

# 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:**

11.11.98

For office use only.

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14/12/76

7IT003

Designation date

Site Reference Number

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**2. Country:**

Italy

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**3. Name of wetland:**

Bellocchio Sac

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**4. Geographical coordinates:**

44° 37' North; 12° 16' East

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**5. Altitude:** average 0 m a.s.l. (max. 3/min -2)

**6. Area:** (in hectares) 223 ha

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

Bellocchio Sac is a brackish lagoon separated from the sea by a well preserved ridge of dunes. The area is crossed by the Bellocchio canal running in a west-east direction, which connects it to the Adriatic Sea, the waters of which enter the sac during sea storms. An intake on the Reno river ensures the supply of fresh water. The lagoon is surrounded to the west by typical Mediterranean scrub and shrubs, with planted *Pinus pinea* and *Pinus pinaster*. The estuary of the Reno is active and, left free to evolve in the northern section, appears to be continually changing, with sand and silt deposits and formation of new lagoons. To the west the sac borders with the Ramsar zone of the Comacchio Valleys, to the north with the state nature reserves of Bellocchio Sac II and III, and to the east with the nature reserve of the "River Reno Estuary" and the reserve of "River Reno Right Estuary".

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**8. Wetland Type:** (please circle the applicable codes for wetland types as listed in Annex I of the *Explanatory Note and Guidelines* document)

**marine-coastal:** A - B - C - D - E - F - G - H - I - J - K

**inland:** L - M - N - O - P - Q - R - Sp - Ss - Tp

Ts - U - Va - Vt - W - Xf - Xp - Y - Zg - Zk

**man-made:** 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9

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

J, E, H, G, F, M, 9

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

**1a** - **1b** - **1c** - **1d** / **2a** - **2b** - **2c** - **2d** / **3a** - **3b** - **3c** / **4a** - **4b**

Please specify the most significant criterion applicable to the site:

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**10. Map of site included? Please tick *yes* - or - *no* X**

(Please refer to the *Explanatory Note and Guidelines* document for information regarding desirable map traits)

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

Massimiliano Costa – Regional Park of the Po Delta.

Giuliana Venturi – Emilia-Romagna Region.

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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):**

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

Bellocchio Sac is a rare example of well preserved marsh separated from the sea by an active dune ridge at the Reno estuary, which is also in continual evolution. The estuary represents an essential environment for the Reno river permitting the entry of anadromous fish species and the movement of euryaline species. The site hosts a large number of rare fauna and flora species, with representative populations at a national level and single-location species at a regional level which find ideal habitats for breeding, resting during migration and feeding. There are several endemic species present. Among the species present there are several endemic and steno-mediterranean species. There are important populations of *Anatidae*, *Accipitriformes*, *Charadriidae* and *Sternidae* and two endemic species of fish.

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

The area is located approximately 20 km from the city of Ravenna (capital of the Province and Municipality) at approximately 65 km from Ferrara and 15 km from Comacchio. It is in the vicinity of several coastal tourist resorts (Lido degli Estensi, Lido di Spina, Casalboretto, Marina Romea, Porto Corsini) and access is gained by means of Romea state road.

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

The Bellocchio Sac is a naturally occurring wetland which originated when the estuary of the River Reno, abandoning its original course and moving eastwards, was transformed into a coastal marsh. Salt water enters the wetland by means of the Bellocchio canal or, in the event of heavy sea storms, from waves which wash over the dunes. Fresh water is provided through an intake on the River Reno. The sac tends to dry up during the summer due to evaporation, except for the deeper parts and the small natural channels which run through it. The recently formed eastern section is connected to the sea by a wide opening and is strongly influenced by the tides. The soils are sandy or silty.

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

The area has an important role in protecting the coastline from erosion, especially where the estuary is left to freely evolve and form new sand barriers and lagoons; abandoning the old river mouth and creating a new estuary.

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

Brackish meadows typical of temporary Mediterranean marshes characterise most of the Sac. There are also halophyte communities present in the longer-standing wetlands, open stretches of water and silt or sand flats uncovered during low tide. Active dune ridges to the east present all the various stages of vegetation of sandy coastal areas, whilst a pine wood (*Pinus pinaster* and *Pinus pinea*) has been added to the natural thermophyte coastal woodland in the west.

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

Only one species contained in Attachment II of the EU Dir.92/43: *Salicornia veneta* (endemic in the north Adriatic coast). The following species threatened at a national level are present in the wetland (“Libro Rosso della Flora d’Italia”): *Bassia hirsuta*, *Halocnemum strobilaceum*, *Limonium bellidifolium* and *Plantago cornuti*. The following species, protected in the Emilia-Romagna region, are also present: *Cistus incanus*, *Limonium sp.*, Orchidaceae.

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

Birds listed in Attachment 1 of the European Union Directive 79/409: some nesting pairs of *Circus pygargus* and small nesting colonies of *Himantopus himantopus* and *Sterna albifrons*. The site is also locally important for nesting of *Haematopus ostralegus* (2-3 pairs.) and *Charadrius alexandrinus* (10-15 pairs.) and migration of many species of Charadriiformes. Important populations of species contained in Attachments II and IV of the EU Dir.92/43: *Petromyzon marinus* and *Alosa fallax* which swim up the Reno river; *Aphanius fasciatus*, *Pomatoschistus canestrini* (endemic) and *Knipowitschia panizzae* (endemic) which populate the waters of the lagoon. The following Coleoptera are present: *Cicindela majalis*, *Scarabaeus simpunctatus*, *Polyphylla fullo*.

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

The area is currently used exclusively for nature conservation and scientific research.

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

The area is state-owned with the exception of a small privately-owned portion to the west.

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

- a) nature preservation and scientific research;
- b) extensive agriculture, regulated hunting activities, nature conservation and scientific research (State nature reserves).

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**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

Efforts to immobilise the river estuary has destabilised the delicate coastal equilibrium and in some places marine erosion has caused loss of parts of the dunes. A disturbing factor is represented by military manoeuvres carried out on the adjacent firing range (property of the Ministry of Defence). Periodic silting up of the Bellocchio canal, besides interrupting the flow of sea water, permits tourists to reach the natural dunes and subsequently the loss of nests of several species typical of the environment. The numerous fishing huts and relative equipment disturb those fish species which run up the Volano river; in particular *Alosa fallax*.

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**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)

Ramsar wetland, established with Ministerial Decree dated 09.05.77, published in the *Gazzetta Ufficiale* (official state journal) No. 208 dated 30.07.77. Most of the area (163 ha out of 223 ha) is subject to the limitations of zoological nature reserve “Bellocchio Sac” which was set up by the State with Ministerial Decree dated 09.02.72, published in the *Gazzetta Ufficiale* No.53 dated 01.03.72. The small part of the Ramsar zone not comprised within the nature reserve is included within the perimeter of the Po Delta regional park (Comacchio Valleys Station) established with regional law No.27 dated 02.07.88. The regulations of the Territorial Plan of the Station have been in force since 1991 and are followed by the Provinces of Ferrara and Ravenna (under approval by the Region). The area is also subject to the limitations of law 431/85 and law 1497/39.

Works have been carried out to protect the dunes, using Longard pipes, and to protect the estuary with man-made reefs; however these have destabilised the delicate coastal equilibrium. The Bellocchio Canal is regularly opened to the sea in order to maintain water re-circulation.

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

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**25. Current scientific research and facilities:** (e.g. details of current projects; existence of field station etc.)

The management consortium of the regional Park signed a protocol of understanding with the Regional Agency for Conservation and Environment (ARPA ), in 1997, to carry out annual programmes of control and monitoring activities of the quality of the environment over the entire park, the first results of which have already been published.

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

Guided tours are organised by the State Forestry Corps.

A considerable amount of documentation has been produced (prepared by local agencies, the Region, the Park and nature associations) for educational and teaching purposes which illustrates the natural characteristics and the recreational, cultural and tourist opportunities offered by the area.

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

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

Region: Emilia-Romagna; Province: Ferrara; Municipality: Ravenna.

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

Management of the Nature Reserve is carried out by the Forestry Corps in accordance with the regulations of the institutional decrees. Management of the remaining areas is carried out by the private owners, in accordance with the instructions established by the Territorial Plan of the Po Delta Regional Park.

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**30. Bibliographical references:** (scientific/technical only)

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coastal wetlands from the mouth of the Adige to the Cervia salt flats). Avocetta, 13: 41-46.

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