Fortuna Restoration Project in the Danube Delta, Romania

Year of issue

2025

Summary

The Danube Delta Biosphere Reserve Authority’s Fortuna Wetland Restoration Project reconnected the 2,115-ha agricultural polder “Fortuna” to the Danube, restoring the hydrological regime and functions (works completed in 2004). Since then, restoration has scaled up across the Șontea–Fortuna complex. In 2015–2017, the EEA-funded RESTORATION-DD project dredged 13.56 km of secondary channels to re-establish habitat connectivity and migration routes, with monitoring and outcomes reported for c.7,000 ha within the 24,636-ha hydrographic unit. From 2021 onward, ARBDD is implementing a multi-site POIM project (SMIS 2014+ 120889) to improve hydrological conditions in Șontea–Fortuna, Matița–Merhei and Somova–Parcheș; planned works include the Fortuna Canal (5,176 m) among other links, with public communications indicating ~156 km of channels across the complexes. In 2024, environmental procedures were filed for desilting Lakes Fortuna and Uzlina, signalling continued management of water circulation and eutrophication control.

Photo Gallery



Location

45.191111, 29.148056

Project

NWRM

National ID

Romania_03

Sector

Hydromorphology

Installation Date

2004-11

Implementation status

Completed

Contact

Bogdan Barbu, RECImola Koszta, REC

Overview

Location of the project

In the Șontea–Fortuna lacustrine complex (Tulcea County), west-central Danube Delta, between the Sulina (south) and Chilia (north) branches; near Tulcea.

Country

Romania

NUTS2 Code

Sud-Est

Sponge measures implemented in the case study

Re-meandering

Elimination of Grey River Bank Protection

Reconnection of oxbow lakes and similar features

Wetland restoration and management

Objectives

Reconnect the 2,115-ha “Fortuna” agricultural/forestry polder to the Danube regime to restore the natural hydrological regime and functions.
Protect and maintain populations of species and habitats of high ecological value.
Carry out restoration works where the natural/semi-natural character had been lost.
Manage water circulation to improve ecological conditions (e.g., re-establishing connectivity and flow patterns).
Assess the effectiveness of existing buffer zones and recommend modifications if needed.

Involved partners

Authority type	Authority name	Authority role	Comments	Authority responsibility
National water authority	Danube Delta National Institute for Research and Development Tulcea - Romania	Other	2004: research, design, monitoring support. 2015–2017: project promoter of EEA-funded RESTORATION-DD (dredging 13.56 km of secondary channels; 9 pre/post restoration studies, GIS databases).	Responsible
National water authority	The Danube Delta Biosphere Reserve Authority	Implementation	2004 works: civil works / implementation of the Fortuna reconnection. 2019–2025: beneficiary/implementer of the hydrotechnical POIM project (SMIS 120889) across Șontea–Fortuna etc.; filed environmental screening for desilting Lakes Fortuna & Uzlina; leads ongoing maintenance (channel desilting/re-calibration).	Responsible
Research institute / University	RIZA- Lelystad, The Netherland	Monitoring	2004 project partners for research/design/monitoring.	Supporting
NGO	WWF - Auen Institute, Rastatt, Germany	Monitoring	Research, design, monitoring	Supporting

Authority type	Authority name	Authority role	Comments	Authority responsibility
National water authority	Romanian Ministry of Agriculture, Forests, Waters and Environment Romania	Financing	—	Supporting
Other	World Bank	Financing	Managing Agency, Financing	Supporting
Local water authority	Tulcea County Council	Other	—	Supporting
Farmers	Local stakeholders - the professional fishermen	Other	Project-Affected people	Supporting

Site Information

Climate Zone

Warm temperate dry

Precipitation

400.00 mm

Temperature (°C)

11.20 °C

Elevation range

12

Vegetation class

Reedbeds (Phragmites australis) dominate marsh vegetation across the Danube Delta, including the Sontea–Fortuna area, with adjacent aquatic macrophytes in lakes.

WFD Ecological status

Good

WFD Chemical status

Good

Water quality status

Delta-wide reports note water-quality deterioration and eutrophication pressures.

Design and Implementation

Project scale

Micro

Project scale specifications

The original case study targets a single site - the 2,115-ha Fortuna polder - reconnected to the Danube to restore its hydrological regime (works completed in 2004). That’s a localized hydromorphological intervention within the Șontea–Fortuna complex.

Project area

2115

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

2115.00 ha

Principles

Hydrotechnical measures tailored to maintain connectivity at low water (e.g., dredging 13.56 km of secondary channels).

Constraints

The villagers in Gorgova have strongly opposed the measure of closing channels leading to the Lake Fortuna, because it makes access by boat more difficult for them.

Financing

Total cost information

Early restoration framework (Danube Delta Biodiversity Project, 1994–2000) : US $4.50 million. Financing: GEF/World Bank US $4.30 m; Government of Romania US $0.20 m.
Fortuna reconnection works (2004) – “original” NWRM case : reconnection of Polder Fortuna (2,115 ha)No public figure
RESTORATION-DD (EEA Grants, 2015–2017)
Final project cost: €1,322,185. EEA Grants contribution: €1,123,857. (Implied co-financing difference: €198,328
1994–2000 enabling project (incl. early polder work): US $4.50 m total — US $4.30 m GEF/World Bank, US $0.20 m Romania.
2004 Fortuna reconnection: no public cost found; financiers named (Ministry + World Bank).
2015–2017 RESTORATION-DD: €1,322,185 total — €1,123,857 EEA Grants (+ €198,328 other co-finance not detailed on the public page).
2019–2023 POIM SMIS 120889 (covers Sontea-Fortuna among complexes): RON 35,910,901.99 total — at least RON 30,524,266.72 ERDF and RON 538,486.60 state budget documented; remainder/beneficiary share unclear in public pages.

Financing authorities

Authority name	Type of funding
World Bank	Other
Romanian Ministry of Agriculture, Forests, Waters and Environment	National funds

Compensations

No

Policy and Governance

Land ownership

Public domain of county interest administered by Tulcea County Council

Policy targets

Improved Biodiversity

Oher Societal Benefits

Part of a wider plan

Yes

Wider plan

Wider plan type	Wider plan focus	Name	Comments
Local	Environment & Biodiversity	The Rehabilitation Programme	Wetland Restoration Projects
—	Environment & Biodiversity	Danube Delta Biodiversity Project	—

Public consultation

No

Has contractual arrangements

No

Impacts and Monitoring

Monitoring System

Monitoring requirements

Periodic, seasonally tuned campaigns should capture hydrological, physico-chemical (pH, N, P) and biological data on Fortuna and connected channels, with outputs integrated in GIS/habitat-status assessments to support management decisions.

Monitoring parameters

Water-level/flow monitoring on the Danube branches and on the feeding/drainage channels of Lakes Fortuna and Uzlina, alongside water-quality indicators—pH, inorganic nitrogen, orthophosphate, total phosphorus—and biological components such as zooplankton

Maintenance

Maintenance requirements

Ongoing desilting and channel re-calibration led by ARBDD—e.g., Canal Fortuna 5.176 km and Gârla Șontea 11.949 km—plus a 2024 desilting project for Lakes Fortuna and Uzlina.

Socio-economic Impacts

Direct benefits information

Closing some access channels from Gorgova/Maliuc reduced boat access to Lake Fortuna, increasing travel time/costs and creating local conflict (reported as a social/operational impact during the restoration context).
Direct livelihood benefits listed for this site: fish yield, reed harvest, tourism, cattle.
Tourism use of the area: county materials present Lake Fortuna as a bird-watching/fishing destination on standard routes

Biophysical impacts: Hydrology

Information on retained water

Connectivity restored (2004 core project; 2015–2017 extension): Re-established links between the polder/lakes and the main channel network, explicitly to secure connectivity even at low Danube water levels and to reopen migration routes for aquatic species.
~13.5 km of secondary channels were dredged; channel bottoms changed from about +1.0 m a.s.l. (in some sectors) to −1.5 to −2.0 m a.s.l. (per design), improving flow conveyance.

Biophysical impacts: Biodiversity

Improved biodiversity

Yes

Information on improved biodiversity

- Habitat for plants and animals typical alluvial areas; - Habitat and breeding area for fish and aquatic birds; - Reservoir for biodiversity and providing genetic resources; - Biocoridor and genetic exchange; restoration of ~7,000 ha of fragmented wetland within the 24,636-ha Șontea–Fortuna unit; connectivity of habitats and migration routes restored under low-water conditions; conservation state restored for 7 aquatic habitat types (1 priority); and improved conservation status for >5,000 wild species

Biophysical impacts: Water & Soil Quality

Water quality overall improvements

Positive impact-WQ improvement

Information on water quality overall

Retention of sediments and pollutions; Black Sea biofilter.

Soil quality overall improvements

Positive impact-SQ improvement

Information on soil quality overall improvements

Organic production; Biogeochemical circuit elements

Biophysical impacts: Others

Ecosystem impact climate regulation

No information available

Lessons Learned

Key lessons

Local support is decisive. The initial reconnection reduced boat access from Gorgova/Maliuc to Lake Fortuna, raising costs and sparking conflict; future designs must co-create access solutions with residents.
Hydrological restoration is not “one-and-done.” The NWRM file flags that the restored area was not self-sustaining; subsequent programmes show recurring desilting and channel calibration (e.g., 2024–2025 works on Lakes Fortuna and Uzlina) to keep circulation and water levels within targets.
Evidence-led, adaptive management adds value. The EEA RESTORATION-DD phase produced 9 pre/post studies, GIS databases and a success-evaluation report, enabling adjustments and policy advice tied to ecosystem services.
Clear governance and financing pathways matter. The NWRM page records barriers—fragmented ownership/administration and weak inter-agency coordination—while later phases unlocked external windows (EEA Grants; ERDF/POIM) and international partnerships (DDNI–NINA) that helped scale work across the Șontea–Fortuna complex.
Design for low-water conditions is critical in the Delta. Works explicitly targeted restoring connectivity and migration routes under low Danube levels, a recurring stressor for cut-off lakes like Fortuna.

Barriers

Barrier type	Barrier role	Comments
Other	Secondary barrier	From a local benefits perspective, villagers in Gorgova have strongly opposed the measure of closing channels leading to the Lake Fortuna, because it makes access by boat more difficult from them.
Lacking coordination between authorities	Main barrier	Land "ownership" (too many administrators); legal framework; lack of money; lack of coordination (national level); lack of vision; lack of co-operation.
Attitude of decision makers	—	—

Barrier type	Barrier role	Comments
Other	Secondary barrier	Restored area not self sustaining;

Success factors

Success factor type	Success factor role	Comments
Successful coordination between authorities	Main factor	A strong institutional anchor (ARBDD as implementer; DDNI as science lead) with defined roles.
Financing possibilities	Main factor	Dedicated external funding windows (EEA Grants; ERDF/POIM) to finance works beyond the initial site.
Conducted assessments (incl. economic)	Main factor	Robust pre/post monitoring and GIS mapping to steer adaptive management and inform policy.
Conducted assessments (incl. economic)	Secondary factor	Commitment to ongoing maintenance (recent desilting proposals for Lakes Fortuna & Uzlina).

Transferability

Transferable : Highly transferable to deltaic/floodplain polders with altered connectivity. Success hinges on clear governance and funding, robust pre-/post-monitoring, and designs that maintain flows at low water. Proceed with care on local navigation/access needs, permitting and land administration, and plan for recurrent maintenance (desilting/channel calibration) to avoid stagnation and eutrophication.

Sources

Sources

The Fortuna Restoration Project

Romanian Experiences Regarding Ecological Restoration in Danube Floodplain and Delta

The Danube Delta Biosphere Reserve

Romanian Danube Delta Biodiversity Project Local Benefits

156 de kilometri de canale vor fi decolmatate în Delta Dunării

Restoration of aquatic ecosystems in the Șontea-Fortuna area ... [RESTORATION-DD]

Proiect Decizie încadrare ARBDD_decolmatare (Lacurile Fortuna și Uzlina)

ARBDD: Decolmatări de canale în Delta Dunării, 156 de kilometri în perioada 2021–2023

The 42nd IAD Conference 2018 ... Book of Abstracts

Implementation Completion Report on a GEF Grant ... Danube Delta Biodiversity Project

Restoration of aquatic ecosystems in the Sontea-Fortuna area ... [RESTORATION-DD]

Comunicat de presă – Semnarea Contractului de Finanțare nr. 274/27.09.2019 ... (POIM, Complexele lacustre Șontea–Fortuna, Matița–Merhei, Somova–Parcheș)

Raport anual de activitate privind desfășurarea programului nucleu Delta Dunării 2030, DD2030, PN 23 13 – anul 2023