Information Sheet on Ramsar Wetlands

Categories approved by Recommendation 4.7 of the Conference of the Contracting Parties.

NOTE: It is important that you read the accompanying Explanatory Note and Guidelines document before completing this form.

1. **Date this sheet was completed/updated**:
   March, 09, 2001

2. **Country**:
   Romania

3. **Name of wetland**:
   Small Island of Braila (Insula Mica a Brailei)

4. **Geographical coordinates**:
   Latitude: 44°58'05'' N
   Longitude: 27°55'04'' E

5. **Elevation**: (average and/or max. & min.)
   Minim elevation: 1 m
   Maxim elevation: 8.2 m
   Average elevation: 4.5 m

6. **Area:** (in hectares)
   17,586 ha

7. **Overview**: (general summary, in two or three sentences, of the wetland's principal characteristics)

The Small Island of Braila, declared a natural reserve in 1994, is a group of wetlands in the Lower Danube area. This is one of the rare areas bordering the river which has preserved its natural hydrological conditions and which contains a representative sample of habitats, which are characteristic of floodplains as well as an ancient inland delta. Comprising seven small islands with a total surface area of 17.586 hectares, the area is a site of major interest for birds, both for the quality of the habitats present and for its location on the migration routes midway between the nesting areas in the north of Europe and the wintering areas in Africa. This area is a shelter for a large number of protected species of birds, two of which are considered priorities for LIFE financing and which are directly targeted by this project, namely: *Phalacrocorax pygmeus* and *Pelecanus crispus*.

Unlike many other wetlands in Europe, the loss of diversity in this area is due to the pressure of human activities such as the construction of dams, water pollution and over-exploitation of resources through hunting and fishing

8. **Wetland Type** (please circle the applicable codes for wetland types as listed in Appendix A of the Strategic Framework.)

marine-coastal: A • B • C • D • E • F • G • H • I • J • K • Zk(a)

inland: L • (M) • N • (O) • (P) • Q • R • Sp • Ss • (Tp) • (Ts) • U • Va • Vt • W • (Xf) • Xp • Y • Zg • Zk(b)

human-made: 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

Please now rank these wetland types by listing them from the most to the least dominant:

9. **Ramsar Criteria**: (please circle the applicable criteria; see point 12, next page.)

(1) • (2) • (3) • (4) • (5) • 6 • (7) • (8)

Please specify the most significant criterion applicable to the site: __1_____

10. **Map of site included?** Please tick yes • -or- no o
(Please refer to the Explanatory Note and Guidelines document for information regarding desirable map traits).

11. **Name and address of the compiler of this form**:

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Please provide additional information on each of the following categories by attaching extra pages (please limit extra pages to no more than 10):

12. **Justification of the criteria** selected under point 9, on previous page. (Please refer to Annex II in the Explanatory Note and Guidelines document).

Small Island of Braila is one of the few natural area remained under natural hydrological conditions, containing representative habitats for the floodplain and for the former inland delta.

The necessity for preservation of such kind of habitats represent a priority due to the fact that the total surface of wetlands is decreasing all over the world.

This wetland is well known for its ornithological importance being situated at the half way on the migratory routes between sites from northern Europe and winter refuges from Africa. That's way an integrated management plan for these zones as well as for migratory species represent a priority.

The Small Island of Braila supports a large number of bird species from which 34 species are protected at international level through Berna Convention (including breeding colonies of pygmy cormorants, (*Phalacrocorax pygmeus*). Also, very important as a resting-site for migrant species and for supporting of a great number of species which are rare in Europe, (i.e. *Pelecanus crispus*).

The mammal population includes rabbits, foxes, dears, boars, minks, and otters; there is also a considerable range of reptiles and amphibians.

The fish populations represent the second most important group and include 65 species.

Acording to "BirdLife Conservation Series No. 10, 2000 European bird populations-estimations and trends" 58% of european populations of *Phalacrocorax pygmeus* (an European bird species) is nesting in Romania (especially in Danube Delta and Lower Danube Floodplain). *P. pygmeus is* a nesting species in Small Island of Braila; supplementary studies has to be done to have an estimation on nesting pairs.

Approximately 5% of European populations is feeding in Small Island of Braila after the nesting season (unpublished data).

Through its attributes (wetland under natural hydrological condition, complex of ecosystems in early successional stages, and buffer zone) Small Island of Braila represents a reference system for the former inland delta and for what we have to reconstruct in the Lower Danube System.

Taking into consideration the complexity of the ecological systems, the three spatial dimensions and connectivity between them (longitudinal, lateral, and vertical), there is a necessity to develop a protected areas network for the Lower Danube System which is aimed to be integrated in the European Network of Protected Area (Natura 2000).

In this context the creation of an Ecological Network for Danube is a necessary step towards integration in the European Network Protected areas. The Small Island of Braila together with the Danube Biosphere Reserve will be the first necessary step towards this Ecological Network.

13. **General location**: (include the nearest large town and its administrative region)

Small Island of Braila is a component of Lower Danube System, a key complex of wetland ecosystems with a very important role in local, regional and global ecological processes due to its short and long distance connections. Small Island of Braila, represents a real internal delta, already declared as a mixt natural reservation (vegetation and animals)

Located along the Danube River between km 175 and 237 in the Braila County. The nearest large town, Braila is located in the northern part of the Small Island of Braila. With a total length of 61-km, represent the remained naturally flooded area after the

building of a dike (151-km length) that changed the most part (75%) of the former "Braila Marsh".

On the remained flooded area of about 23000 ha, the most important area is called "The Small Island of Braila" (17000 ha), delimited by secondary arm (Valciu, Manusoaia, Calia, Cravia) and navigable arm of the Danube river, situated in the Braila county.

The territory of Braila County is placed in the Southeastern of Romania, in a plain zone, and representing 2% of the total surface of Romania. More than 60% of the county's inhabitants is concentrated in Braila, the 10th town in Romania by area and the 2nd by population after Bucharest.

14. **Physical features:** (e.g. geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; catchment area; downstream area; climate)

1. Geology and Geomorphology

The surface lithology of the Small Island of Braila indicate the exclusive presence of alluvial deposits with two subtypes: lacustrine deposits near the lakes and channel with reduced velocity of stream, and fluvial deposits near the shoreline and higher land regions.

The quite homogenous soil of Small Island of Braila could be categorized as "young". The main type of soil is alluvial, including as sub-categories muddy and gleic soils. The substrate for these soils could be medium or heavy clay generally characterized by a low permeability and medium or muddy sands with medium or high permeability.

Small Island of Braila was formed due to the Danube lateral erosion and accumulation processes, a general trend of riverbed rising (started in Holocene) and by common discharge and water level variations. Those are combined with low amplitude of relief units' energy, which consist in decreasing the river speed, fact that generates the conditions for a greater sedimentation in this region.

This genealogy explains the presence of alluvial deposits as the main substrate along the Island. The peripheral to inner distribution of the alluvial deposits is under the influence of the Danube River arms hydrology.

2. Origins

The origin of this Island is natural

3. Hydrology (including seasonal water balance, inflow and outflow)

The average water balance measured at Harsova hydrological station located in the southern part of the site and Braila hydrological station located in the north part, it was

6700 m3/s and respectively 7200 m3/s. The difference of 500 m3/s represents the additional discharge from Small Island of Braila to the Danube River.

4. Soil Type and Chemistry

Main types of soils are represented by recently formed sandy and alluvial deposit soils.

Nutrient concentrations (N-NO3, N-NO2, N-NH4, TDN and DON) in soil

Habitat type	Code	N-NO3 (ug/g)	N-NO2 (ug/g)	N-NH4 (ug/g)	TDN (ug/g)	DON (ug/g)
Riparian Galleries and tickets	92D0	5.12	1.24	4.54	31.27	20.37
Alluvial forest	91E0	5.65	1.06	4.37	28.93	17.84
River with muddy banks	3270	4.68	0.54	4.77	31.46	21.47

5. Water Quality (physico-chemical characteristics)

The main processes affecting the physical and chemical characteristics of the water systems (water quality) belonging to the Small Island of Braila, were the eutrophycation. This process has a general relevance for the entire Lower Danube Wetland System (LDWS), including the North-Western Coast of the Black Sea. Pollution with heavy-metals, pesticides and other pollutants accompanied these changes of the water quality at the LDWS scale.

A review of the data on the main nutrients responsible for the trophic state shift of aquatic ecosystem associated to the LDWS (total reactive phosphorous-TRP and dissolved inorganic nitrogen - DIN) showed interesting dynamics for the lower Danube River stretch including three different trends in time. In terms of the fluctuation domains for TRP concentration in water, a relatively stable period between 1958/1959 and 1980/1981 was followed by a shift towards a wider range and higher concentrations between 1981 and 1989, suggesting that the period 1980/1982 could be considered the moment of surpassing buffering capacity of the LDWS by the increasing nutrient loads. In this period, TRP increased about 5.7, exceeding by 4.2- 32.7 times (Vadineanu et al. 1992) the limiting critical level of 10 $\mu g P l^{-1}$ (Hecky, 1988). After 1990, the TRP concentrations remained below the maximal values of 250 $\mu g P l^{-1}$ (Vadineanu & Cristofor, 1994) as a consequence of diminishing intensive agricultural and industrial activities in the conditions of the socio-economic transition in many countries from the river catchment. On the same period, the DIN:TRP ratio, as a very significant parameter of the trophic state, decreased markedly from values of tens and hundreds, before 1980, towards values below 10 (Vadineanu et al. 1992). This fact shows that the role of phosphorus as limiting factor was gradually replaced by nitrogen, with important effects on the turbidity and light conditions in water. These symptoms of transition towards high trophic changes have been even more prominent in the inner and coastal delta lakes, where nutrient supply from the river entering these aquatic systems interfered with nutrient release from sediments (Cristofor et al. 1993).

In these conditions, the algal blooms became more frequent and extended in space and time and high amounts of dissolved and particulate organic matter were produced resulting in turbidity increase. The Secchi depth (SD) lowered from values of meters towards 15-30 cm, and its logarithmic expression, the trophic state index (TSI), increased from 40-60 (mesotrophy and early eutrophy) towards 65-85 (hypertrophy). The light availability became scarce especially in the deeper layers of the water column, the euphotic zone remaining limited to the superficial ones. The index of relative transparency, defined as the ratio between SD and water depth, decreased from 0.7- 1 (total transparency) to below 0.4, the critical threshold for growth of submerged macrophytes (Botnariuc & Beldescu 1961). This was accompanied by the persistent hypoxic or anoxic conditions at the bottom/water interface during the warm season (Vadineanu et al., 1987, Cristofor et al., 1992). Moreover, the dissolved oxygen content in the surface water layers, including effects which led to mass mortality of fish and invertebrates, changed from relative limited dynamics around saturation values to very large dynamics between oversaturation and hypoxy, with serious consequences for the aquatic communities.

Even the content of dissolved organic matter (DOC) in the river stretch has not exceeded the level of the second class standard, fluctuating between 5 and 20 mg C l^{-1}, in the floodplain and delta lakes, DOC was far beyond the second class standard, reaching frequently values of 30-80 mg C l^{-1} (Cristofor et al. 1994).

Similarities between the river stretch and the inner and coastal delta lakes in the respect of the values of the most representative parameters of the trophic state, showing a clear eutrophication process at the large spatio-temporal scale of the entire LDWS, suggest the need of carefully using classical indicators of surface water quality.

Pollution with heavy metals became an important problem considered in the last years, not only for the water quality of the river stretch, but also for the ecological effects at large scale of the LDRS, including floodplain, delta and the associated coastal zone of the Black Sea. The data reported for all cross-sections, established along the lower Danube by the Bucharest Declaration, i.e. 50-75 μg Pb l^{-1}, 7-14 μg Cd l^{-1}, 500-1000 μg Fe l^{-1}, 10-20 μg Cr l^{-1}, 25-40μg Cu l^{-1}, show that generally the heavy metals content in water has not exceeded the standards for the first purity class (Vadineanu and Cristofor, 1994). The data collected in the last decades, during two well-designed expeditions carried out by the Cousteau team (Ody & Sarano, 1992) and by Dutch and Bulgarian experts (Buijis, 1990, 1992) and more recently, by a programme for complex monitoring of the effects of the Yugoslavian conflict (unpublished data) have proved that, in spite of several hot spots associated with industrial sources, discharges of main tributaries and with areas adjacent to the war actions, there is still no severe contamination.

In the mentioned contaminated zones, the recorded values exceeded by 9; 36; 44; 125 and 144 times the standard values for concentration in water for Cu, Pb, Zn, Cr and Cd and by 3 and respectively 6-7 times the references concentrations in sediments for Cr and Pb (unpublished data).

Long term and large distance effects could follow at the LDWS scale taking into consideration the high ability of aquatic communities in the Danube Delta to multiply the flow density of Pb, Mn, Cu, Fe and Zn by 390-4840 times for phytoplankton, by 450-5950 times for epiphyton and by 300-7120 times for submerged macrophytes (Nafea Al-Azzawi 1987, Gonzales R. et al. 1985).

6. Depth, Fluctuations and Permanence of Water

- Flood regime

There are several aspects like the magnitude, duration and pattern that define the flooding regime, which is fundamental for the ecological process going up in the floodplain.

- Flooding mechanism in natural conditions

The inundation of wetland areas near the main channel of the river occurs when water levels in the main river rise to the level of low points of the riverbank. The water flows then from the river in the low-lying areas.

There are same particularities in the different years depending on the Danube discharge. In years with high precipitation levels (in the catchment area) the overtopping of banks is a process that affect over an important length of the Lower Danube Floodplain and inundation (in these areas) will be extensive and with deep waters.

In drier years, with relatively low discharge, the inundated area will be less extensive.

These will actually reduce the flooded area to few swamp depressions or lakes with direct channel connections to the main river or in years with very low discharge to only the main channel of the river and in same "deep" lakes from the floodplain.

The high water in the river can remain high from a few days up to more than four months. The water from the inundated area will gradually return to the main river as levels reduce. The water speeds will slowly decrease as the levels over the riverbanks reduces. As a consequences the return flow will be restricted to channels and other low points on the riverbank. Despite these evolution (on short time) there are substantial areas that will remain under water long after the flood. These areas will further diminish due to evaporation and infiltration.

The antropic influence in the Danube basin and especially in the Danube Lower Floodplain has increase in power affecting the natural flooding mechanism in different ways. By modifying the seasonal or spatial distribution of flows (e.g. lakes in the floodplain), or by diminishing the area under natural flooding regime.

- Flows seasonalty:

The first peak flows generally occurs in April or May and the secondary peak also occurs in November or December and this can be greater than the first peak in some years. The

decrees in the total water storage capacity of the flood plain has as an effect an increase in the peak flows and a decrees in the flood runoff.

7. Catchment Area

The catchment surface that lies from km 180 to km 225 is estimated between 95,300 and 100,000 km^2. If the total area is considered 807,000 km^2, the percentage of the catchment which lies upstream the RAMSAR sites is estimated between 87.7% and 88.3 %.

8. Downstream area (especially in the case of wetlands that are important in flood control)

The selected site is very important for water quality control, nutrient reduction into the down stream area in which is located the Danube Delta Biosphere Reserve.

9. Climate (only the most significant climatic features, e.g., annual rainfall and average temperature range, distinct seasons, and any other major factors affecting the wetland).

Climate is uniform for the whole area. It is worth mention that the highest temperature in Romania was recorded near Braila (+44.5°C in the shade, in the summer of 1951) and tropical days (more than +30°C) are very usual during summers. The total rainfall for a year is 440 mm, the evapotranspiration is 723 mm and the *de Martonne* index of aridity is 20.9 mm (one of the highest in Romania), this indicating a high frequency of droughty periods during summer.

One of the topoclimatic charactersitics of the Danube wetlands, especially in its ending sector is given, first of all by the presence of greater air humidity. Although most of these wetlands, channels or the main river valley were drained or dammed, the groundwater is maintained near the soil surface conducting through the evapotranspiration process to the raising (at least in the active layer between 0 and 200 cm under the soil surface) of air humidity.

The presence of the loessoide deposits (especially in The Romanian Plain) and of limestone from the Dobrogea Plateau, determines outside the river valley amplitudes of air temperature greater with 5 – 8 °C than in the Danube floodplain.

Due to its uniformity and flatness the Romainan Plain is playing the role of a smaller continental area, which consists in the production of a minimum barometric values during the summer and a maximum barometric value during the winter. This is leading to the eastward and southward local movement or reverse air over the Romanian Plain and over the Danube Ponds.

The pluviometric stations from Braila and Harsova recorded a maximum monthly amount of precipitation in June.

During the winter the variations of temperature are due to the invasion of polar air coming from the east limit of the Scandinavian cyclone dorsal and by the air masses invasion from the euro-Asiatic cyclone. This phenomenon produces violent movements of air masses leading to the massive precipitation as snow.

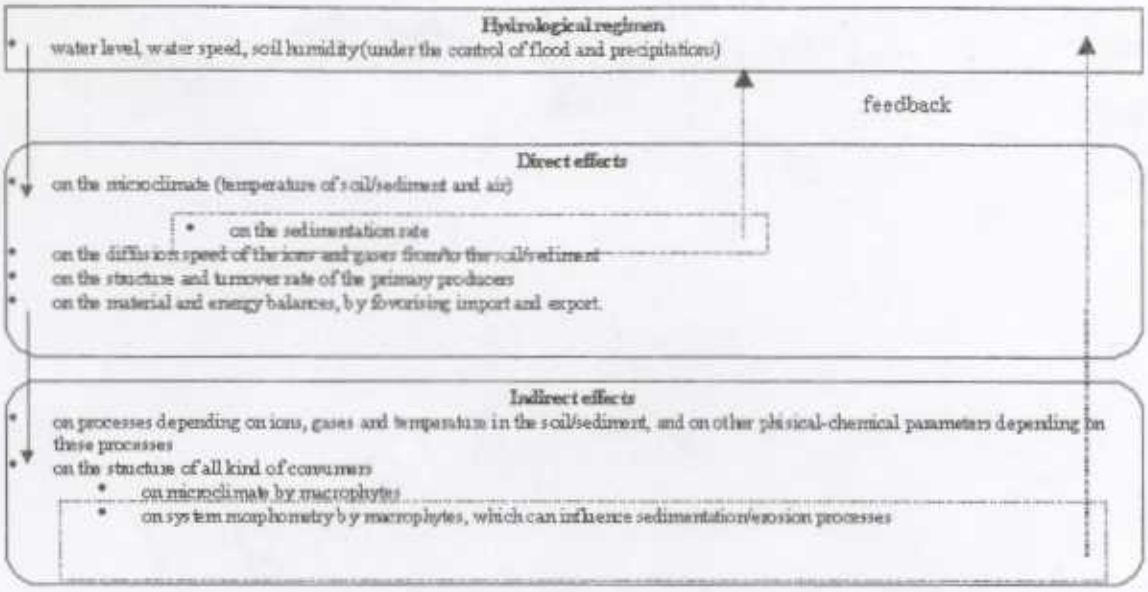
For the spring and autumn, the great nebulosity of the sky and the rainy period is determined by the cyclone activity from Mediterranean Sea, which are moving from the East Europe, over the country.

The summer temperatures on the Danube Valley are smaller with 4 – 5 °C smaller than in the Romanian Plain. In these conditions the potential evapotranspiration is greater than in the wetlands zone, but the lacking of water is giving a smaller effective evapotranspiration.

Due to its location as a "depression" between the Romanian Plain and the Dobrogea Mountains, the wetland is loosing its continental climatic character - specifically to the SE of the Romanian Plain, having the characteristics of a real bio-climatic "oasis", with a very humid surface, small temperature amplitudes, foggy mornings, and a lack of the convection clouds. The presence of great water surfaces even in the excessive drainage conditions doesn't afford the formation of the convection clouds, in this region the air having a descendent character, like the one from the Danube Delta. This phenomenon has repercussions to the rainfalls. The amounts of precipitation recorded at the pluviometric station from the wetlands region near Braila are smaller than the values recorded in the Dobrogea Plateau, considered as a representative region with the smallest precipitation amounts compared to the country level.

15. **Hydrological values**: (groundwater recharge, flood control, sediment trapping, shoreline stabilisation etc)

The most important hydrological values are shown in the figure 1. From those could be mentioned the control of water level and speed, and the influence on soil humidity, and their direct influence on the microclimate at the site. Also very important is the influence of water regimen on the sedimentation rate.



16. **Ecological features:** (main habitats and vegetation types)

The geographical conditions determine the coexisting of three kinds of flora, characteristically to marsh, forest and steppe. So in the high sandbanks around marches, there are willow forests and plantations of Euro-American poplar hybrids. In marshes and the easily flooded zones there is a luxuriant aquatic flora which is the food for fauna, but especially a feeding and nestling place for birds.

Fauna consists in migratory aquatic species - most of them being protected internationally by law. There are also species of forest, steppe and marshes characteristically to forest, steppe and marshes.

From the total area of the 17,628 ha the main habitats are distributed as follows:

No.	Specific habitats based on Habitat Directive	Description	Surface (ha)
1.	3150	Natural eutrophic lakes	2318
2.	3270	River with muddy banks	60
3.	3280	Danube arms	5100
4.	3281	Channels	
5.	6440	Alluvial meadow of river valley	60
6.	6410	Meadow on calcareous (bushes)	1604
7.	6510	Lowland hay meadow	1589
8.	7410	Typha, reed beds and belts	2609
9.	91E0	Alluvial forest	46
10.	91F0	Riparian mixed forest	2238
11.	92A0	Salix and Populus galleries	3181
12.	92D0	Riparian galleries and tickets	1710
13.	-	Antrophic	15

Vegetation types:

There are two broad categories of vegetation in the area: vegetation associated with open water, marshes and cattail; swamps, and ground vegetation: grasslands and forests (the latter include willow forest with *Salix alba* and *Populus sp.* on higher ground). Plant compartment is very well represented by a high number of species (over 200 plant species identified till now).

The typical vegetation of the lower Danube floodplain can be included in two large groups: U - floodplain vegetation, and R - reed and rush marshes. The great unit U consists of complex intrazonal vegetation: forests, bushes and meadows. The vegetation of the Small Island of Braila belongs to different sintaxonomical units, mainly *Salicetea purpureae*. Hardwood forests lack almost completely, the dominant species being poplar and willow tree forests (*Salix alba, Populus alba, P. nigra*), the most common association being *Salicetum albae-fragilis*, Issler 26. In this association the dominant species is *Salix alba*, mixed with *Salix fragilis*. In the herbaceous and shrub layers *Rubus caesius* is dominant. Among the hydrophilous most common species are: *Bidens tripartita, Polygonum hydropiper, P. mite, Galium palustre, Stachys palustris, Mentha aquatica, Lycopus europaeus, L. exaltatus, Scutellaria gallericulata, Iris pseudocorus, Lythrum salicaria, Agrostis stolonifera, Solanum dulcamara* etc. Most herbaceous species are present in both willow tree forests and reed marshes. Willow tree forests become less dense in time, and the herbaceous layer is dominated by *Agrostis stolonifera*, that forms a new association *Agrostietum stoloniferae* (Ujvarosi 41). Other frequent species of this association are: *Roripa silvestris, Gratiola officinalis, Lysimachia nummularia, Heleocharis palustris, Juncus gerardii, J. effusus, Polygonum hydropiper, Veronica anagallis-aquatica, Lycopus europaeus, Galium palustre* etc.

A typical halophytic shrub association consists of *Tamarix ramosissima* with *Calamagrostis epigeios.*

The great unit R consisting of reed and rush marshes includes communities with a rather simple compozition and structure. The reed marshes are dominated by *Phragmites australis*, with other species as: *Typha latifolia, Typha angustifolia, Scirpus lacustris, Lythrum salicaria, Galium palustre, Euphorbia palustris, Solanum dulcamara, Sium latifolium, Glyceria maxima, Stachys palustris*. In rush marshes are dominant species of *Carex* (*C. elata, C. vulpina, C. riparia*). All marsh communities belong to the class *Phyragmitetea*, the reeds to the order *Pyragmitetalia*, and the rush to the order *Magnocaricetalia*. Among the main reed association (*Scirpo-phragmitetum* Koch 26) another two associations are found on small areas *Typhaetum angustifoliae* All. 22, Pign. 43 and *Schoenoplectetum lacustris, Sparganietum ramosi* Sauer 37.

The most important aquatic associations are *Myriophyllo-Nupharetum*, which borders the reeds in strips between 2-20 m wide, and *Hydrocharitetum morsus-ranae,* located mainly in channels and canals, *Salvinio-Spirodeletum polyrrhizae* in deep water bogs within reed marshes, *Trapetum natansis* in open and deep waters in association with *Lemna minor, Potamogeton perfoliatum, P. crispum, P. lucens, P. pectinatus* etc.

In the dominant association *Scirpo-Phragmitetum,* the dominant species is *Phragmites australis var. maxima*, that can reach a height of 3-3.5 m.

17. **Noteworthy flora**: (indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc.)

Within the Small Island of Braila there are not any species or plant communities categorized as unique rare or endangered. Most of the plant species encountered within this site are important from the biogeographically point of view.

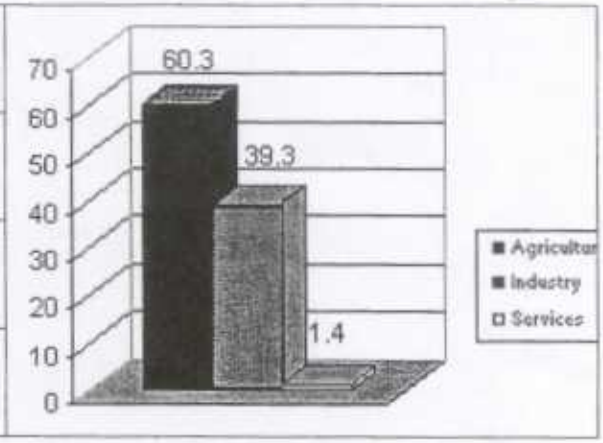
18. **Noteworthy fauna:** (indicating, e.g., which species are unique, rare, endangered, abundant or biogeographically important; include count data, etc.)

Bird species included in IUCN red list and observed in the Small Island of Braila
- **Ord. Pelecaniformes,** *Phalacrocorax pygmaeus*
- **Ord. Anseriformes,** *Aythya nyroca*
- **Ord. Falconiformes,** *Haliaaetus albicilla*
- **Ord. Gruiformes,** *Crex crex*

19. **Social and cultural values**: (e.g. fisheries production, forestry, religious importance, archaeological site etc.)

At the county level the main activities are as stated in the bellow table:

Domain	Percent
Agriculture	60.3
Industry/Constructions	39.3
Services	1.4



20. **Land tenure/ownership of**: (a) site (b) surrounding area

No.	Organisation	Surface (ha)	Owner
1.	Romsilva	10996	State
1.1.	Hunting Fund Fondul **1**	7622	State
1.2.	Hunting Fund Fondul **49**	5091	State
2.	Apele Romane RA (Constanta)	3626	State
3.	Military Settlement	2	State
4.	County Council Braila	-	-
4.1.	Inspectorate for Environment Protection	-	-
4.2.	County association of sportive hunters and fishers Braila (AJVPS) – Hunting Fund **53**	7075	State
4.3.	Local Council Marasu	?	State
4.4.	Local Council Berte]tii de Jos	?	State
4.5.	Local Council Chiscani	?	State
4.6.	Local Council Tichilesti	?	State
4.7.	Local Council Gropeni	?	State
4.8.	Local Council Tufesti	311	State
4.9.	Local Council Stancuta	13600	
5.	Private Commercial Society with mixt capital state and private	4	Tenant
6.	Private land owners	54	Private property
7.	Fluvial carriers companies	-	
8.	Fish exploitation, by concession of portions from Daube River	5060	Tenant

21. **Current land use:** (a) site (b) surroundings/catchment

(a) site

Predominant site land-use: forestry, grazing. A distribution of this activities are mentioned in table below:

No.	Organisation	Surface (ha)	Utilization type
1.	Romsilva	10996	Forested
1.1	Hunting Fund Fondul **1**	7622	Hunting
1.2	Hunting Fund Fondul **49**	5091	Hunting
2.	Apele Romane RA (Constanta)	3626	Extensive fishing
3.	County association of sportive hunters and fishers Braila (AJVPS) – Hunting Fund **53**	7075	Hunting and Fishing
4.	Local Council Marasu	n/a	Animal grow
5.	Local Council Bertestii de Jos	n/a	Animal grow
6.	Local Council Chiscani	n/a	Animal grow
7.	Local Council Tichilesti	n/a	Animal grow
8.	Local Council Gropeni	n/a	Animal grow
9.	Local Council Tufesti	311	Animal grow
10.	Local Council Stancuta	13600	Animal grow
11.	Private Commercial Society with mixt capital state and private	4	Buildings
12.	Fish exploitation, by concession of portions from Daube River	5060	Intensive Fishing

(b) Surroundings/catchment

In the inner Danube delta (the surrounding area of the Small Island of Braila), 80% of former ecosystems have been replaced by intensive agricultural farms, 3% into tree plantations and 2 % into intensive fish farms.

22. **Factors (past, present or potential) adversely affecting the site's ecological character**, including changes in land use and development projects: (a) at the site (b) around the site.

Different policies and management plans have been developed and implemented in the last century at the Lower Danube Wetland System (LDWS). These had a wide range of long term objectives: from the development of waterway transport, flood control and power generation system, irrigation system, improvement of the hydrological regime, substitution of natural and semi-natural ecosystems by human dominated and powered systems (e.g. intensive crop and animal farms) to the nature conservation and more recently to the balancing biodiversity and socio-economic development. The approach has moved for a long time from traditional and less intensive use to utilitarian and

intensiveness principles and only in the last decade it started to become more integrated and driven by the sustainable principle.

The implementation of the management plans have required gradually, significant structural and functional changes which have been in more or less extent enhanced by the extern driving forces, originated in the whole river catchment and finally they had a strong impact on the Black Sea and regional socio-economic system.

The former ecological structure of LDWS, which have integrated at the end of 19th century more then 90% of natural and seminatural ecosystems, has been very significantly changed during the last century. Structural changes of different degree occurred in all main subunits of LDWS.

They have been designed and implemented as specific actions for the achievement of specific objectives established in the management plans of this large system.
The following types of structural changes may be identified as the most characteristic for the last century:

i. The most extensive and severe structural changes in the LDWS occurred during 60's and 80's by implementing the management plans which were mostly targeted on substitution of the natural and seminatural ecosystems with human dominated ones (e.g. intensive fish and agricultural farms, poplar plantations). However, the end of 1989 has been achieved the substitution achieved in different extents in the main subunits of the LDWS.

Potential factors adversely affecting the site's ecological character:

Uncontrolled animal grow
Human control of water flow for 3150 habitat types (produce accelerate lake sedimentation and accelerate eutrophication)
Over-hunting
Over-grazing
Over-exploitation of the resources
Industrial exploitation of sand and silt

23. **Conservation measures taken**: (national category and legal status of protected areas - including any boundary changes which have been made: management practices; whether an officially approved management plan exists and whether it has been implemented).

i) In 1979 through the decision 11/1979 a part (5336 ha) of the site was declared as joint zoological and botanic reserve.
ii) Through decision no. 350 /17 March 1994 the Small Island of Braila the site was declared as natural reserve by the local council of Braila.
iii) In 29 September the same year the County of Braila through decision no 20 has declared as joint zoological and botanic reserve a surface of 14862 ha in the Small Island of Braila.

24. **Conservation measures proposed but not yet implemented:** (e.g. management plan in preparation; officially proposed as a protected area etc.)

Integrated management plan in preparation under a Life Nature (LIFE99NAT/RO006400) project, with the support from the Ministry of Environment.

25. **Current scientific research and facilities**: (e.g. details of current projects; existence of field station etc.)
- University of Bucharest - Department of Systems Ecology Braila, Ecological research station
- University of Bucharest Department of Systems Ecology - past and current projects:

- **European River Margins System as Indicator of Global Changes (ERMAS I)**
  - Coordinator: Centre d'Etude de Systems Fluviaux - Franta
  - Period: 1994 - 1996
  - Financing institution: European Community - DG XII
  - Consortium:
    * Loughborough University, United Kingdom
    * Institute of Freshwater Ecology, CEH, United Kingdom
    * CESAC,CNRS and University Paul Sabatier, Toulouse FRANCE
    * University of Rennes FRANCE
    * Museo Tridentino di Scienze Naturali, Trento ITALY
    * Bucharest University ROMANIA
    * Lund University SWEDEN
    * Umea University SWEDEN
- **European River Margins System: Role of Biodiversity in the Functioning of Riparian Systems (ERMAS II)**
  - Coordinator: University of Birmingham, Marea Britanie
  - Period: 1996 - 1999
  - Financing institution: European Community - DG XII
  - Consortium:
    * University of Birmingham (co-ordinating institution) (United Kingdom)
    * Loughborough University, United Kingdom
    * Institute of Freshwater Ecology, CEH, United Kingdom
    * CESAC,CNRS and University Paul Sabatier, Toulouse FRANCE
    * University of Rennes FRANCE
    * Museo Tridentino di Scienze Naturali, Trento ITALY
    * University of Bologna ITALY

* Bucharest University ROMANIA
* Lund University SWEDEN
* Umea University SWEDEN
* University of Neuchatel, SWITZERLAND
*Swiss Federal Institute of Technology, Lausanne, SWITZERLAND

- **Functional Analysis of the European Wetland Ecosystems (FAEWE)**
  - Coordinator: University of London, Marea Britanie
  - Period: 1995 - 1997
  - Financing institution: European Community - DG XII
  - Consortium:
    * University of London, UNITED KINGDOM
    * University of Birmingham, UNITED KINGDOM
    * University of Rennes, FRANCE
    * Bucharest University, ROMANIA
    * Glasgow University, IRELAND

- **Biodiversity Study of Danube River**
  - Project: EU/95-037.00;
  - Coordinator: Department of Zoology - Comenius University, Bratislava, Slovakia
  - Period: 1995
  - Financing institution: PHARE: ZZ9111/0106

- **Ecological Network in the Danube River**
  - Period: 1999-2001
  - Financing institution: National Committee for University Research (CNCSU)

- **Inter-network Expert Group on Wetland Ecosystems (Interwet)**
  - Coordinator: Royal Holloway Univ. of London, UK
  - Financing institution: European Community - DG XII

- **Development of an integrated management plan for the "Small Island of Braila"**
  - Coordinator: Universitatea Bucuresti
  - Period: 1999-2001
  - Financing institution: European Community - DG XI

26. **Current conservation education:** (e.g. visitors centre, hides, information booklet, facilities for school visits etc.)

Several activities have been performed during the last year for the conservation and education purposes including the cerebration of the "wetland day " in Braila County at the initiative of the NGO- EarthVoice Romania an affiliate of Humane Society International.

As part of the project named "Integrated management plan for the Small Island of Braila" a visitor center will be opened this year in Braila City.

27. **Current recreation and tourism**: (state if wetland is used for recreation/tourism; indicate type and frequency/intensity)

The Braila County is of an important tourist and balneotherapeutical interest, offering to tourists a lot of possibilities to see picturesque places, specific to a plain as well as to the Danubian landscape

Danube River is the main point of attraction for the tourist in the county of Braila. The fauna and ichthyofauna connected to the lacustrine and hydrographical network give a special mark to the tourism, which offers the opportunity for hunting and fishing in the area.

By categories the tourists are mainly hunters and fishermen as presented in the following table:

Category	**Braila County**
Hunters	565/year
Fishers	1240/year
Occasionally	1192/year
Places for agro-tourism	106

28. **Jurisdiction**: (territorial e.g. state/region and functional e.g. Dept of Agriculture/Dept. of Environment etc.)

The jurisdictional status of the Small Island of Braila reservation is under the Braila County and several local councils:

- Council of Marasu
- Council of Tufesti
- Council of Chiscani
- Council of Gropeni
- Council of Stancuta
- Council of Bertesti de Jos
- Council of Tichilesti

Functionally, principal institutions dealing with administrative measures are:

- Romanian Water administration "Apele Romane" R. A.
- Romsilva R. A.

29. **Management authority:** (name and address of local body directly responsible for managing the wetland)

Currently there is no management authority dealing with the management of the reservation. In the already mentioned project as primary objective is the creation of a management body (Administrative structures) able to implement the integrated management plan.

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