

DANUBE DELTA – Life with respect for nature!®



GREEN DANUBE - Integrated transnational policies and practical solutions for an environmentally-friendly Inland Water Transport system in the Danube region

Environment protection in Danube Delta Biosphere Reserve

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DANUBE RIVER

Total length: 2,860 km

Catchment area: 817,000 km² (more than 80,0 million of inhabitants)

Crossing 10 countries: Germany, Austria, Slovakia, Hungary, Croatia, Serbia, Romania, Bulgaria, Republic of Moldova, Ukraine



Danube Delta Biosphere Reserve

- Danube Delta: Biosphere Reserve in 1990 (DRG-HG)
- Law 82/1993 of Romanian Parliament

- The only delta of the world, entirely declared a biosphere reserve
- One of the worldwide largest wetland, especially a waterfowl habitat
- The greatest reedbed areas in the world

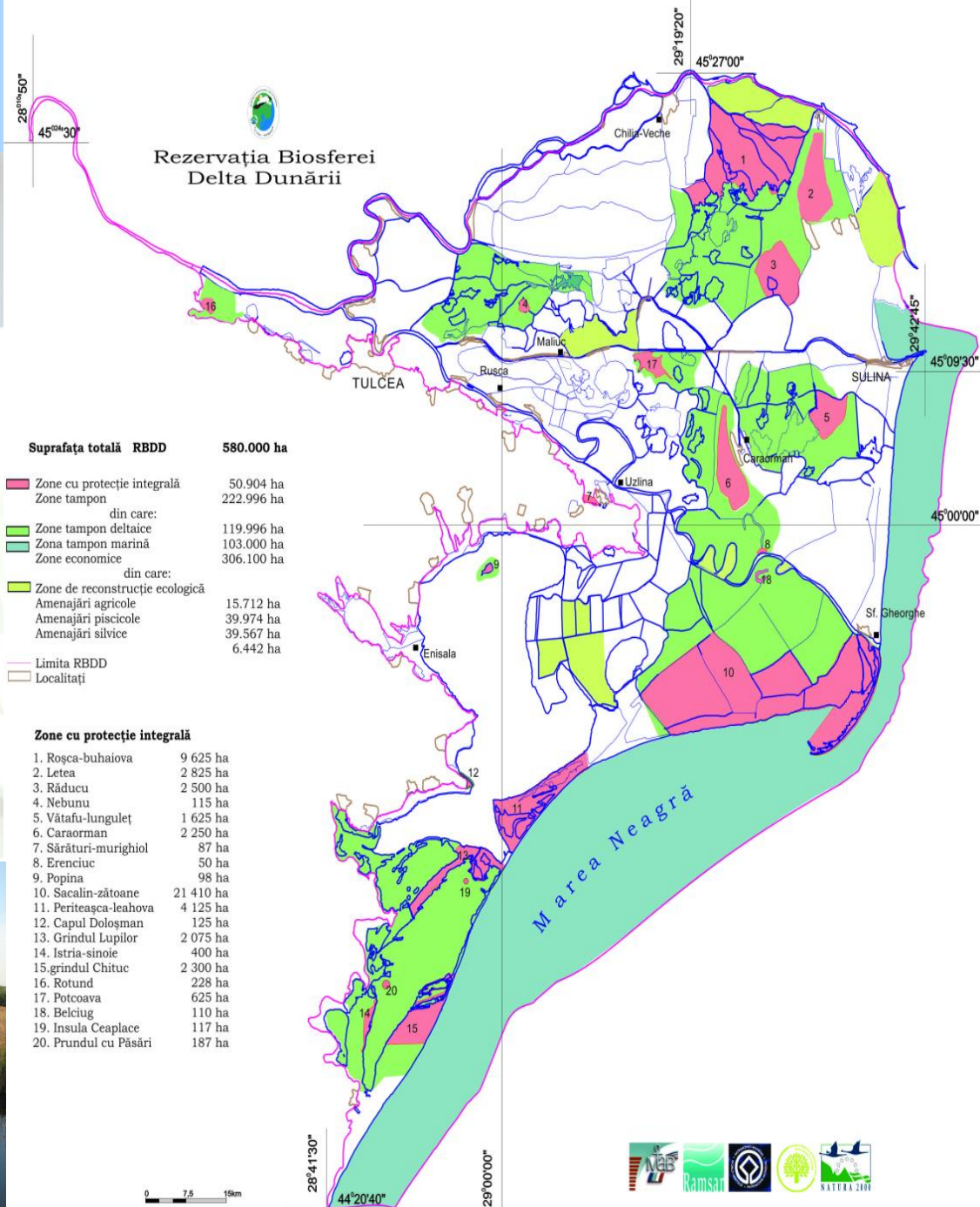


Danube Delta Biosphere Reserve

- Danube Delta
- Razim-Sinoie complex
- Coastal Black Sea up to 20 m
- Isaccea - Tulcea sector of DRF
- Danube River sector (Cotul Pisicii – Tulcea)
- Sărături-Murighiol

ZONATION:

- Core areas: 50,904 ha
- Buffer zones: 222,996 ha
- Marine buffer zone: 103,000 ha
- Economic zones: 306,100 ha
- Ecological restoration: 15.700



Danube Delta Biosphere Reserve

The international recognition:

- Included on the international network of biosphere reserves by the **Man and Biosphere (MAB) Programme of UNESCO** (1990)
- Recognized as a wetland of international importance especially as waterfowl habitat under the **Ramsar Convention** (1991)
- Listed in the World Heritage List under the **World Cultural and Natural Heritage Convention** (1990).



Danube Delta Biosphere Reserve

The European value:

■ Council of Europe Awards:

- 2000, European Diploma for protected area
- renewed in 2005 and 2010



■ EUROSITE Awards:

- 1995 - for restoration works
- 2001 - for management and public awareness



■ EUROPARC member



■ Natura 2000 Site (SPA and SCI)



European Diploma of protected areas

awarded by the Committee of Ministers of the Council of Europe to the Danube Delta Biosphere Reserve

Whereas it is desirable to promote close co-operation between member countries of the Council of Europe, with a view to conserving and enhancing the natural environment of the peoples of Europe, for the material and spiritual well-being of present and future generations;

Whereas the Committee of Ministers has instituted to that effect a European Diploma to place under the sponsorship of the Council of Europe certain protected landscapes, reserves and natural features of European interest;

I, Walter SCHWIMMER,

Secretary General of the Council of Europe, hereby certify that:



Danube Delta Biosphere Reserve

■ World Wetland Network Blue Globe Award 2010

For best practice in wetland management

Nagoya, JAPAN

■ The Quality Coast GOLD Award 2011

For excellence in Nature and Identity

May 2011, Kouklia, Cyprus

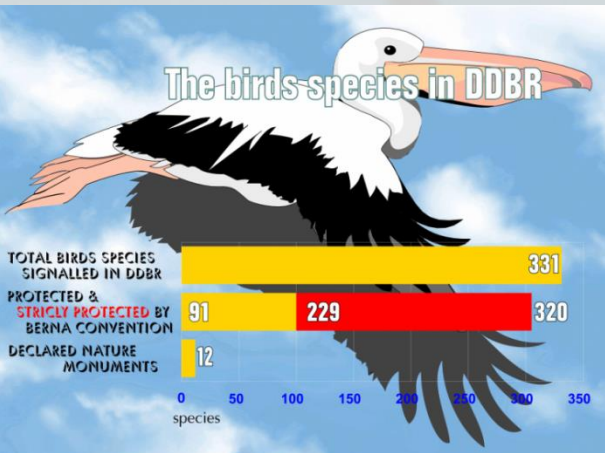
A great recognition for Danube Delta Biosphere Reserve, a beautiful area rich in nature, biodiversity and cultural heritage.





Danube Delta Biodiversity

- Total species: 7,405 (4,029 – fauna; 3,376 – flora)
- Ecosystems: 30 (23 natural și 7 man-made)
- Habitats: 29 în stepe bioregion (7 prioritaire habitats) 3 in pontic bioregion



Danube Delta: People and nature

- **Rural settlements:** 24 (65,6 % inhabitants)
- **Urban settlements:** 1 (Sulina) (34,4 % inhabitants)
- **People:** 12 638 inhabitants (2011 census)
- **14 ethnic groups:**
 - Romanians, Lipovans, Ukrainians, Greeks, Turks, Hungarians, other nationalities**

The lowest population density of Romania: 3 inhabitants/km²



Danube Delta: Traditional economic activities



- Fishery
- Cattle breeding
- Fishfarming
- Agriculture
- Forestry
- Navigation/Transport
- Reed harvesting
- Tourism
- Trade

Other activities:

- Education
- Health care
- Public administration

THE ROLE OF THE RESOURCES EXPLOITATION

- Maintain the biodiversity
- Maintain the equilibrium of the ecosystems
- Maintain the landscape (for tourism)
- Maintain the environment quality
- Source of income for local community
- Source of goods for communities, including the local communities

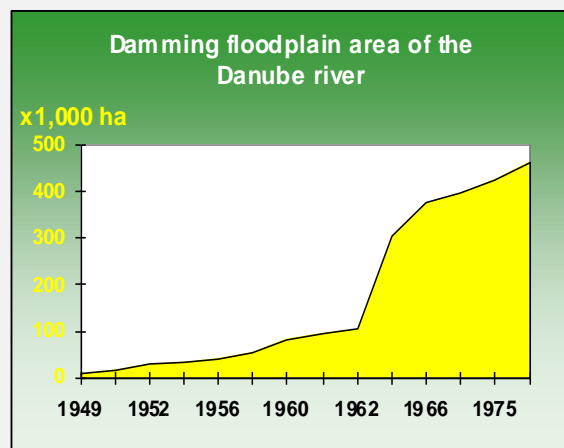




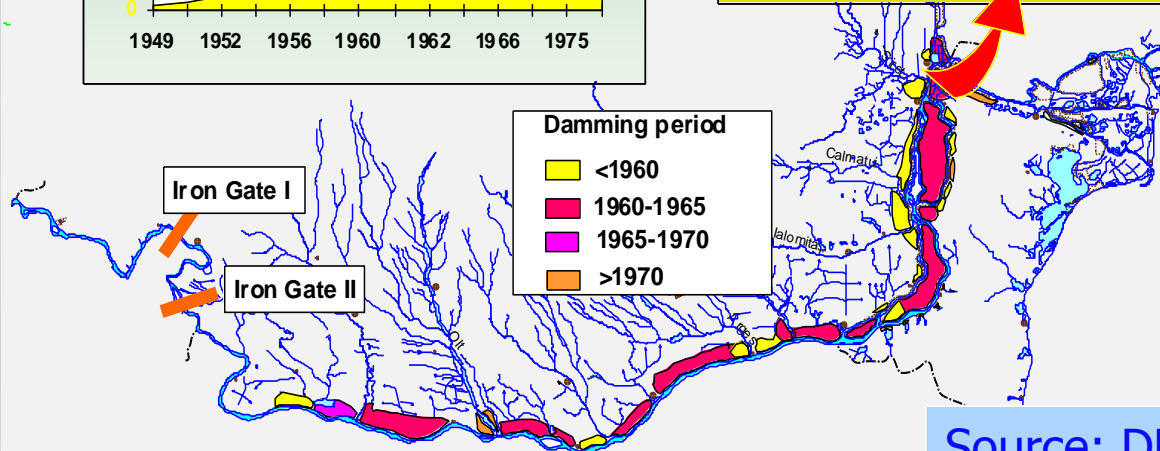
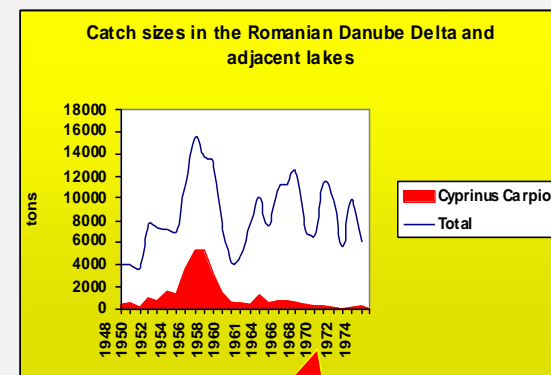
Major impact of economic activities

- Dams in Danube River Floodplain and Delta;
- Nature resources over exploitation;
- Uncontrolled urban development;
- Navigation;
- Pollution;
- Uncontrolled tourism;
- Waste management difficulties.

DAMMING OF DANUBE RIVER FLOODPLAIN



IMPACT ON DANUBE DELTA'S FISHERY



Major impact of dams in Danube Delta

Nitrogen: 300.000-400.000 t/year
Phosphorous: 45.000-60.000 t/year
Oil: 45.000-50.000 t/year

HUMAN INDUCED CHANGES IN THE LOWER DANUBE RIVER

BY

HABITAT
REDUCTIONS

BY

DAMMING
UPSTREAM FLOODPLAIN
AND 22% OF THE DELTA

AND

BUILDING BARRAGES
AT KM 942 AND KM 863
FROM RIVER MOUTHS

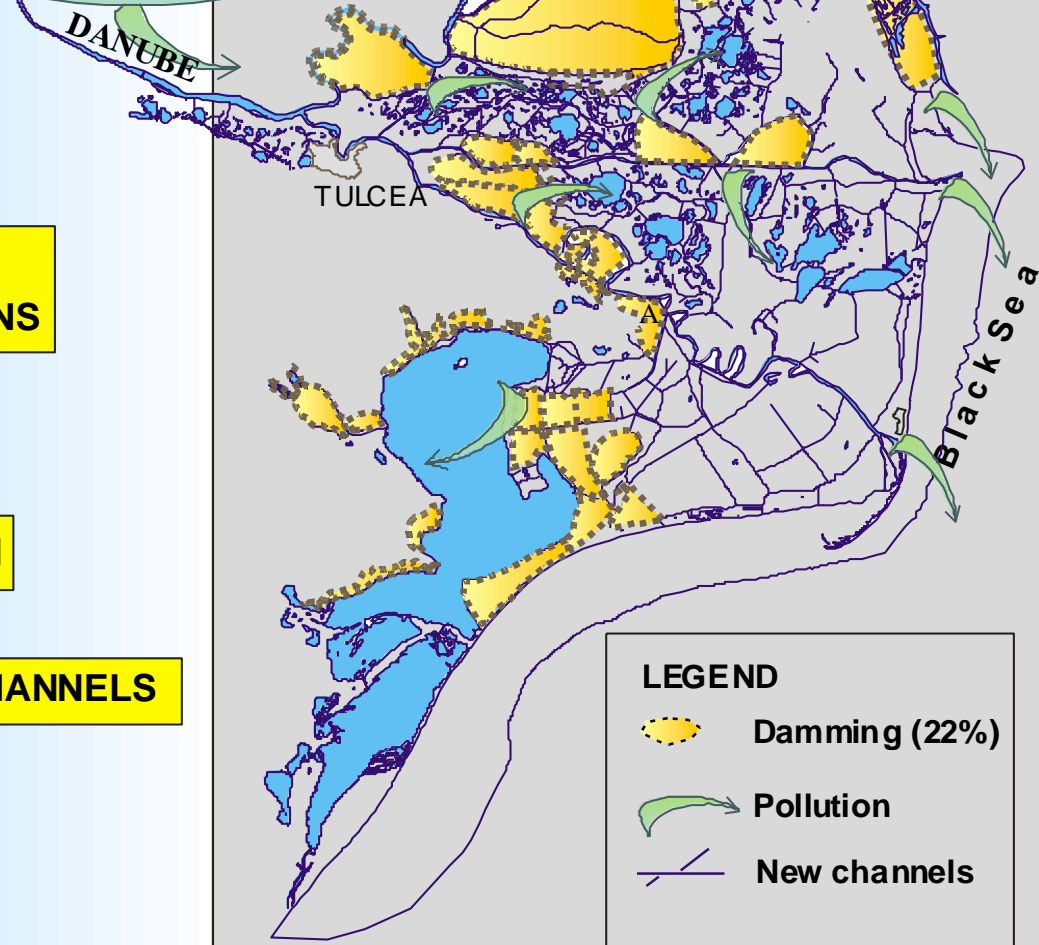
HABITAT
ALTERATIONS

BY

POLLUTION

AND

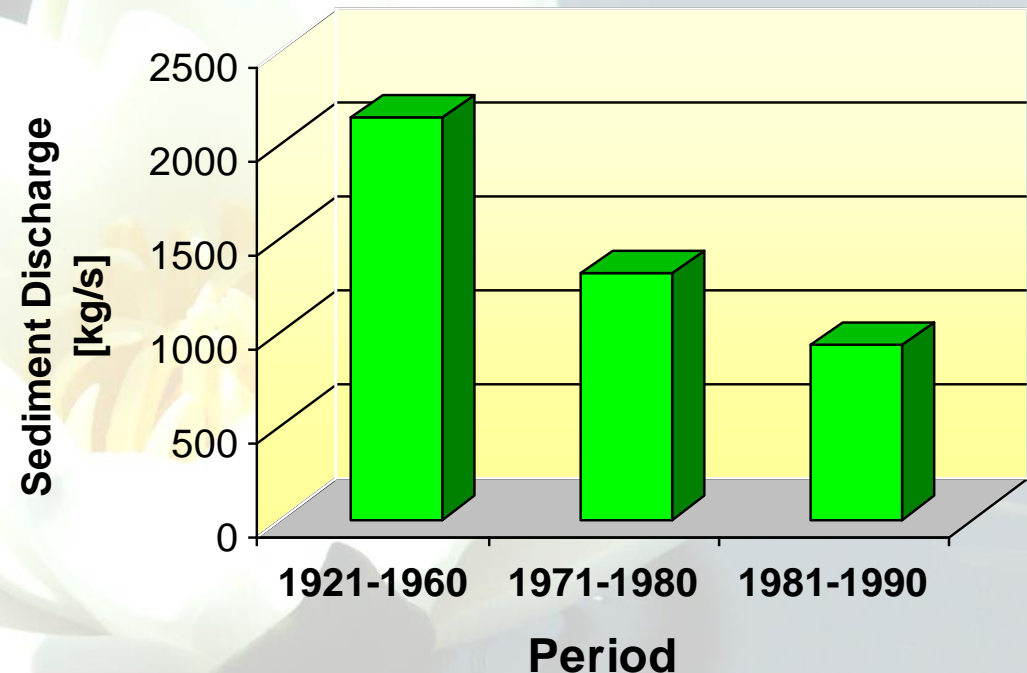
DRADGING CHANNELS



Major impact of dams in Danube Delta

Sediment input changes:

- 2138 kg/s (1921-1960)
- 1308 kg/s (1971-1980)
- 926 kg/s (1981-1990)



EFFECTS:

- Increase the costal erosion;
- Increase the Black Sea level during the last century (1.5 – 2 mm/year).

Importance of wetlands

Ecological

- Support biodiversity (habitats for specific flora and fauna);
- Improve water quality (nutrients reduction: 15kg P/year/ha, 335 kg N/ha/year, sediments control: 11 t/ha/year);
- Storage of energy and components as raw material for ecosystems function.

Social

- Prevent/diminish the flood consequences;
- Sources for drinking water supply;
- Specific landscape for recreation;
- Specific place for ecological education.



Management objectives

BIODIVERSITY
AND HABITATS
CONSERVATION

CULTURAL
TRADITIONS
CONSERVATION

SUSTAINABLE
USE OF
NATURAL
RESOURCES

**BIOSPHERE RESERVE
RAMSAR WETLAND
WORLD HERITAGE SITE - UNESCO**

MANAGEMENT
PLAN

LAND
ARRANGEMENT
PLAN

NATIONAL
LEGAL
FRAMEWORK,
SPECIFIC
REGLEMENTS

Implementation

Measures to reduce the negative effects

- **Ecological restoration in Danube Delta;**
- **Ecological restoration in Danube River Floodplain and tributaries;**
- **Habitats and ecosystems restoration;**
- **Wastes management;**
- **Transport/navigation management;**
- **Sustainable use of the nature resources;**
- **Development of protected areas network;**
- **Cross border cooperation**



Supporting the restoration projects

Strategy for Sustainable Development in Danube Delta Region (main projects):

- Revised Management Plan including habitats inventory;
- Hydrologic model of RBDD;
- Improvement of water supply in habitats of Danube Delta;
- Habitats and ecosystems restoration;
- Wastes management;
- Endangered species restoration;
- Sturgeons protection;
- Development of protected areas network;
- Cross border cooperation

**THANK YOU VERY MUCH
FOR YOUR ATTENTION!**

