024



The Po River Restoration Project: a large-scale ecological restoration process

2022 - 2026



M - MORPHOLOGICAL RESTORATION

RIVER GROYNES LOWERING

BACKWATER REACTIVATION

NEW SECONDARY RIVER CHANNEL

Due to the deepening of the riverbed, the backwaters and secondary channels behind the navigation groynes are reactivated only during the most significant flood events. The aim of the 'M' interventions is to increase the frequency of flooding in these areas.

R - ENVIROMENTAL RESTORATION

AFFORESTATION AND REFORESTATION

IAS MANAGEMENT AND ERADICATION

ECOLOGICAL RESTORATION OF INACTIVE STREAM MEANDER



56 Project areas

€ 357.000.000,00
Total amount by 2026

4 Regions

106 Municipalities

42 Natura 2000 sites

Measuring Success: The Role of Monitoring in NbS Project



The project's monitoring activities aim to assess the success of the restoration efforts.

An integrated and interdisciplinary monitoring approach is essential to assess the success of restoration efforts, combining traditional metrics (standard, descriptive monitoring) with innovative techniques such as remote sensing and eDNA.

Given that river ecosystem components respond to changes at different timescales, medium- to long-term monitoring provides critical feedback to guide future environmental actions and improve river health.

Ecosystem Monitoring of the Po River Restoration Project – Multidisciplinary Approach, Pre-Intervention Phase

The ecosystem quality of the Po River and its floodplain will be assessed by monitoring key environmental components that effectively respond at scales consistent with the expected impacts of the river restoration interventions: Habitats, physico-chemical quality of water and sediments, ecosystem functioning, riparian forests, and bird fauna.

Participation and Public Engagement

Consultation with local authorities and an informative and participatory process at the beginning of the project

2 general webinars and
5 face-to-face local meetings




ADBPO

Regions

AIPo

Local
Authorities

Natura2000
sites and
Parks

-  Municipalities, Regions, Provinces
-  Universities, Research Institutes
-  Parks and Natura 2000 sites management bodies, Land consortia, Regional forest management authorities, Environmental agencies, Italian Forestry and Environmental Police
-  Environmental associations
-  Trade associations, sector associations, farmers' associations
-  Citizens

The future of managing redeveloped areas: involving local stakeholders

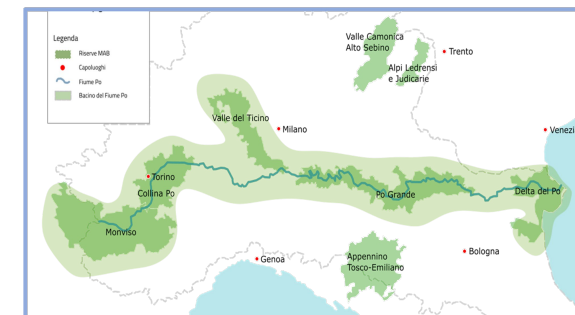
Culture-based Solutions: MAB
UNESCO Biosphere Reserve



CONSERVATION: contribute to the conservation of landscapes and ecosystems. Enhance the relationship between people and their environments.



DEVELOPMENT: foster economic and human development that is socio-culturally and ecologically sustainable



Land Stewardship

Custode
della
Biodiversità

LIFE
NatConnect
2030

NatClasses

Nat Cities

Nat Stewards

Nat Communities

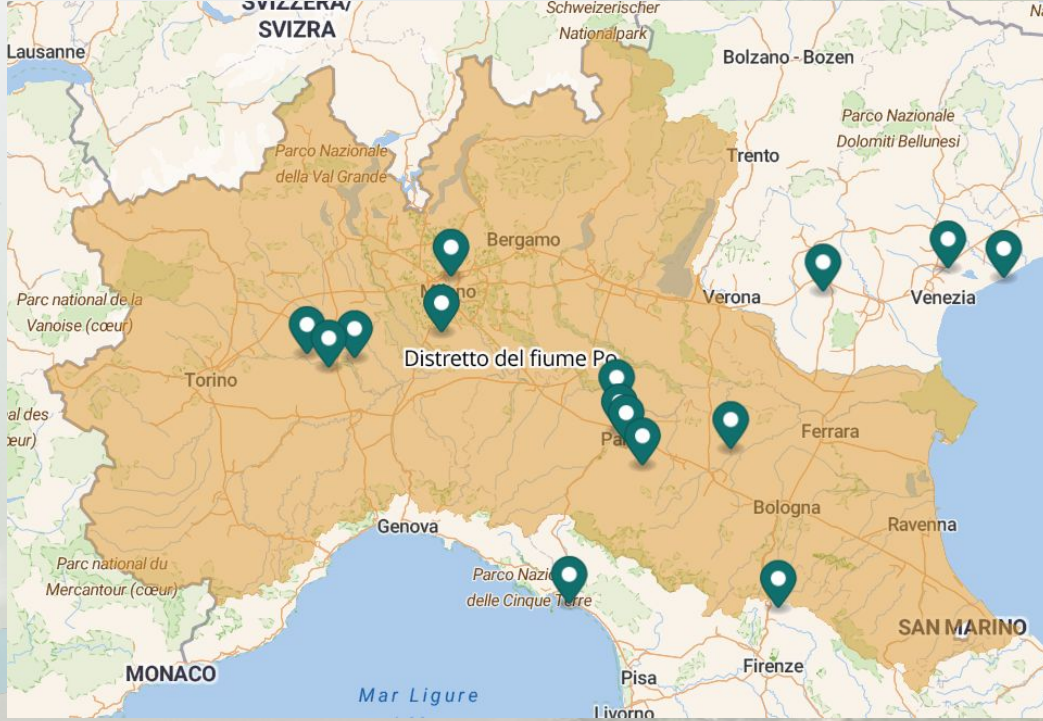


Natural connections for Natura2000 in
Northern Italy to 2030

Engaging the Private Sector



Un'iniziativa di



Good practices for enhancing nature

The **Nature Positive network** is a dynamic network of companies that wish to make a difference in Italy by concretely committing themselves to the transition of the production system towards a nature-positive economy.

How? Through the implementation of effective actions in favor of the protection and enhancement of nature

Around 30 companies have already signed up their commitment towards a nature-positive economy in the Po River District

<https://naturepositivenetwork.net/>

Key Takeaways

- 💧 Integrated river basin management plays a pivotal role in scaling up the adoption of Nature-based Solutions (NbS) to restore river functions and enhance resilience to climate change. By fostering a coordinated approach at the basin level, it enables the widespread implementation of NbS across entire watersheds.
- 💧 Ongoing monitoring is essential for assessing the effectiveness and adapting restoration strategies to ensure their long-term success.
- 💧 Inclusive participatory processes that empower stakeholders are essential for ensuring the lasting success and resilience of projects.
- 💧 Public-private partnerships are crucial for mobilizing the funding needed to scale up Nature-based Solutions (NbS).

Thank you for your attention!

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