DaWetRest

Danube Wetlands and flood plains Restoration through systemic, community-engaged and sustainable innovative actions

Start Month: MXX | End Month: MYY or
Reporting Period: MXX – MYY

Co-funded by the European Union Horizon Europe programme (HORIZON-MISS-2022-OCEAN-01) under Grant Agreement no. 101113015 (DaWetRest)

DaWetRest

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Why wetlands matter

Wetlands cover roughly 6% of the Earth's land surface.
(UNEP-World Conservation Monitoring Centre)

About 40% of the world's plant and animal species depend on wetlands, including 30% of all known fish species.
(Ramsar Convention)

The Danube River Basin (DRB), spanning 801.463 km^2, is a crucial hub for freshwater biodiversity in Europe.

However, more than 70% of wetlands, flood plains, and coastal wetlands, incl. salt marshes, have been lost or disconnected.

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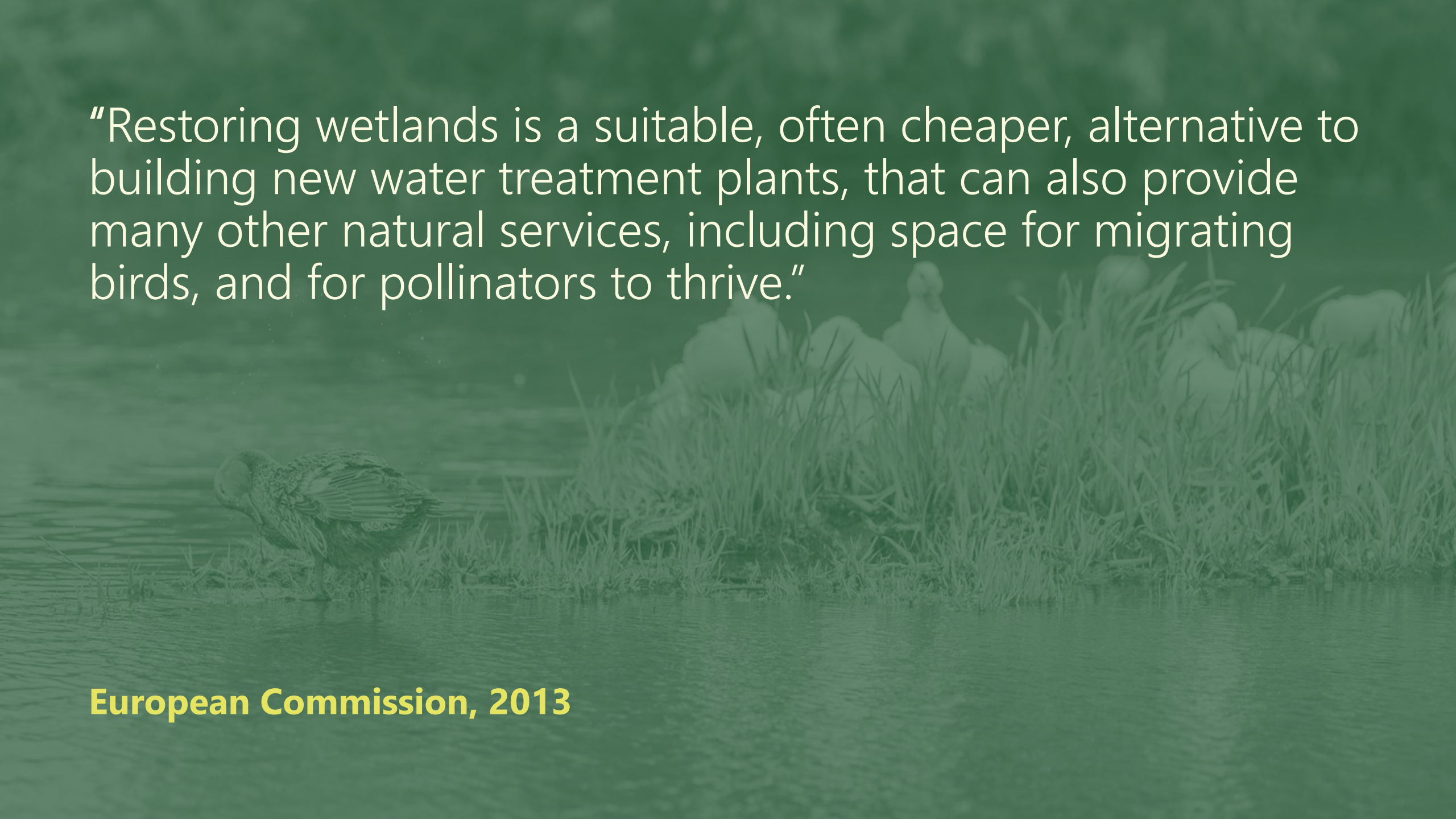

"Restoring wetlands is a suitable, often cheaper, alternative to building new water treatment plants, that can also provide many other natural services, including space for migrating birds, and for pollinators to thrive."

European Commission, 2013

Why wetlands matter

Wetlands are home to some of the most important **sturgeon** species (*Huso huso*, *Acipenser* sp.) and other migratory fish populations.

Most of the global population of **pygmy cormorant** and most of Europe's populations of **Great white pelican** and **Dalmatian pelican** live in wetlands.

Who benefits from intact wetlands?

1. **Flora and fauna** of wetlands
2. **Local communities:**
   Cleaner water;
   Reduced risk of floods and droughts;
   Business opportunities (farmers, fisheries, tourism).
3. **Water utilities:**
   Reduced costs for water purification.
4. **Ports:**
   Regulating effects on the water level.
5. **General public:**
   Absorption of CO2 – climate resilience;
   Recreation and education.

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DaWetRest project

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12 countries
Bulgaria, Croatia, Romania, Germany, Greece, Hungary, Moldova, Portugal, France, Serbia, Slovakia, and Ukraine

26 Beneficiaries & 20 Associated Partners
Universities, research & technology, public authorities, SMEs, NGOs, and business support organisations

48 months June 2023 – May 2027

3 Demonstration sites Croatia, Bulgaria, Romania

9.1 M€ Total Budget

Main objectives

Restoration of terrestrial and coastal wetlands ecosystems to enhance

- Biodiversity;
- Water quality and availability;
- Climate resilience and neutrality;
- Community involvement, engagement and knowledge;
- Economic opportunities and well-being of local communities.

through **three phases**:

1. **Develop and demonstrate concrete solutions** applied on the Danube basin
2. **Validate the solutions** by local communities and European-wide stakeholders
3. **Prepare and plan to replicate, deploy and scale up** the solutions

Holistic approach to wetland restoration

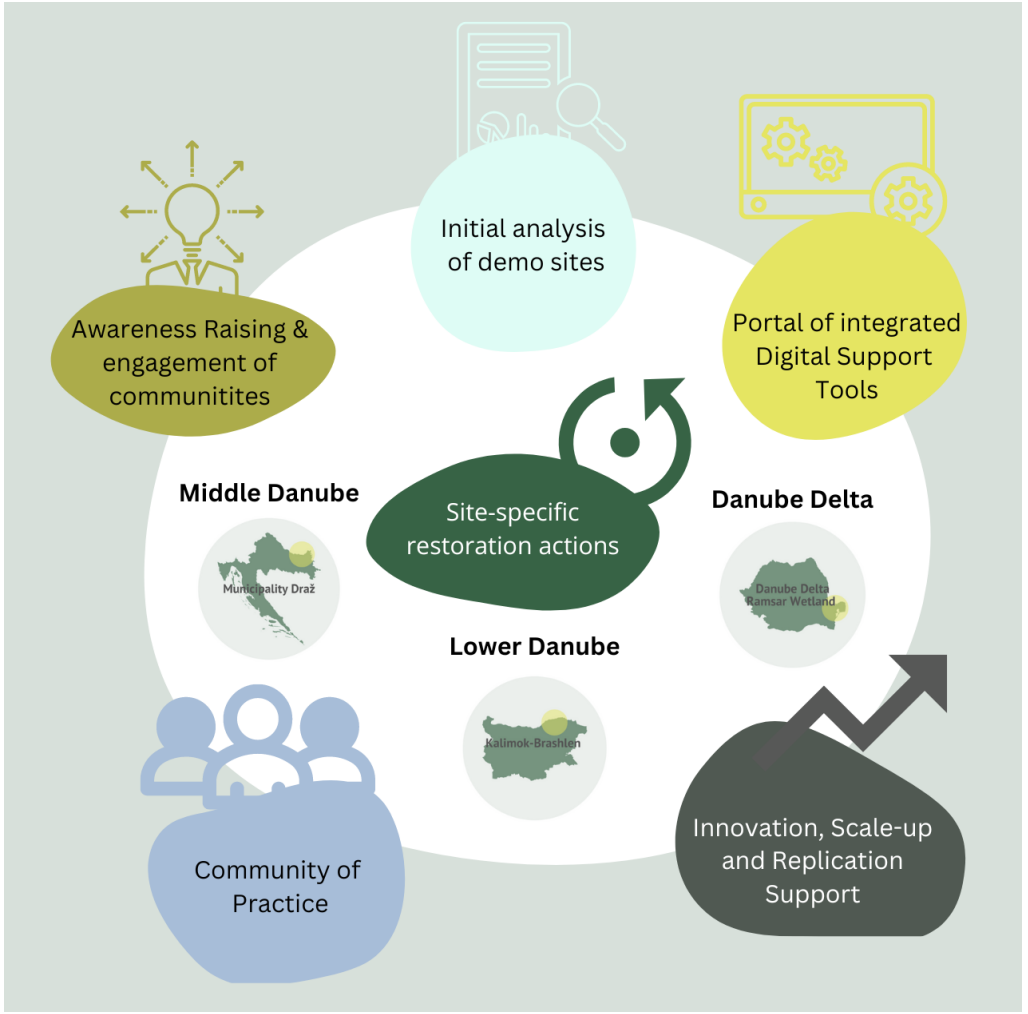
Integrated systems approach

Managing the complex interdependencies of ecological, socio-economic, and technological factors within the wetland restoration efforts.

ECOLOGICAL

TECHNICAL

SOCIO-ECONOMIC



Co-funded by the European Union

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EU MISSIONS

RESTORE OUR OCEAN & WATERS

4 Lighthouse Areas

- Atlantic-Arctic
- Mediterranean Sea
- Baltic-North Sea
- **Danube-Black Sea**

7 **Innovation Actions** to protect and restore the Danube River Basins ecosystems and biodiversity:

- Freshwater focus:
- Wetland focus: DaWetRest, Restore4Life RESTORING WETLANDS FOR A SUSTAINABLE FUTURE
- Sediment focus: sundanse Sustainable Sediment solutions for the Danube - Black Sea system, iNNOSED

Mission Charter

Charter of actions to **jointly achieve the three objectives** of the Mission Restore our Ocean and Waters by 2030.

By endorsing the **Charter** and submitting an action stakeholders will be able to

- access services and tools the **Mission Ocean and Waters** will deploy;
- access best practices from previous projects as well as tools to empower citizens to take action;
- become part of the Mission community and be involved in major Mission fora and events.

More information

DaWetRest Consortium

Multi-sectoral and interdisciplinary

Education and research organisations

Managing authorities for waters and wetlands

Policy authorities
Local, Regional, and National

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SMEs
Monitoring systems, Environmental Management

Business support organisations
Connecting research and industry

Non-governmental organisations
Connecting local communities and citizens

Natural Sciences
Biology, Ecology, Chemistry, Geology

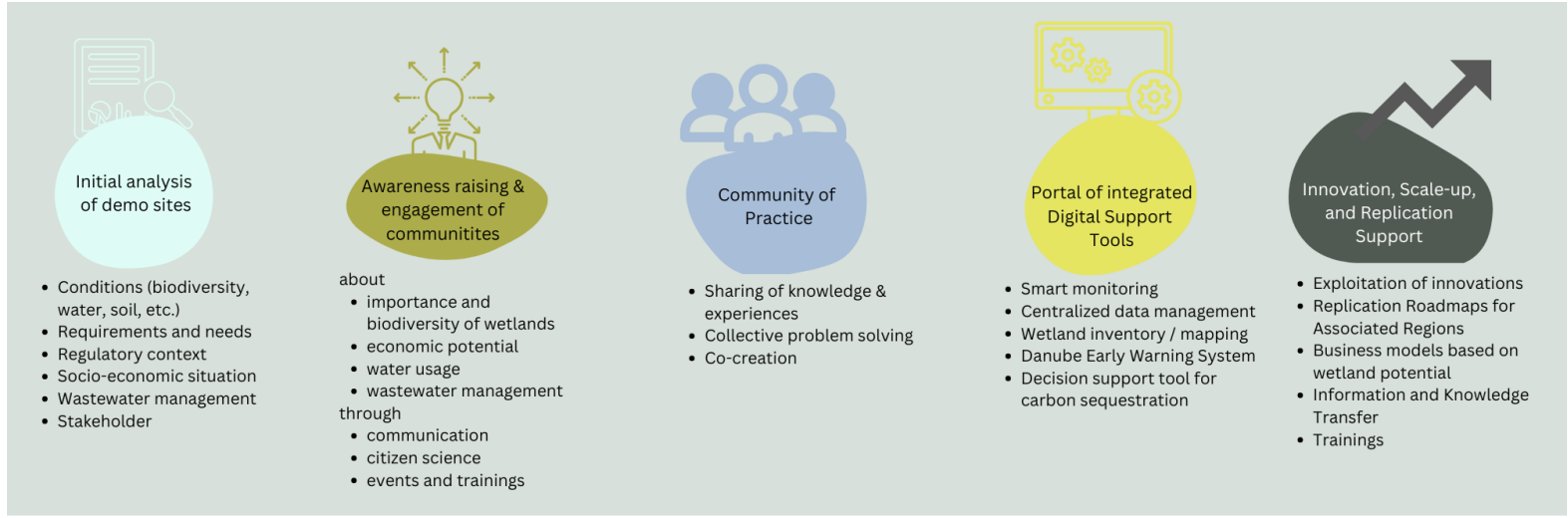
Technical Sciences
Mechanical & Electrical

Social Science

Computer Science

Business Economics

DaWetRest project



GRAPHIC currently under development

The 3 Demonstration sites

Including pilot and sibling sites

10 pilot sites

Locations directly connected to the Danube River: piloting of selected restoration and preservation activities.

14 sibling sites

Locations in the DRB not directly related to the Danube River: receive recommendations, strategies and action plans for replication.

Middle Danube demonstrator

Croatia – Dunav S od Kopačkog rita

Challenges:

- High anthropogenic disturbances (invasive species, excess nutrients, drainage)
- **Multi-national area**: pilot and sibling sites in Croatia, Hungary, Bosnia and Herzegovina, and Serbia

Innovative Actions:

- Hydro-technical works to **reconnect floodplains** with the Danube
- **Ornithofauna monitoring**, also including citizen science
- Piloting a **green hatchery** for fish repopulation to increase waterfowl biodiversity
- **Assessing carbon sequestration** capacity of different short rotation coppice
- Mapping critical restoration sites and developing a **transnational approach**
- Integration of the digital portal

Lower Danube demonstrator

Bulgaria – Kalimok-Brashlen Protected Area

Challenges:

- Interrupted connectivity between the floodplains and the Danube river
- Urban interventions, abandoned facilities

Innovative Actions:

- Piloting an **intelligent freshwater monitoring and management architecture** controlling the automated operation of 3 locks
- Piloting a **tidal power generator** to produce renewable energy
- Piloting a **mobile multiparameter measuring station** and **river research drone** for water quality assessment at marches and remote places
- **Monitoring of carbon sequestration** & related business models
- Testing **coastal integrity and resilience** by modelling the terrain of inland canals though GIS-geodesy/3D mode

Danube Delta demonstrator

Romania – Danube Delta Ramsar Wetland 521

Challenges:

- Disconnected waterflow from surface to underground
- Drying up of salt lakes and marshes
- Little economic opportunities for local communities

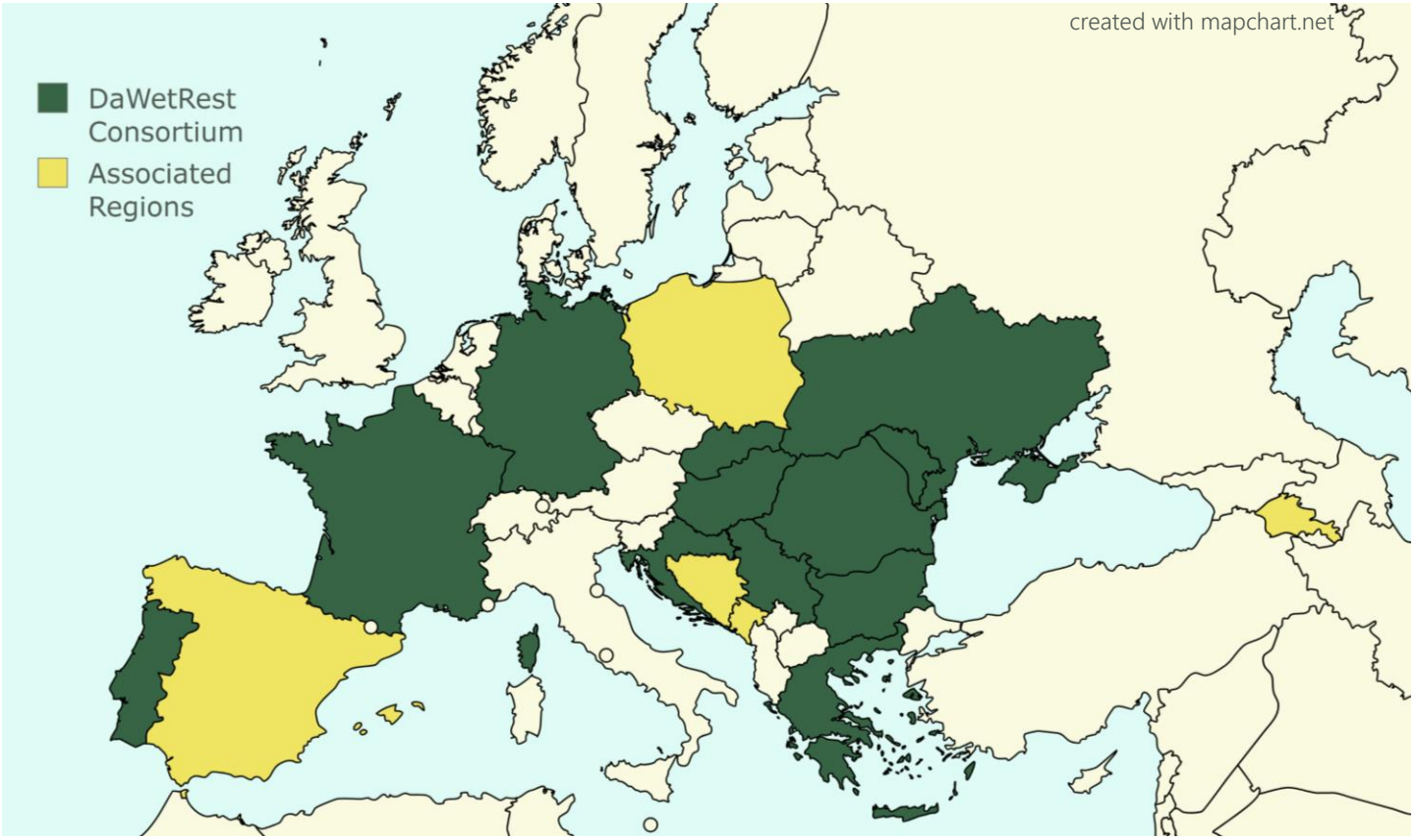
Innovative Actions:

- Restoring **lateral connectivity** between salt lakes and the Black Sea through hydrological works
- Restoring **vertical connectivity** using a solar energy powered water pump
- **Hydraulic modelling** of restoration sites
- **Smart** surface water **monitoring system**
- Piloting a **Recirculating Aquaculture Systems** that improves water quality and biodiversity
- **Remote sensing** of reed vegetation to develop a sustainable reed exploitation strategy

Associated Regions

- Represented by local and/or regional authorities;
- Have access to demonstrator activities and expertise;
- Receive guidance to prepare a replication roadmap for their own wetland ecosystem.

→ The aim is to showcase **feasibility**, **replicability**, and **scale-up** of DaWetRest solutions in all four referential basins.



DaWetRest

Meet our consortium

AIH

SOOO

RAC-BAS

MunMUR

DSTUF

FOPPDD

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THANK YOU FOR YOUR ATTENTION.

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