



DANUBE DELTA
BIOSPHERE RESERVE AUTHORITY



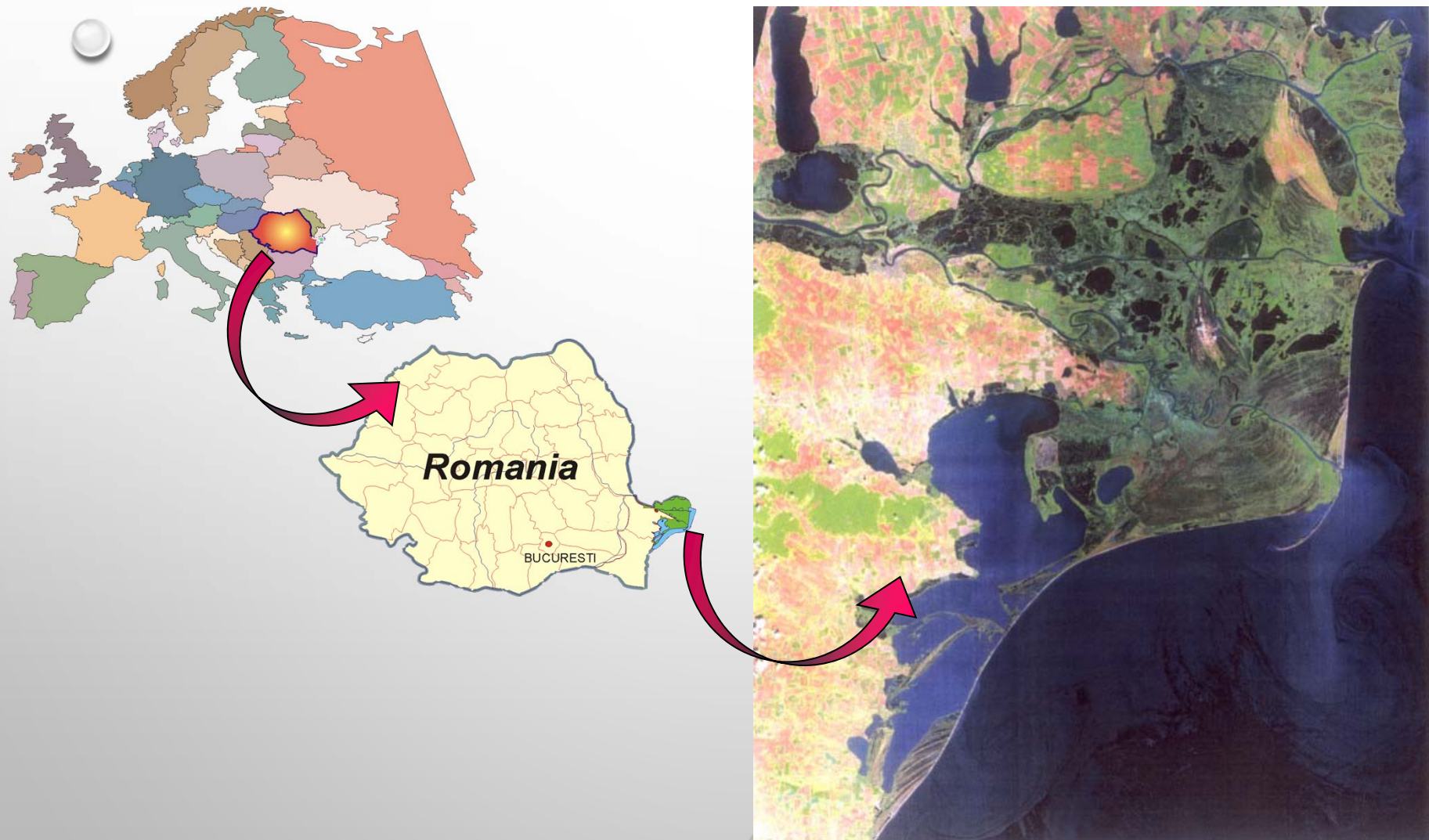
Danube Delta Biosphere Reserve

Waste problems along the Black Sea shore



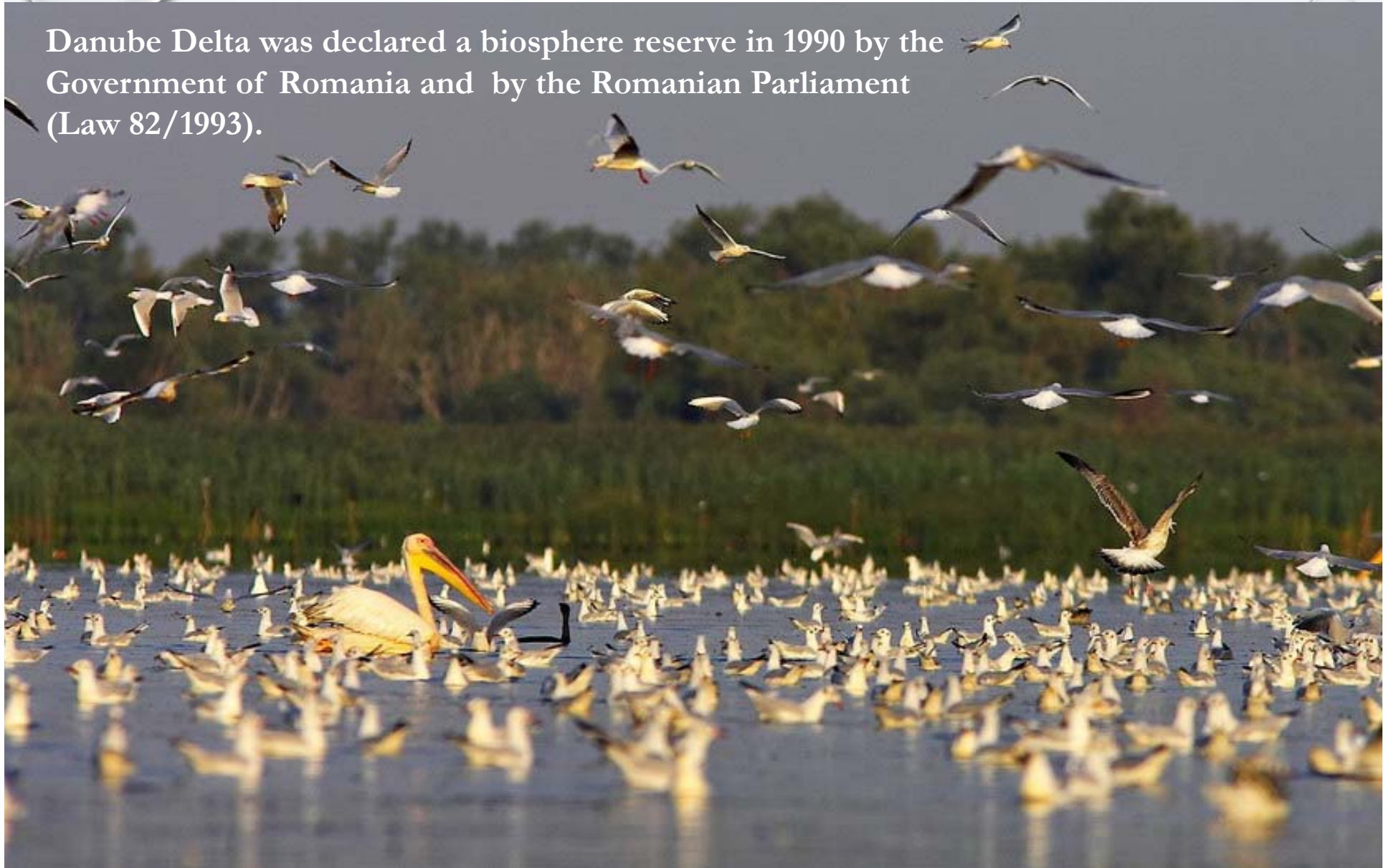
DANUBE DELTA – Life with respect for nature!®

Danube Delta Biosphere Reserve (DDBR) – location



Danube Delta Biosphere Reserve (DDBR) - legal framework

Danube Delta was declared a biosphere reserve in 1990 by the Government of Romania and by the Romanian Parliament (Law 82/1993).



Danube Delta Biosphere Reserve (DDBR)

■ Total surface: 580 000 ha

■ Physical-geographical components:

- Danube Delta
- Maritime Danube river up to Cotul Pisicii
- Isaccea-Tulcea sector of Danube floodplain
- Murighiol – Popu salt flats
- Razim-Sinoie lagoon complex
- Black sea coast from Chilia Branch to Midia Cape
- Inland marine waters and territorial sea up to 20 m isobath



Danube Delta Biosphere Reserve (DDBR)

The Danube Delta holds a triple international statute:

- As Biosphere Reserve, included in the international network of biosphere reserves, the "MAN AND BIOSPHERE" Programme - MAB UNESCO (1990)
- As RAMSAR site (wetland of international importance, especially for waterfowl) (1991)
- As UNESCO World Natural and Cultural Heritage Site (1991)

The "Danube Delta" Biosphere Reserve (D.D.B.R) is an integral part of the European ecological network Natura 2000 in Romania, both as:

- Sites of Community Importance (ROSCI0065 Danube Delta and ROSCI0066 Danube Delta - marine area) and
- Special Protection Area for Birds (ROSPA0031 Danube Delta and Razim - Sinoie Complex and ROSPA0076 Black Sea), according to GD no. 1284/2007.



Danube Delta Biosphere Reserve – biodiversity

The Danube Delta is one of the largest deltas in Europe, including some of the least disturbed wetlands on the continent.

The Danube Delta is extremely rich in species and supports a wider range of ecosystems than any other region in Europe.



- ✓ The mosaic of habitats developed here is the most varied in Romania and hosts 30 types of ecosystems, 23 natural and 7 anthropic.
- ✓ Over 9580 species of flora and fauna:
 - 2391 species of flora
 - 6197 species of fauna

The Delta presents itself as an area interposed between land and water, comparable to an open-air laboratory, rich in plant and animal species - some of them endemic, threatened or endangered.

The specific ecological conditions determine the habitats (the territories where the species live together with the surrounding environment) to be full of life, but at the same time fragile.

The DDBR's statute of protection helps to maintaining its impressive biodiversity (over 9580 species of flora and fauna) in a better state than in most deltas of Europe.





The Black Sea coastal area of the Reserve is valuable for:

- the morphological configuration characterized by the succession of cordons, dunes, lakes, oriented in the form of a fan
- the characteristic vegetation on salty sandy soil
- the migration of birds and their wintering.

2110 - Embryonic shifting dunes

It is a habitat of high and medium height shifting sand dunes, populated by vegetal formations providing a first stage of fixing marine sands. The vegetation is adapted to the conditions of this habitat: strong insolation, low humidity of the substrate and a reduced contents of

*Artemisia
tschernieviana*

humus and nutritional salts. In these conditions rare species can be met, such as Mammoth Wild Rye (*Leymus racemosus* subsp. *sabulosus*), *Artemisia tschernieviana* Besser, Sea Holly (*Eryngium maritimum*) and *Gypsophila perfoliata*.

*Eryngium
maritimum*

*Gypsophila
perfoliata*

2110 Habitat

2130* - Fixed coastal dunes with herbaceous vegetation (grey dunes)

This habitat occupies fixed maritime sand dunes, mainly stabilized and colonized by perennial herbaceous species, such as: *Petasites spurius*, *Centaurea arenaria*, *Centaurea pontica*, Garden Baby's-breath (*Gypsophila scorzonifolia*), and *Dianthus besserabicus*. The soil is represented by the semi-fixed marine sands, lightly salty, scarce in water, in an advanced stage of soil formation. The limitative factor is represented by the anthropical factor.

The conservation of dune habitats complex and their specific flora is recommended.

*Centaurea
arenaria*

*Centaurea
pontica*

*Dianthus
besserabicus*

2130* Habitat

2160 - Dunes with *Hippophae rhamnoides*

Low marine sand dunes fixed or semi-fixed by specimens of the Common Sea-Buckthorn (*Hippophae rhamnoides*), accompanied by a small number of psammophilae, such as: the Common Golden Thistle (*Scolymus hispanicus*), the Saltcedar (*Tamarix ramosissima*), the French Psyllium (*Plantago arenaria*), the Drooping Brome (*Bromus tectorum*), Bermuda Grass or the Devil's Grass (*Cynodon dactylon*), the False Indigo Bush (*Amorpha fruticosa*), *Gypsophila perfoliata*, Western Salsify (*Tragopogon dubius*), spread throughout the gaps of the bushes. The common Sea-Buckthorn succeeds in covering up to 90 - 95 % of the substrate. The soil is represented by the marine sands or barren psamosols, lightly salty soils. As limitative factors for this kind of habitat we mention the anthropical factor. This habitat is quite well preserved in the Danube Delta Biosphere Reserve.

*Tragopogon
dubius*

*Hippophae
rhamnoides*

2160 Habitat





Tamarix ramosissima

Eryngium maritimum

Habitat 2110

***Convolvulus persicus* L. = Bindweed**

It is a species which populates the areas with sandy dunes along the seashore. It grows on the seashores of the Black and the Caspian Seas. In Romania it is a vulnerable species all along the sea-coast.

Convolvulus persicus



***Petunia parviflora* A.L.**

Juss. = Seaside Petunia.

An adventive species here, having its origins in America. It was identified in the second half of the 19th century; it appears only on sandy ruderalized areas near Sulina and Sfântu Gheorghe.

Petunia parviflora



***Petasites spurius* (Retz.) Rchb. = Woolly Butterbur**

This plant grows only on the maritime sands along the seashore; it is specific to the arenicola vegetation areas in Dobrugea, but it also can be found on the sandy areas along the seashores of other seas in Europe.

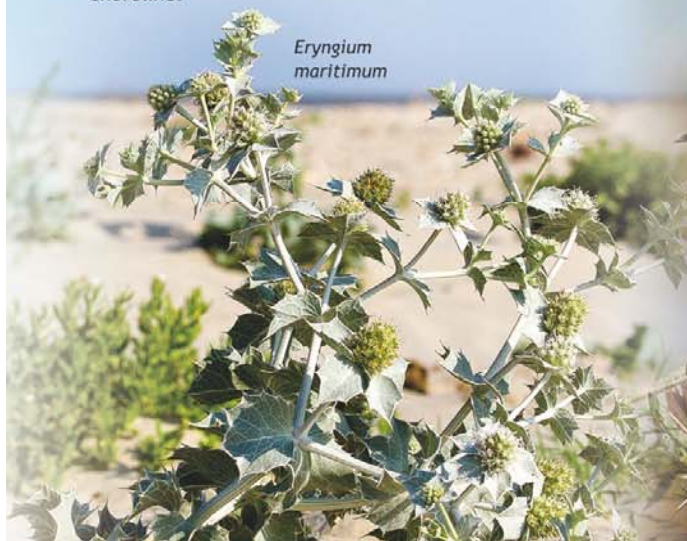
Petasites spurius



***Eryngium maritimum* L. = Sea Holly.**

It is a species characteristic only to the maritime sandy fields and it is spread all along the shoreline.

Eryngium maritimum



***Centaurea pontica* Prod. et Nyar.**

A species characteristic to the sandy, ruderalized areas from the seaside regions, endemic for Romania; identified only near Sulina town.

Centaurea pontica



***Cakile maritima* Scop. ssp. *euxina* (Pobed.) Nyar. = the European Searocket.**

It grows on the sandy areas along the Black Sea shore. It is a honey plant which has also some uses in folk medicine, the leaves being recommended against scrofula and diarrhea.

Cakile maritima



The Caspian Tern (*Sterna caspia*) is a rare bird which is protected in Europe. It is the largest among the species of terns. It is easily recognized by the massive red-orange bill. It has got a black bonnet on its head. The feathers are white-greyish on top and white underneath. The wings are long, while the tail is long and fork-like. It feeds especially on fish, but it can also eat insects, eggs of other birds or small rodents. The Caspian Tern often flies on the spot, above the water, and then it plunges and catches the fish. During its migration, it can be noticed along the seaside or on the lakes inside the Danube Delta. The main method of protecting this species in the Danube Delta Biosphere Reserve is the attenuation of the anthropic impact in the areas in which this tern migrates.

Sterna caspia

Sterna sandvicensis

Sterna caspia

Sterna caspia

The Sandwich Tern (*Sterna sandvicensis*) is one of the terns with a slender body, very long and arrow-headed wings, a long and fork-like tail, like the swallows. The crown is black. It is grey-whitish on the back and white on the ventral side. Its bill is black, long, arrow-headed and with a yellow tip. It comes during the summer time. It nests in the Danube Delta, too, in a reduced number of pairs (250-300 nesting pairs) on the shores or on sandy islands without vegetation or with low vegetation. It feeds on crustaceans, cephalopoda and fish. Many times it flies stationary over the water, in order to locate its prey in a precise way. Sometimes one can see it flying very close to the level of the sea, giving the impression that it touches the waves with the tips of its wings. It is a protected species in Europe, affected and threatened by the invasion of the beaches with reed, the destroying of its nests by domestic animals, the strong waves, the disappearance of herbaceous vegetation as a consequence of the total forbidding of grazing or by the existence of some natural predatory animals (ravens, crows, racoon dogs or sea gulls). The following steps have to be taken: ecological reconstruction on the beaches, forbidding of domestic animals access, in the nesting period.

The Red-Breasted Goose (*Branta ruficollis*) is one of the rarest geese in the world, now in danger of extinction. The total number of this species, in the whole world, is somewhere between 30,000 și 50,000 individuals, but the data is insufficiently correlated yet. Taking into account the whole population that hibernates in the Danube Delta Biosphere Reserve, more than 80% of the population of this species can hibernate here. It is one of the most beautiful birds in our region. The neck, the breast and the lateral parts of the head are red, bordered with white. The wings, the back and part of the abdomen are black. There is a white stripe on each lateral part. More than 70% of the population nests in Tamyr region or in Gyadan and Yamal peninsulas from Russia. The great majority of the population of this species used to migrate through the western part of the Caspian Sea in the 1950s and then they moved to the western shores of the Black Sea. The population of this species makes up agglomerations, mainly in Bulgaria, Romania and Ukraine, during the passage and the winter time. The Red-breasted Geese feed on the corn left in the fields, wheat, barley and grass.

Branta ruficollis



The Danube Crested Newt (*Triturus dobrogicus*) is ginger colour on the dorsal side, with black round marks. The underside is yellow-orange, with big black round marks and a median stripe. It lives both in the ponds and lakes and in the channels with smooth running water of the Danube Delta, which are abundant in vegetation. It can also be found on the floating islets or among the roots of the willow trees or in the reeds. It breeds in February-March.

In June-July they leave the water and start living in areas with high dampness, near the waters. It is an endangered species, because of the destruction of its habitats by damming in, drainages or building of canals. Just like most of the species of batrachians, the Danube Crested Newt is a very good bio-indicator of the conservation condition of the ecosystems it lives in. The works of ecological reconstruction for the protection of this species, together with other species whose life depends on wet areas, should become a major desideratum in nature conservation in the Danube Delta.



Vipera ursinii moldavica

The Moldavian Meadow Viper (*Vipera ursinii moldavica*) is a species of viper that feeds mainly on insects. It often swallows the whole prey, without using the venom. Its favourite places are the steppe vegetation and the salty meadows on sea shore. It is considered to be one of the vulnerable reptiles. The Moldavian Meadow Viper has an important ecological role in nature because it chases insects and ensures the trophic balance in the habitats in which it lives. It is one of the smallest species of vipers in Europe. The mouth is arrow-headed, with a zig-zag stripe on the back, made of brownish marks hemmed with black. The colour of the sides is in general grey, while the abdomen is white-yellowish grey. It has a vertical pupil, a strangulation behind the head and a short tail, all of them being distinctive signs for a viper. In general, the venom of this viper has a low toxicity for humans and doesn't need anti-viper serum.

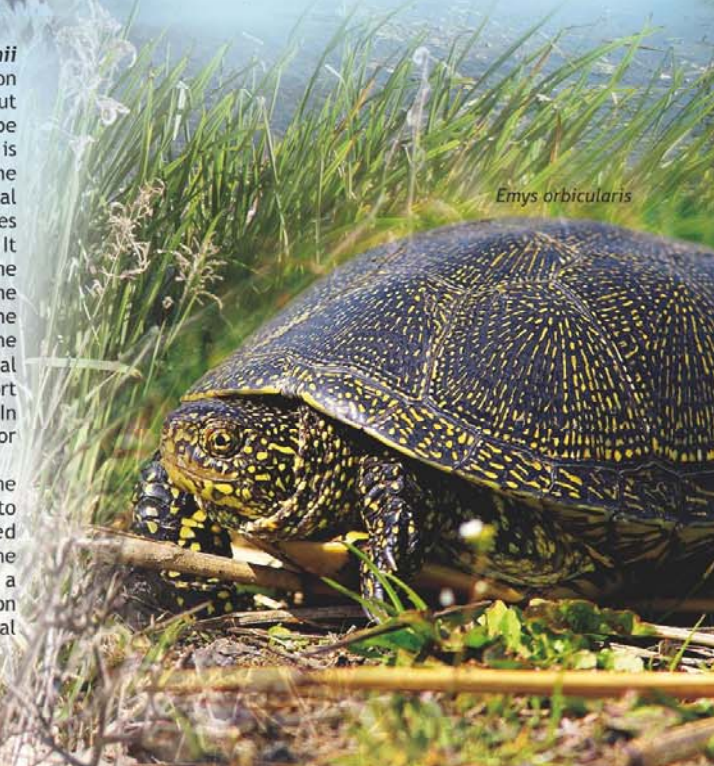
The main threats for this species in the Danube Delta are: over-grazing, setting fire to vegetation, roads construction, uncontrolled tourism. Possible protection steps: ensuring the conservation conditions of its living habitats, and a better tourists and local communities information on the importance of this viper species in the natural cycle.

The European Pond Turtle / the European Pond Terrapin (*Emys orbicularis*) is a species which lives in the stagnant waters and in the streams with slowly flowing. It feeds on various species of aquatic insects, clams, worms, crabs, tadpole and rarely on fishes. The shell is dished, black coloured, sometimes with yellow marks; the plastron is black-brown, flat on females and slightly hollow on males. The main threat for this species is the degradation of its habitats. It is a good ecological indicator for water quality, being very sensible to pollution. It is a longeviv animal, which can live more than 100 years, that is why people traditionally associate it with immortality.

The unmodified keeping of the habitats and public information about the ecologic importance of this species, represents the main protection actions for the European Pond Turtle. In the Christian communities the Pond Turtle is a domestic or a wisdom symbol.



Triturus dobrogicus



Emys orbicularis



The natural coastal areas of tourist interest within DDBR are located, for the most part, on the public domain of national interest managed by the DDBRA- Danube Delta Biosphere Reserve Authority.



Specific leisure activities in coastal areas are carried out on the basis of
*"Rules on access and activities in coastal areas of tourist interest within the
perimeter of the Danube Delta Biosphere Reserve"*.

THE IMPACT OF TOURISM IN THE DANUBE DELTA BIOSPHERE RESERVE IN THE TOURIST SEASON



MAXIMUM AGGLOMERATION ON THE WILD BEACHES OF DDBR



MAXIMUM AGGLOMERATION ON THE WILD BEACHES OF DDBR

On the wild beaches (unequipped) within the DDBR, the access, circulation, stationing or parking of motorized or animal-powered means of transport of any type is **prohibited**! *Exceptions are the means of transport ensuring operative interventions pertaining to institutions of public order, defense and national security, sanitary intervention, as well as those of the manager.*

According to **Ordinance 202/2002**, art.77, par.3, lit.2, constitutes a **contravention** the circulation or stationing of vehicles on beaches, dams and water shores, except for the places specifically destined for this purpose or for operative interventions.

Also, according to **Law no. 280/2003** for the approval of the Government Emergency Ordinance no. 202/2002 regarding the integrated management of the coastal area, art. 35, point 2, the circulation and parking outside the specially arranged spaces of motor vehicles, including motorcycles and mopeds, on dunes and beaches and in the area of sensitive habitats is **prohibited**.



















































The background of the slide is a light gray gradient. In the top-left and bottom-right corners, there are several realistic-looking water droplets of various sizes, some partially cut off by the edges. The text is centered in the middle of the slide.

GARBAGE LEFT BEHIND BY TOURISTS ON WILD BEACHES IN DDBR









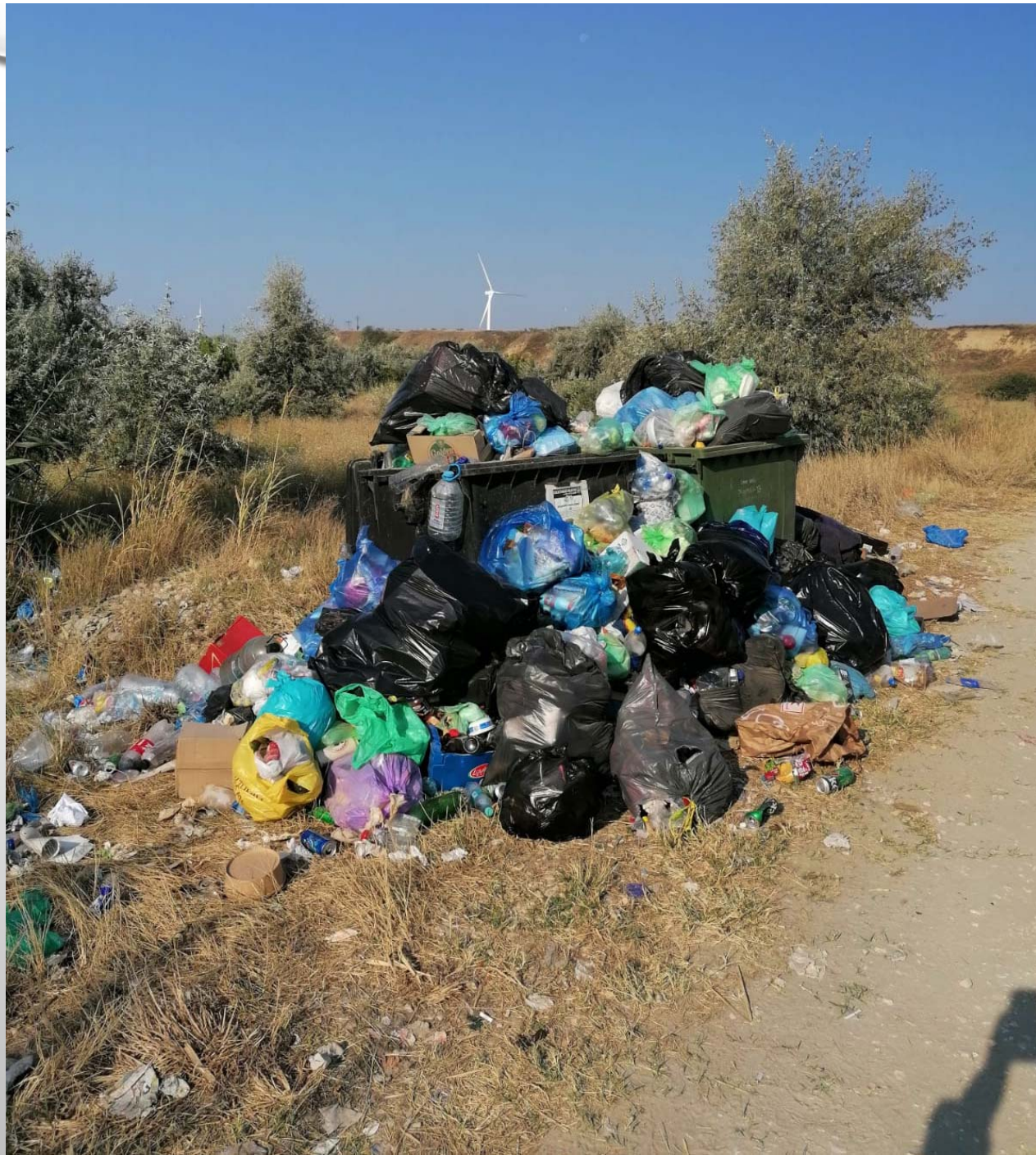


































GARBAGE COLLECTED ON SOUTHERN WILD BEACHES IN DDBR (MIDIA, CORBU, VADU) IN TOURIST SEASON (May-September)

Year	2020	2021	2022
Tourists number	220 000	75 000	83 000
Cars number	55 000	17 000	21 000
Fines number / value	1019 sanctions /291 330 lei	584 sanctions / 226 200 lei	747 sanctions / 228 300 lei
Collected waste:			
Abandoned on the beach	11 600 litres (58 bags x 200 l)	31 200 litres (130 bags x 240 l)	22 800 litres (95 bags x 240 l)
Deposited at the bins	886,1 mc/ 110 762 lei	725,04 mc / 95 400 lei	854,05 mc / 177 642 lei



LET'S PROTECT NATURE!



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