Information Sheet on Ramsar Wetlands (RIS) – 2009-2012 version

Available for download from http://www.ramsar.org/ris/key_ris_index.htm.

Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9th Conference of the Contracting Parties (2005).

Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.

2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 14, 3rd edition). A 4th edition of the Handbook is in preparation and will be available in 2009.

3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

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1. Name and address of the compiler of this form:

FOR OFFICE USE ONLY.

DD MM YY

24	09	02

Designation date

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Site Reference Number

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2. Date this sheet was completed/updated:

March 2014

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3. Country:
Bulgaria

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4. Name of the Ramsar site:
The precise name of the designated site in one of the three official languages (English, French or Spanish) of the Convention. Alternative names, including in local language(s), should be given in parentheses after the precise name.

BELENE ISLANDS COMPLEX

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5. Designation of new Ramsar site or update of existing site:

This RIS is for (tick one box only)**:**
a) Designation of a new Ramsar site ❑; or
b) Updated information on an existing Ramsar site ☒

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6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and area

The Ramsar site boundary and site area are unchanged: ❑

or
If the site boundary has changed:
i) the boundary has been delineated more accurately ❑; or
ii) the boundary has been extended ☒; or
iii) the boundary has been restricted** ❑

and/or

If the site area has changed:
i) the area has been measured more accurately ❑; or
ii) the area has been extended ☒; or
iii) the area has been reduced** ❑

** **Important note**: If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

The Ramsar site has been extended with inclusion of additional islands in the Danube River and area with agricultural and semi natural lands in the Danube river bank with marshes which are important habitats for a number of rare and endangered birds and plant species.

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7. Map of site:
Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:
i**) a hard copy** (required for inclusion of site in the Ramsar List): ❑;

ii**) an electronic format** (e.g. a JPEG or ArcView image) ☒;

iii) **a GIS file providing geo-referenced site boundary vectors and attribute tables** ☒.

b) Describe briefly the type of boundary delineation applied:
e.g. the boundary is the same as an existing protected area (nature reserve, national park, etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The boundary of the Ramsar site "Belene Islands Complex" are included completely the territory of three Natura 2000 sites according to Birds Directive 2009/147/EC: BG0002017 "Kompleks Belenski Ostrovi", BG0002083 "Svishtovsko-Belenska nizina", BG0002091 "Ostrov Lakat" and small part of the territory of BG0002074 "Nikopolsko plato". The Ramsar site also falls within the boundaries of the Natura 2000 site BG0000396 "Persina" according to Habitats Directive 92/43/EEC.

The Ramsar site also includes water area of the Danube River between the islands and the most important sites on the river bank which are temporary flooded by the river and are the main habitats used during the migration and as breeding place for rare and globally threatened birds species as Dalmatian Pelican /*Pelecanus crispus*/, Red-Breasted Goose /*Branta ruficollis*/ and Ferruginous Duck /*Aythya nyroca/*.

The wetland includes also the territory of "Persina" Nature Park, designated according to national legislation as Nature Park in 2000. There are two Reserves in the territory of Nature Park – the islands Milka and Kitka, designated in 1956 and 1981 respectively for protection of unique riparian flooded forests. The Persina marsh Maintained Reserve with its buffer zone, as well as the Persin-east Protected Area were designated in 1981 for protection of representative wetlands with characteristic habitats and breeding sites for terns, ducks and geese. In 1998 Persina Island /Belene/ was listed as a CORINE site due to its European importance for the protection of rare and threatened habitats, plants and animals, including birds. In 1989 the territory was designated as an Important Bird Area by BirdLife International.

8. Geographical coordinates (latitude/longitude, in degrees and minutes):
Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

43°40'00"N 025°11'00"E

9. General location:
Include in which part of the country and which large administrative region(s) the site lies and the location of the nearest large town.

The site is located between 545 and 600 km of the Danube River.
The site is located on the territory of the districts Veliko Tarnovo and Pleven. The boundary of the site is between the towns Svishtov in the east, Nikopol in the west and Belene in the south. The north boundary of the site is the country boundary of Bulgaria with Romania on the Danube River. The site also is located on the territory of the villages Oresh (1660 inhabitants) at the Veliko Tarnovo district, Tatari (320 inhabitants) and Dragash Voyvoda (650 inhabitants) at the Pleven district.

10. Elevation: (in metres: average and/or maximum & minimum)

Average – 22 m; maximum – 55 m; minimum – 21 m;

11. Area: (in hectares)

18 330,3 ha

12. General overview of the site:
Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The complex is a group of one big /Belene/ and nine smaller islands on the River Danube, located opposite the town of Belene. The most important ecosystem types in the complex are the flooded riverine forests and internal marshes. Belene Island is the largest Bulgarian island in the Danube, and the only one with three freshwater marshes together with the surrounding flooded forests. The neighbouring islands of Milka and Kitka /*Lyuta*/ are completely covered with flooded forests. The dominating habitats are the natural flooded forests of willow /*Salix* sp./ and White Poplar /*Populus alba*/, and on Milka Island – of White Elm /*Ulmus laevis*/. Their formation is directly linked to the water regime of the river. The high waters do not allow the full development of spring vegetation. The flow-off of waters coincides with the high summer temperatures, and as a result abundant summer vegetation develops on the island. The bush and tree vegetation on the islands has a smaller species variety than the vegetation along the Danube banks, with dominating White Willow /*Salix alba*/ and Dewberry /*Rubus caesius*/.

The three marshes on Belene Island /*Pesachina, Martvoto* and *Dyulova bara*/ are interconnected and flow into the Danube through a canal. During spring high water, when the canal is opened, fresh water enters the marshes. They contain typical marsh communities – Yellow Waterlily /*Nuphar lutea*/, Broad-Leaved Pondweed /*Potamogeton natans*/, in the deeper parts also Yellow Floating-Heart /*Nymphoides peltata*/, Frogbit /*Hydrocharis morsus-ranae*/, and Water Chestnut /*Trapa natans*/ in the shallow parts. The marshes have an uneven cover of reed /*Phragmites australis*/, *Sparganium erectum*, Common Water-Plantain /*Alisma plantago-aquatica*/ etc. A typical formation for the marshes here is the one of *Azolla filiculoides*. A part of the territory of Belene Island is covered with meadows. The grass associations are represented by a few plant groups, which often intermingle, dominated by Bermuda Grass /*Cynodon dactylon*/, *Scirpus michelianus* etc. In the eastern and western parts of the islands there are sand banks, usually without vegetation.

The islands support the largest nesting colonies of herons and cormorants in the country, being especially important for its large numbers of Pygmy Cormorant /*Phalacrocorax pygmeus/*, Black-crowned Night-heron /*Nycticorax nycticorax/*, Squacco Heron /*Ardeola ralloides/* and Eurasian Spoonbill /*Platalea leucorodia/*.

The second type of area in the site is Danube valley cut by a network of drainage canals, agricultural land, semi-natural herbaceous vegetation, shrubs and individual trees and group shelterbelts.

13. Ramsar Criteria:
Tick the box under each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11). All Criteria which apply should be ticked.

1	2	3	4	5	6	7	8	9
☒	☒	☐	☒	☐	☐	☐	☒	☐

14. Justification for the application of each Criterion listed in 13 above:
Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Criterion 1: Belene Island Complex is a particularly good representative example of a natural riverine wetland complex in the Danube Catchments area. It is also unique combination between flooded forests, marshes and river stream within complex of islands.

Criterion 2: The protected areas keep both the only wetlands in islands in Bulgaria and the largest flooded island forests along the Bulgarian part of the Danube River. The species European White Waterlily */Nymphaea alba/* (EN), Yellow Floating Heart /*Nymphoides peltata/* (EN) and Water Shamrock */Marsilea quadrifolia/* (CR) are included in the Red Data Book of Bulgaria (2011).

The ecological value of the wetland before the human impact of the island was determined by high biodiversity of species, variety of vegetation communities and habitats as well as an important ecological functions and processes. Because of the inundation of the area in spring, large numbers of fish go into the marshes for breeding. The same applies for birds.

Mammals – 58 species of mammals are registered in the territory of the complex, 4 species from the IUCN Red List: Mehely's Horseshoe Bat /*Rhinolophus mehelyi/* (VU), Long-fingered Bat /*Myotis capaccinii/* (VU), European Ground Squirrel /*Spermophilus citellus/* (VU), European Marbled Polecat /*Vormela peregusna*/ (VU).

Birds – The most important asset of the complex are the birds. 210 birds species are registered in the territory of the complex. Belene Islands Complex offers important breeding, feeding and resting habitats for waterfowl throughout the year. 28 of these bird species are included also in the Red Data Book of Bulgaria (2011).

The following bird species from the IUCN Red List categories have been recorded in the site (6 species): Lesser White-fronted Goose */Anser erythropus/* (VU), Red-breasted Goose */Branta ruficollis/* (EN), Dalmatian Pelican */Pelecanus crispus/* (VU), Greater Spotted Eagle */Aquila clanga/* (VU), Great Bustard */Otis tarda/* (VU), Aquatic Warbler */Acrocephalus paludicola/* (VU).

Amphibians and Reptiles – There are 11 species of amphibians and 17 species of reptiles. 4 species of them are included in Bulgarian Red Data Book (2011) - *Triturus cristatus dobrogicus* (VU), Greek tortoise /*Testudo graeca*/ (EN), Hermann's tortoise /*Testudo hermanni/* (EN) and Four-lined Snake /*Elaphe quatuorlineata/* (EN).

Fish – There are 67 fish species identified 31 of them are included in the IUCN Red List. Of international importance are the 4 currently present sturgeon species: the Russian Sturgeon /*Acipenser gueldenstaedtii*/ (CE), Sterlet /*Acipenser ruthenus*/ (VU) - the only sturgeon species form the currently existing in the river which is resident or with short distance migrations within the Danube River, Stellate Sturgeon /*Acipenser stellatus*/ (CE) and Beluga /*Huso huso*/ (CE).

Invertebrates – More than 650 invertebrates species are registered in the territory of the complex. One of the species of conservation importance is the Thick Shelled River Mussel /*Unio craussus/* (EN), according to IUCN Red List.

Criterion 4: The Site is formerly one of the most important breeding places both in Bulgaria and in Europe for Pygmy Cormorant /*Phalacrocorax pygmeus*/, Glossy Ibis /*Plegadis falcinellus*/ and Squacco Heron /*Ardeola ralloides* - 29 pairs/. At present because of human impact and lack of food (fish) colonies of birds dependent on fish have disappeared. At present the complex still supports 5 species, included in the IUCN Red List – Ferruginous Duck /*Aythya nyroca* – 25 pairs/, White-tiled Eagle /*Haliaetus albicilla* – 3 pairs/, Corncrake /*Crex crex*/ (during the breeding season), Aquatic Warbler /*Acrocephalus paludicola*/ (during migration) and Pygmy Cormorant /*Phalacrocorax pygmeus/* - 70 pairs (at all stages of its life cycle). Those species, as well as the Glossy Ibis /*Plegadis falcinellus/* and the Spoonbill /*Platalea leucorodia* – 20 pairs/ are listed in the annexes of Bern and Bonn Convention. According to the Birds Directive 2009/147/EC the breeding birds are 45 species and 43 species are designated as migrating.

The Belene Island Complex is used as migratory stop over site for more than 43 species of birds. During the migration the Aquatic Warbler /*Acrocephalus paludicola*/ is also encountered here. In winter, during the migration and the breeding period the island complex is a regular feeding and resting place for considerable numbers of Dalmatian Pelicans /*Pelecanus crispus*/, Pygmy Cormorants /*Phalacrocorax pygmeus*/ and Cormorants /*Phalacrocorax carbo*/.

Criterion 8
In the near past: Before 70-thies the marshes on Belene Island were extremely important for fish as a nursery site. Shallow inundated areas were suitable for fish to grow. About 20 fish species were able to enter marshes and one of four of them are key-stone species as food for birds and peoples. The fish *Esox lucius* is a food for the Dalmatian Pelican, the White-Tiled Eagle and the Black Stork. Three other fish species are very important part of the diet of the Dalmatian Pelican and the Pygmy Cormorant - *Scardinius erythrophtalmus*, *Ciprinus carpio* and *Carassius carassius*. After the restoration of the hydrological connection between marshes and Danube the important role of the complex was restored.

Migration path and potentially still spawning ground and nursery for 3 critically endangered and 1 vulnerable sturgeon species. The Lower Danube is considered to be the last river section in the Black Sea basin with vital sturgeon population.

The area around Belene used to be one of the traditional sites for commercial sturgeon fishery in the Danube River section between Bulgaria and Romania. Despite of the tendency for steady decline the sturgeon populations were intensively exploited until the year 2000. After that a dramatic decline in the populations was reported and fishing was limited due to the lack of fish resources. Since 2007 Bulgaria has no quota for export of wild caviar from sturgeons. Currently there is a ban on sturgeon fishing (covering all sturgeon species) for the period 2011-2015.

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15. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):
Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:

Continental

b) **biogeographic regionalisation scheme** (include reference citation):

The Biogeographical Regions Map of Europe 2009, European Environment Agency; http://www.eea.europa.eu/data-and-maps/figures/biogeographical-regions-europe-2005-with-national-boundaries

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16. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

- Origin – the islands have natural origin;

- Geology and geomorphology (including soils):

The islands in the site have originated as a result of the simultaneously creative and destructive influence of the river stream. They evolve due to the sand and mud sedimentation in the parts where the stream is slower. Most often this occurs around stranded stumps, trees, sunk vessels, etc. Belene is the largest island group along the Bulgarian part of the Danube. At present it consist of two larger and 15 smaller islands. The Belene Island is the largest one not only in this group but along the whole Bulgarian course of the Danube. Most probably it has originated after separate smaller islands merged, evidenced by the several marshes existing here. As other Danube islands, Belene island has front (western) part, which is higher with maximum elevation 6 meters. The eastern part is characterised by low and flat areas with longitudinal depressions. The soils are sandy-clay rich in organic substances. The marsh beds are overlaid in mud.

- Hydrogeology and hydrology

During the period of spring high water level of Danube river lower parts of the island are flooded. The flooding usually starts in March and continues until June when the water level of Danube reaches its maximum. The duration of the inundation of the islands depends on the elevation of the land (see table 1). The area with elevation up to 2 meters above average river level are long term inundated.

Table 1. A duration of the inundation of the Danube islands in Svistov region (Tzanov, 1992)

Meteorological station	On kilometre of Danube	Average Danube level / sm.	Water level above the average Danube level / m.					
			0	+1	+2	+3	+4	+5
			Average duration of inundation (days)					
Svistov	554,3	357	179	117	61	24	6	0

There are three large marshes in the Belene Island - Peschina, Martvoto and Dulova bara. They drain into the river trough a canal. Through the same canal water from the river penetrate into the marshes during the period of high water levels and inundates surrounding meadows and woodlands.

The water level of the marshes depends on Danube water level and underground waters as well. The depth of the marshes is between 1 and 2,5 m at high spring water levels. During the summer they gradually become shallow and often totally dry up. During the winter, in

January and February marshes often freeze. In the beginning of seventies was built the "Iron Gate" Dam in Serbia, which influence on the downstream water level of Danube. In 1970 the island was separated from the Danube with an embankment. At the end of the canal was build a sluice, allowing regulation of the water level in the marshes. Small dikes were build between the marshes separated them one from another. In the beginning of 1980 a drainage system with 3 pumping stations was build and start to operate. The water level is maintained very low (0,5 - 0,6 m. depth in maximum) and the marshes dry up every year, usually in the middle of August. This has resulted in the fast overgrowing of the banks with rush, reed and willows, so that presently they cover more than 1/3 of the total area of the marshes.

- Climate

The climate in the Belene Islands Complex is temperate continental. The average monthly maximum temperature (in August) is 36,8˚C and the minimum temperature (in January) is 14,7 ˚C below zero. The average annual rainfall is 571.8 mm with February minimum and May or June maximum.
The total annual precipitation is between 413 and 848 mm.

17. Physical features of the catchment area:
Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

No information

18. Hydrological values:
Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

The most important functions of the complex are: waterfowl stopover site, water retention, fish nursery, supporting biodiversity.

The marshes had a significant role for flood control, sediment trapping, as well as maintaining the normal biological cycle of Danube river and especially for supporting of plankton density and plankton exchange.

19. Wetland Types

a) presence:
Circle or underline the applicable codes for the wetland types of the Ramsar "Classification System for Wetland Type" present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

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)

b) dominance:
List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area.

4 – M – Xf – Ts – P – Tp – 7 – 9

20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

The formation of plant communities is directly related to, and in most cases is determinated by the water regime of the Danube River. The high spring waters do not allow the complete development of the spring vegetation, and this phase of the onthogenesis of the terrestrial vegetation here is significantly reduced. The withdrawing of the waters is actually coinciding with the high summer temperatures, and exuberant summer vegetation emerges on the island. Alluvial forest and a large number of rare plants still occur there. Of a special value are the willow tree associations, preserved here in their whole diversity - from the initial to the climax stages of the succession. They do not exist in such composition on any of the islands of Danube. The *Salicetum albae rubosum* association is located in the eastern part of the island is considered the climax one, the dominant species in it being *Salix alba* and *Rubus caesius*. Smaller spots of it occur in other parts of the island. Probably they are remnant of a former vegetation cover. Certain patches of the climax associations occur on the Kitka and Milka Islands too. In most cases this association has been deteriorated or did not reach its climax stage and is represented by the following associations instead:

- *Salicetum euphorbio-rubosum,* with predominance of *Euforbia lucida* in the second stage,

Rubus caesius; *Salicetum albae althoherbosum,* where the blackberries play an insignificant role and different high grasses dominate in the second stage;

- *Salicetum albae agrostidosum* the second stage of which is *Agrostis alba*.

Near the Peschina Marsh a relatively small *Salix alba* forest, without any second stage of *Salicetum albae nudum,* is located. An association of *Salicetum purpureae* is located along the northern bank of the Martvoto Marsh, and Salicetum triandrae bushes spread along the island's banks. Some smaller patches of the *Populetum albae rubosum association* - also considered a climax stage of the development of the island plant communities, have remained in the north-western part of the Belene Island. The grass communities are represented by several groups which often merge into each other.

The more important of them are the following: *Cynodonetum dactylis*, covering the most elevated parts of the island; *Agrostidetum albae* and *Crypsidetum aculeate*, located in the lower parts and *Scirpetum michelinae* - in the lowest and permamently wet parts. The banks of the marshes are covered by *Phragmites australis, Alisma plantago, Sparagnum ramosum, Sagitaria sagittifolia,Butomus umbellatus,* etc.

Typical marsh communities have developed in the marshes: *Nuphar lutea* in the Martvoto Marsh, *Potagemon natans* in the deeper ones and *Nympoides peltata* and *Trapa natans* in the shallower marshes. A typical formation for the marshes here is the one of *Azola filicoluides*. The western part of the Belene Island is covered with agriculture lands, and the typical willow bushes with *Amorpha fruicosa* from the inside grow along the banks. Of a special value are the willow tree associations, preserved here in their whole diversity - from the initial to the climax stages of the succession. They do not exist in such composition of any of islands of Danube (Michev, 1993).

21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14, Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS*.

More than 55 plants species occurs on Belene Islands Complex. A specific characteristic of the island trees and bushes vegetation is its poor species composition compared to that along the banks.

Of the totally 55 species only 8 are common for the islands and the high riverside terraces, 18 species grow on the islands only. The plant species listed in Bulgarian Red Data Book are *Nymphaea alba* (EN), *Nuphar lutea* (EN), *Marsilea quadrifolia* (CR), *Nymphoides peltata* (EN), *Trapa natans* (EN). The largest Bulgarian stand *Nymphaea alba* is located in Dulova Bara Marsh, and the largest area of *Nymphoides peltata* occurs in Peschina Marsh. The rare *Marsilea quadrifolia* grows there, and the *Leucojum aestivum* still rarely occurs in the eastern part of the island (Michev, 1993).

of the island (Michev, 1993).

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS*.

Fish – 67 fish species are registered in the territory of the complex. In the territory of the Belene Islands Complex in the waters of the Danube potentially suitable living conditions could find generally all species typical for the lower river and its tributaries. From 67 fish species described on this strech of the Danube 9 of them are included in Bulgarian Red Data Book - Russian Sturgeon /*Acipenser guldenstaedtii*/ (CR), Ship Sturgeon /*Acipenser nudiventris*/ (EX), Sterlet /*Acipenser ruthenus*/ (EN), Star Sturgeon /*Acipenser stellatus*/ (CR), Common Sturgeon /*Acipenser sturio*/ (EX), Beluga, European Sturgeon /*Huso huso*/ (CR), Pontic Shad /*Alosa pontica*/ (VU), Danube Shad /*Alosa caspia nordmani*/ (VU) and Black Sea Trout /*Salmo labrax*/ (CR). 12 species are included in Annex II of Habitats Directive – Streber /*Zingel streber*/, Asp /*Aspius aspius*/, Balkan Loach /*Cobitis elongata*/, Spined Loach /*Cobitis taenia*/, Ukrainian Brook Lamprey /*Eudontomyzon mariae*/, White-Finned Gudgeon /*Gobio albipinnatus/*, Ballons Ruffe */Gymnocephalus baloni/*, Striped Ruffe */Gymnocephalus schraetzer/*, European Weatherfish /*Misgurnus fossilis/*, Sichel /*Pelecus cultratus/*, European Bitterling /*Rhodeus sericeus amarus/* and *Zingel zingel*.

Some 20 fish species enter the marshes on the island when the sluice of the canal is open - *Esox lucius, Scardinius erythrophtalmus, Tinca tinca, Abramis brama, Cyprinus carpio, Carassius carassius, Pungitius platygaster, Gasterosteus aculeatus*, etc. They use the shallow water as spawning and nursing area.

Birds - The Ramsar site Belene Islands Complex is important for conservation as place where during the period of breeding, moulting, wintering or migration considerable numbers of following bird species assemble: Red-necked Grebe /*Podiceps grisegena*/, Black-necked Grebe /*Podiceps nigricollis/*, Great Crested Grebe /*Podiceps cristatus*/, Great Cormorant /*Phalacrocorax carbo/*, White-fronted Goose /*Anser albifrons*/, Greylag Goose /*Anser anser*/, Grey Heron /*Ardea cinerea/*, Mallard /*Anas platyrhynchos/*, Eurasian Wigeon */Anas*

penelope/, Gadwall */Anas strepera/*, Common Teal /*Anas crecca*/, Pintail */Anas acuta/*, Garganey /*Anas querquedula*/, Northern Shoveler /*Anas clypeata*/, Northern Lapwing /*Vanellus vanellus/*, Black-headed Gull /*Larus ridibundus/*, Tufted Duck /*Aythya fuligula*/, Common Pochard /*Aythya ferina*/, Common Goldeneye /*Bucephala clangula*/, Common Merganser /*Mergus merganser*/, Eurasian Coot /*Fulica atra*/, Red Knot /*Calidris canutus*/, Black-tailed Godwit /*Limosa limosa*/, Green Sandpiper /*Tringa ochropus*/, Common Gull /*Larus canus*/, Mute Swan /*Cygnus olor*/, European Bee-eater /*Merops apiaster*/.
Ten of these bird species are included in the Red Data Book of Bulgaria (2011): Red-necked Grebe /*Podiceps grisegena*/ (EN), Black-necked Grebe /*Podiceps nigricollis/* (CR), Great Crested Grebe /*Podiceps cristatus*/ (VU), Greylag Goose /*Anser anser*/ (EN), Grey Heron /*Ardea cinerea/* (VU), Gadwall */Anas strepera/* (CR), Garganey /*Anas querquedula*/ (VU), Black-headed Gull /*Larus ridibundus/* (EN), Green Sandpiper /*Tringa ochropus*/ (EN), Mute Swan /*Cygnus olor*/ (VU).

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23. Social and cultural values:

a) Describe if the site has any general social and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values:

Until 1947 the area was used by local people for cattle grazing, fishery, and forestry (very restrict). The cattle grazing was possible only during the dry period of the year. Since 1948 the island has been used as a state prison. Due to the human impact the area lost its socio-economic value and a significant part of its ecological value. At present we can see the loss of economically valuable natural resources. In 1989 the total fish yield from the Danube amounted to 360 tonnes only, three times less than the fish caught in the forties and fifties. The reason for this is the destruction of the shallow waters and marshy areas, where the fish bred, including marshes on Belene island.

The disappearance of the habitats of the *Leucojum aestivum* is causing losses running into thousands of dollars from the inability to produce medicine Nivalin, which was discovered in Bulgaria and which is known world-wide. No special investigation on fishery production of the island and use of *Leucojum aestivum* has been done. At present the plantation and timber activity on the island provides only 6% of the timber production along the Danube, including islands, but this activity has a high negative impact on the ecosystem.

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning?

If Yes, tick the box ❑ and describe this importance under one or more of the following categories:

i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:

ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:

iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:

iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

24. Land tenure/ownership:
a) within the Ramsar site:

State - 47 %
Municipality – 10 %
Private – 43 %

b) in the surrounding area:
Private, Municipality, State

25. Current land (including water) use:
a) within the Ramsar site:

The western part of the Belene Island (Persin) is used for agriculture by the Prison administration. The meadows are used by Prison administration as pastures. A small part of it is being planted with hybridised poplar. No land use is allowed in the Strict Reserve except fishery and harvesting of reed.

b) in the surroundings/catchment:

The River Danube is used for shipping and fishery. It is state border area with Romania. The land along the Danube is used for agriculture.

26. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:
a) within the Ramsar site:

- Past: Cutting of alluvial forests and turning into poplar plantations (unsustainable forest management);

Progressive deterioration of the vegetation association; The association of *Populetum albae rubosum* is totally destroyed; Birds lost their breeding ground and their nests become accessible for predators;

- Future: Industrial dredging for bottom sediments;
- Future: Projects for improvement of navigation which suppose to use bottom dredging, closing side arms and building concrete bottom sills and chevrons;
- Present: The abundant population of the wild boar facilitates deterioration processes by digging in the meadows, forests and in the dried up marshes;

b) in the surrounding area:

- Past: After building of "Iron Gate" Dam and embankment of the Danube river banks the quantity of the zooplankton of the river has decreased. The correlation between different taxa and dominant species was changed as well. The quantity of crustacean species has increased. The effect of all these changes on the ecosystem is not inventoried. After embankment of the Belene island exchange of zooplankton between river and marshes was not possible any more.
- Future: Nuclear Power Plant "Belene";

27. Conservation measures taken:

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site:

In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.

In 2000 "Belenski Marshes" Reserve was categorised as Managed Reserve and whole the area was included in the "Persina" Nature Park.

Restoration of the marshes in Belene Island has started in 2001 as a part of "Wetland Restoration and Pollution Reduction Project". The project was funded by the GEF/World Bank and Bulgarian Government. The project was finished successfully in 2008, the main Danube dike was cut in three points and three big gates where built on this places. The internal protection dike in the island was reinforced and additional draining canal was built, to protect agricultural lands and the Prison blocks on the island. The canal is drained by newly built automatic pumping station aim to keep surrounding lands protected from high underground waters. Four culverts were constructed to ensure proper water movement between water bodies on the Persin Island. As a result more than half of the island have almost natural flooding regime. The management of the restored area is given to Persina Nature Park Directorate.

Conservation measures were undertaken also for Kaikusha marsh. This is a 160 ha large wetland which is part of the former Danube floodplain outside the island of Belene. There was a project for the improvement of the water regime by reconnecting the wetland to a small river in the plain, which was finalized in 2012. The project was implemented by Persina Nature Park administration and WWF with the funding contribution from the EU financial instrument LIFE+. With the new extended boundaries Kaikusha will become part of the Ramsar site Belene Islands Complex.

Artificial nesting platforms for pelicans was built in 2012 by BSPB, Persina Nature Park Directorate and WWF. The platform do attracts Dalmatian pelicans for resting but there is no observation of nesting yet.

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate):

Ia ☒; Ib ❑; II ❑; III ☒; IV ☒; V ☒; VI ☒;

c) Does an officially approved management plan exist; and is it being implemented?:

Yes, there is an approved management plan which is being implemented

d) Describe any other current management practices:

Persina Nature Park Directorate is managing the sluices of the restored wetlands on Persina Island and Kaikusha marsh;

28. Conservation measures proposed but not yet implemented:
e.g. management plan in preparation; official proposal as a legally protected area, etc.

There are projects for reintroduction of aquatic plant species and fish species to the marshes on Belene Island.

29. Current scientific research and facilities:
e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

The access to the Belene Island is difficult because of the restrictive regime of the prison. The islands and the other land are accessible. The bird fauna and plant communities in the area are well studied. Other issues are soils, hydrology, invertebrates and microfauna, as well as the relationships and the processes in the ecosystem as a whole are not studied. Nevertheless the ecosystem is of great scientific interest because of different processes and relationships could be studied.

There is a monitoring program applied by Persina Nature Park Directorate.

30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:
e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

Visitor's center was built under Wetland Restoration and Pollution Reduction Project as part of Administrative building of the Persina Nature Park Directorate. It is located very close to the main entrance of the Island.

Persina Nature Park Directorate has public relation expert and well established educational program focused mainly on nature protection and biodiversity. 3D hydraulic model of the restored area is placed in the Visitor's center.

One observation tower and eco-trail was constructed close to the Peschina Marsh on the island.

31. Current recreation and tourism:
State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

None

32. Jurisdiction:
Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

The Belene Island is under the responsibility of the administration of the Prison which is situated in the west part of the Island, the local department of Forestry Committee and under the control of the Ministry of Environment and Water.

33. Management authority:
Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

- **Persina Nature Park Directorate**, under Executive Forestry Agency at the Ministry of Agriculture and Food;

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- **Regional Inspectorate of Environment and Water - Pleven** at the Ministry of Environment and Water

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34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

Ivanov, B. 1979. Studies on the numbers of some aquatic birds during the winter months of 1975,
1976, 1977 and 1978 in three marshes near the Danube river. Ecology, 5, 30-43.
Ivanov, B. 1985. Colonial nesting birds on the island of Belene. - In: International symposium of protection of natural habitats and the Genetic Wealth Contained in Term. Blagoevgrad, 23-25 Sept.
1985, Vol.1, Sofia,BG, 296-304.
Koceva, S., N. Petkov, P. Yankov. 1997. Belene Island Complex. In: Kostadinova, I. (comp). Important Bird Areas in Bulgaria. BSPB Conservation series No1, BSPB, Sofia
Kostadinova, I. 1998. Draft Management Plan for Belene Island Complex, Bulgaria. Wetland Advisory and Training Centre, RIZA, The Netherlands 41 pp.
Michev, T. (ed.). 1993. National Action Plan for the Conservation of the Most Important Wetlands
in Bulgaria. Sofia, 14-16.
Naidenov, V. 1978. Dynamics and genesis of Danube zooplankton between kilometres 845 and 375. In: Limnology of the Bulgarian sector of Danube. BAS, Sofia, 145-194.
Rose, P.M., D.A.Scot. 1997. Waterfowl Population Estimates. IWRB Publication 44, Slimbridge, UK.
Rusev, B. 1978. Features and significance of the zoobenthos of Danube river between kilometres 845 and 375. In: Limnology of the Bulgarian sector of Danube. BAS, Sofia, 145-194.
Tzanov, T. 1992. The flooded forests along the Bulgarian part of Danube River. BAS, Sofia

Petkov N., P. Iankov, E. Todorov 2007 Belene Island Complex.- In Kostadinova, I.,M.Gramatikov (eds) 2007. Important Bird Area and Natura 2000. Bulgarian Society for Protection of Birds, Conservation Series, Book 11, Sofia, RSPB.
Todorov E., N.. Petkov, I.Kostadinova, P. Iankov. 2007. Svishtov – Belene Lowland.- In Kostadinova, I.,M.Gramatikov (eds) 2007. Important Bird Area and Natura 2000. Bulgarian Society for Protection of Birds, Conservation Series, Book 11, Sofia, RSPB.
Todorov E. 2007 Ostrov Lakat- In Kostadinova, I.,M.Gramatikov (eds) 2007. Important Bird Area and Natura 2000. Bulgarian Society for Protection of Birds, Conservation Series, Book 11, Sofia, RSPB.
NARURA 2000 Standart Data Forms

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