Ecological reconstruction of the Gerai Pond, Romania

Year of issue

2025

Summary

Gerai (Balta Geraiului), a Danube floodplain between Gârcov and Islaz, was restored under the LIFE+ “Green Borders” project. Works completed in 2011 reinstated the hydrological regime on about 1,000 ha to secure breeding water levels and open-water patches for Ferruginous Duck (Aythya nyroca) and Pygmy Cormorant (Microcarbo pygmaeus). Since then, the area has gained stronger protection and outreach: on 13 June 2012 it was designated as part of the Olt–Danube Confluence Ramsar Site (46,623 ha), and in June 2013 WWF, APM Olt and local communities opened a visitor observation point at Gerai. Governance has also been updated: in May 2023 Romania approved the official management plan for the Natura 2000 sites ROSPA0024 “Olt–Danube Confluence” and ROSCI0044 “Corabia–Turnu Măgurele”, which cover the Gerai area. Recent pressures include recurring reed/grass fires; in August 2022, over 600 ha around Islaz in the “Teleorman Delta”, including Balta Geraiului, burned. Overall, the project’s hydrological reconnection and bird-habitat aims remain relevant, now framed by Ramsar and Natura 2000 planning, while fire management is an ongoing challenge.

Photo Gallery



Location

43.73428, 24.671109

Project

NWRM

National ID

Romania_05

Sector

Hydromorphology

Installation Date

2011

Implementation status

Completed

Contact

Koszta Imola, REC

Overview

Location of the project

Danube floodplain between the villages of Gârcov (west) and Islaz (east), at the Olt–Danube confluence. The site lies near national road DN54 (Turnu Măgurele–Islaz–Corabia) that connects the two villages.

Country

Romania

NUTS2 Code

Sud - Muntenia

Sponge measures implemented in the case study

Wetland restoration and management

Floodplain restoration and management

Objectives

Restore hydrology at Gerai to facilitate water circulation and maintain water levels required by aquatic birds during the breeding/rearing season; improve hydrological conditions on ~900 ha of the floodplain.
Ensure favourable living conditions for Ferruginous Duck (Aythya nyroca) and Pygmy Cormorant (Microcarbo pygmaeus) by reconstructing nesting/feeding areas, applying best practices in fisheries/reed/forest management, reducing accidental/deliberate killing, informing local communities, and mobilising funding.
Implement a hydrological reconnection able to store up to ~4.2 million m³ during floods on a site of ~950 ha, via three control structures on drainage canals and a ~900 m feeder canal.

Involved partners

Authority type	Authority name	Authority role	Comments	Authority responsibility
NGO	WWF Danube Carpathian Programme Romania	Implementation	Financing/Programme: LIFE+ beneficiary; Implementation lead: coordinated works (2011); Monitoring/maintenance: WWF lists “Monitoring” and “Maintenance” phases for Gerai; Outreach: opened a visitor observation point in 2013.	Responsible
National water authority	Environmental Protection Agency (APM) Olt	Determination of design details of the measure	Design/Studies: co-conducted the project with the Technical University (authors include EPA Olt); Monitoring/regulatory: environmental authority for the county.	Responsible
National water authority	E.P.A Teleorman	Implementation	Environmetal Protection Agency	Supporting
NGO	Romanian Ornithological Society	Monitoring	Contextually supported avian conservation in the area.	Supporting
National water authority	MMAP / National framework for protected areas	Monitoring	Governance: 2023 ministerial order approved the management plan for the Natura 2000 sites covering Gerai, framing ongoing management/monitoring obligations.	Responsible

Site Information

Climate Zone

Warm temperate moist

Precipitation

450.00 mm

Temperature (°C)

11.50 °C

Runoff

65.90 mm

Runoff coefficient

0.15

Elevation range

23

Slope range

0-1% (flat, flood plain lookalike, butshowing small bumps (type of sand dunes) that don't exceed a few meters. The height in the area of Gerai Pond ranges between 22 and 24 meters, the location being almost horizontal. Only in the North area of the pond t

Groundwater level

Phreatic waters are stored in terrace deposits at 15–20 m depth; floodplain deposits are closely linked to Danube flows.

Vegetation class

Emergent wetland vegetation and reedbeds, with a mosaic of open water and pastures/grasslands. Reported hydrophilic plants include rushes/club-rush, bulrush, iris and arrowhead - typical marsh/helophyte communities.

WFD Ecological status

Moderate

WFD Chemical status

Failing to achieve good

Water quality status

A recent pressure on wetland habitats is recurrent reed/grass fires

Design and Implementation

Project scale

Micro

Project scale specifications

This is a site-specific floodplain/wetland restoration at Balta Geraiului between Gârcov and Islaz, with hydrological reconnection works focused on a single pond/floodplain unit (~950–1,000 ha) rather than a whole river basin or region.

Project area

950

Area subject to Land use change or Management/Practice change (ha)

950.00 ha

Financing

Total cost

1305390.00 €

Total cost information

Total cost of the LIFE project covering Gerai + other key sites in RO/BG.

Costs capital

65000.00 €

Costs capital information

Construction of 3 dams on the drainage canals in order to retain water in the area. Construction of a new canal in order to supply the pond with freshwater

Financing authorities

Authority name	Type of funding	Comments	Financing share
European Union	EU-funds: LIFE+	€979,042	75 %

Compensations

No

Policy and Governance

Policy description

Ecological restoration of the habitats (nesting and feeding) for hydrophilic species like the red duck (Aythya nyroca) and pygmy cormorant (Phalacrocorax pygmaeus), both being threatened species

Land ownership

A mosaic of ~400 small private landowners from the villages of Islaz and Gârcov hold land on Balta Geraiului (Gerai Pond).

Policy targets

Improved Biodiversity

Runoff control

Oher Societal Benefits

Part of a wider plan

Yes

Wider plan

Name
Lower Danube Green Corridor strategy

Public consultation

Yes

Consultation activities

Activity stage	Activity type	Key issues
Design phase	Consultation meeting in Izlaz and Garcov on 29-30 September, 2009	There were approximately 400 small landowners from Izlaz and Garcov villages on Balta Geraiului.

Has contractual arrangements

No

Impacts and Monitoring

Monitoring System

Monitoring requirements

Monitoring is required/ongoing to track the status of target bird species and habitat condition, carried out by WWF and partners during LIFE+ and framed since 2023 by the approved Natura 2000 management plan.

Monitoring parameters

Avian responses (including Ferruginous Duck and Pygmy Cormorant) and vegetation recovery, insects.

Maintenance

Maintenance requirements

Maintenance consists of applying conservation management of reedbeds/fisheries/forests and keeping the site under a managed regime.

Impact Assessment Methodology

Performance impact assessment method

Catchment outlet

Performance impact estimation information

Field observation

Socio-economic Impacts

Direct benefits information

Livelihoods & local use. The restoration brought ancillary benefits for residents, notably grasslands suitable for grazing; beekeepers from across Romania came for mint, fishing is possible in parts of the area, and eco-tourism increased.
Tourism & education infrastructure. On 26 June 2013, WWF-Romania, with APM Olt and local communities, inaugurated a tourist observation point at Balta Geraiului to enable birdwatching while reducing disturbance; WWF also backed a cycling-route initiative along the Romanian Danube.

Ancillary benefits information

ancillary benefits for the people living in the area, such as grassland suitable for grazing

Biophysical impacts: Hydrology

Information on retained water

1.5 million m3 retained water
Hydraulic works (connectivity): Three control dams on former drainage canals (≈110 m, 60 m, 40 m) plus a new feeder canal ~900 m long, 4 m wide to bring freshwater to the pond.

Information on increased water storage

could store 4.2 million m3 during floods

Biophysical impacts: Biodiversity

Improved biodiversity

Yes

Information on improved biodiversity

Ferruginous Duck (Aythya nyroca) breeding pairs increased from ~20 (pre-project) to ~60 (2013). Return of target birds including Pygmy Cormorant.
Habitat mosaic: WWF describes ~600 ha offering a mix of open-water pools, reedbeds and pastures after works (site description of outcomes).

Biophysical impacts: Water & Soil Quality

Water quality overall improvements

N/A info

Information on water quality overall

N/A info

Soil quality overall improvements

Not relevant for this application

Information on soil quality overall improvements

Not relevant for this application

Biophysical impacts: Others

Ecosystem impact climate regulation

Increased permanent biomass

Information on ecosystem impact climate regulation

During the dry season in 2012 there was a green grassland with a wide diversity of plants (such as mint)

Lessons Learned

Key lessons

A focused, low-cost hydrological reconnection can deliver quick biodiversity gains. At Gerai, three control dams and a ~900 m feeder canal re-established water exchange on ~950–1,000 ha; within two years Ferruginous Duck breeding pairs rose from ~20 to ~60, demonstrating rapid avian response at site scale.

Locking restoration into formal protection and planning sustains outcomes. After works finished (2011), the area was included in the Olt–Danube Confluence Ramsar Site (2012), and an official Natura 2000 management plan for ROSPA0024/ROSCI0044 was approved in May 2023—providing a framework for ongoing management and monitoring.

Transparent local engagement helps when land is fragmented. The case documents consultations with village stakeholders/landowners from Islaz and Gârcov at project start, which supported access and acceptance for interventions on the floodplain.

Plan for maintenance and monitoring from day one. WWF lists “Monitoring” and “Maintenance” as explicit phases at Gerai, and reported that post-works monitoring showed the wetland “coming back to life,” with returning bird and plant communities—useful, concrete indicators for tracking success.

External pressures can erode ecological gains if unmanaged. Recurrent late-summer fires culminated in ~700 ha burned around Islaz in 2022 (including Balta Geraiului), underscoring the need to integrate fire-risk reduction and enforcement into wetland management.

Investing in low-impact visitor infrastructure aligns conservation and local benefits. The 2013 bird-watching observation point formalized access, supporting education and ecotourism while channeling visitors to reduce disturbance.

Drivers

Driver type	Driver role	Comments
Other	Main driver	The need to create and ensure the protection and conservation of threatened bird species.

Success factors

Success factor type	Success factor role	Comments
Public participation	Main factor	There were approximately 400 small landowners from Izlaz and Garcov villages on Balta Geraiului.

Transferability

Highly transferable to disconnected floodplain ponds where modest hydraulic works restore water exchange. At Gerai, three control dams and a ~900 m feeder canal reinstated flows on ~950–1,000 ha with quick bird recovery. Key cautions: secure legal protection/management plan, engage many small private owners, fund maintenance/monitoring, manage reed–grass fire risk, and calibrate water levels to breeding needs.

Sources

Sources

Main project website

"Frontiere Verzi". Reconstructie ecoogica in baltile Dunarii

PRACTICAL SOLUTIONS FOR ECOLOGICAL RECONSTRUCTION OF GERAI POND

Balta Geraiului

Raport Anual 2011 – WWF-România

Ştiri – Natura2000 – Corabia Turnu-Măgurele

ORDIN nr. 909 din 6 aprilie 2023...

Information Sheet on Ramsar Wetlands (RIS): Olt–Danube Confluence (Confluenta Olt–Dunăre)

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Cross-border conservation of Phalacrocorax pygmeus and Aythya nyroca...

Practical Solutions for Ecological Reconstruction of Gerai Pond