

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.

dd mm yy

04/09/81

7IT030

Designation date

Site Reference Number

2. Country:

Italy

3. Name of wetland:

Bertuzzi Valley

4. Geographical coordinates:

44° 47' North; 12° 14' East

5. Altitude: average 0 m a.s.l. (max.4/min.-1)

6. Area: (in hectares) 3,100 ha

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

Bertuzzi Valley is a large, well-preserved, brackish wetland with numerous systems of emerged and submerged banks (remains of dunes), with halophile vegetation and woods of *Quercus ilex*. The Ramsar zone comprises: the remains of Porticino-Canneviè Valley which is the northern ramification of the Bertuzzi Valley and is isolated from the latter by the Volano Po (which widens to the east with the shallow water marshes of the Volano Po estuary); the estuary of the Volano Po (with expanses of *Phragmites australis*); the sandy *scanno* of the Volano (with dunes covered in psammophile vegetation and planted pine woods of *Pinus pinaster*); the Volano Lake, or "Lake of the Nations" (a large artificially deepened expanse of brackish water, with meadows of *Juncus maritimus* on a brackish substrata along the eastern banks).

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, F, 7, 4, B, A, G, N, M, 9

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:

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)

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

Massimiliano Costa – Regional Park of the Po Delta.

Giuliana Venturi – Emilia-Romagna Region.

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)

The group of wetlands and dunes represents a well-preserved estuary system with all the typical environments. It is of fundamental importance for the Volano Po ecosystem (for which it represents a reservoir of biodiversity) and for the system of northern Adriatic coastal lagoons. The site hosts a large number of rare fauna and flora species, with representative populations at a national level and unilocular species at a regional level which find suitable environments for nesting, feeding and resting during migration. Several endemic species of the northern Adriatic are present. There are more than 20,000 aquatic birds regularly present with important populations of Ciconiiformes, Anatidae, Accipitroiformes, Charadriidae, Sternidae. Numerous endemic fish species are present. The estuary permits entry to anadromous fish species and movement of euryaline species, whilst the sac is very important for the growth of newborn and sub-adult specimens, also of rare and threatened species.

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

The area is located approximately 60 km from Ferrara (capital of the Province) and approximately 10 km from Comacchio. The town of Volano lies within the area.

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)

Some of the morphological aspects of the system of wetlands and dunes are natural and others have been man-made. Salt water enters the brackish valleys by means of canals or directly from the water table, whilst the fresh water is provided by the Volano Po. The valleys are permanently flooded, but they dry up to a large extent during the summer with the emergence of vast expanses of muddy flats. The estuary and the zones surrounding the sandy *scanno* are permanently flooded and influenced by the tides, as are the marshes behind the dunes next to the estuary. The soils are sandy, particularly in the dunes and on the sandbanks, whilst silty deposits occur in the flooded areas and at the river mouth, in the reed beds.

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 banks by continuously depositing sand and silt.

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

There is a remarkable diversity of habitat: brackish wetlands cut through by sandbanks with halophile vegetation, *Salicornia* sp. and *Arthrocnemum* sp., and Mediterranean woods of *Quercus ilex* with submerged meadows of *Ruppia cirrhosa*; expanses of reed beds, *Phragmites australis*; flooded meadows on saline soils with *Juncus maritimus* and *Juncus acutus*; psammophile vegetation with all the typical vegetational series; muddy and sandy areas which emerge during low tide; coastal pine woods of *Pinus pinaster* on consolidated series of dunes.

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 northern Adriatic coast). The following species threatened at a national level are present in the wetland ("Libro Rosso della Flora d'Italia"): *Bassia hirsuta*, *Limonium bellidifolium*, *Plantago cornuti*. The following species, protected in the Emilia-Romagna region, are also present: *Cistus incanus*, *Limonium* sp., Orchidaceae.

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: important heron breeding sites of *Phalacrocorax carbo* ssp. *sinensis* (80-90 pairs.) and *Egretta garzetta* (126-220 pairs.) in the Bertuzzi Valley. Also, on the sandbanks, important nesting colonies of *Larus melanocephalus* (500-640 pairs.), *Sterna albifrons* (100 pairs.), *Sterna hirundo* (979-1068 pairs.), *Himantopus himantopus* (40-70 pairs.). Nesting of *Circus pygargus* and, in the reed beds at the Volano estuary, *Circus aeruginosus* and the most important Italian colony of *Area purpurea* (210 pairs.).

The site is also important locally for nesting of *Haematopus ostralegus* (1-2 pairs.) and *Charadrius alexandrinus*, and generally for migration and wintering of many species of Anatidae and Charadriiformes.

Important populations of fish are present contained in Attachment II of the EU Dir.92/43: *Alosa fallax* runs up the Volano Po; *Aphanius fasciatus*, *Pomatoschistus canestrini* (endemic), and *Knipowitschia panizzae* (endemic) populate the waters of the brackish valleys and the coastal waters of the estuary. In the Volano Po *Barbus plebejus* (endemic), *Rutilus erythrophthalmus* (endemic) and *Cobitis taenia* are present.

The presence of *Emys orbicularis* (Attachments II and IV of the EU Dir.92/43), *Zerynthia polyxena* (Attachment IV of the EU Dir.92/43), *Scarabaeus semipunctatus*, *Polyphylla fullo* is also important.

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

The Bertuzzi Valley is extensively used for fish-farming and hunting and represents an excellent example of the co-existence of nature conservation and compatible exploitation of resources. The Porticino-Canneviè Valley, the Volano estuary and the Volano *scanno* are assigned exclusively for conservation and nature observation, while the beaches south of the estuary are used for leisure activities.

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

The area is owned by: the State (Volano *scanno* and wood – Nature reserve), Ferrara Land Reclamation Company (part of the Bertuzzi Valley), Ferrara Province (Volano Po Estuary and Porticino-Canneviè Valleys) and privately (part of the Bertuzzi Valley and Volano Lake).

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

- a) fish-farming, hunting, amateur and professional fishing, mollusc harvesting, livestock raising, agriculture, water sports, nature conservation and observation, tourism;
- b) agriculture, tourism (bathing).

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

The regulated hunting activities in the Bertuzzi Valley create only a slight disturbance to the wintering birds, since the number of positions is limited as are the number of days available for hunting. The fish farming is carried out using methods which are fully compatible and should be used as an example for other wetlands. However, the co-existence between fish farming and *Phalacrocorax carbo ssp. sinensis*, protected by EU Dir.79/409, is rather difficult. The waters of the Volano Po are of very poor quality, especially in the summer, and this prevents their use for the Valley Bertuzzi, resulting in an increase in salinity. The presence of tourists who spill over into the *scanno* creates a disturbance to the nesting birds (*Haematopus ostalegus*, *Charadrius alexandinus*). The numerous fishing huts with large equipment disturb the fish species which run up the Volano; in particular *Alosa fallax*. Water sports in the Volano Lake greatly disturb the wintering birdlife which was particularly plentiful in the past (*Aythya sp.*) but, for this reason, is now much lower.

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 13.07.81, published in the *Gazzetta Ufficiale* (official state journal) No.203 dated 25.07.81. The Volano woodland is subject to limitations as a natural reserve denominated "Volano Po", established by the State in accordance with law dated 09.02.72, published in the *Gazzetta Ufficiale* No.219 dated 11.8.77. All the Ramsar wetland not included within the Nature Reserve is included within the perimeter of the regional park of the Po Delta (Volano-Mesola-Gora Station) established with regional law No.27 dated 02.07.88. The regulations of the Territorial Plan have been in force since 1991 and are followed by the Province of Ferrara (under approval by the Region). The plan foresees Ramsar site partly in zones B and C, in which hunting is forbidden, and partly in a pre-park area in which hunting is regulated. The area is also subject to the limitations of Law 431/85.

Dredging works in the sub-lagoon canals of the Porticino-Canneviè Valley have been carried out and artificial reefs have been constructed to protect the Volano woodland, an area subject to considerable erosion, due to the natural dynamics of coastal areas.

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

The Territorial Plan of the Park gives the general plan for the area and defines the structural framework. The Plan indicates the general and sectorial objectives and priorities, and specifies (by means of zoning, regulations, limitations, incentives and directives) the various uses to be made of the territory. The Plan also foresees conservation and re-naturalisation activities, partly under way and partly to be carried out in the next few years.

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.

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

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.

Porticino-Canneviè Valley is utilised by the Province of Ferrara for environmental teaching purposes, in collaboration with the management of the “Casone Canneviè”, a congress and reception structure.

Guided tours to the nature reserve are run by the State Forest Corps.

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

The nature reserve is used by tourists from the nearby bathing resorts, with peak numbers during the summer. Porticino-Canneviè is used for naturalist tourist activities.

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

Region: Emilia-Romagna; Province: Ferrara; Municipalities: Mesola, Codigoro and Comacchio.

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, and in particular by: Ferrara Land Reclamation Company for part of the Bertuzzi Valley; the Ferrara Provincial Administration for the Volano Po estuary and the Porticino-Canneviè Valley; Emilia-Romagna Region for the coastal strip; private owners for the Volano Lake, part of the Bertuzzi Valley, the meadows and agricultural lands.

30. Bibliographical references: (scientific/technical only)

- AA.VV., 1998. “*Qualità ambientale nel Parco del Delta del Po*”. (Environmental Quality in the Po Delta Park). Atti della Giornata di studio tenuta a Comacchio (FE) il 11.12.97 a cura del Consorzio del Parco regionale del Delta del Po e dell’ARPA dell’Emilia Romagna – Sez. Prov.le di Ferrara e Sez. Prov.le di Ravenna.
- Angle G.S., 1978. “*Il Gabbiano corallino (Larus melanocephalus) nidifica in Italia*” (Breeding in Italy of *Larus melanocephalus*). Avocetta, 2: 47-48.
- Baccetti N., Serra L., Tinarelli R., Utmar P., Cherubini G., Kravos K. & Casini L., 1992. – “*Nuovi conteggi di Limicoli costieri svernanti nelle zone umide adriatiche*” (New census of coastal Limicoli wintering in Adriatic wetlands). Riv. ital. Ornit., 62: 3-12.
- Boldreghini P., 1969. “*Profilo della Fauna di Vertebrati delle valli e dei boschi del litorale ferrarese-ravennate*” (Profile of vertebrates in the valleys and woodlands along the Ferrara-Ravenna coastline). Natura e Montagna, 9 (4): 41-57.
- Boldreghini P. & Rallo G., - 1988. “*I censimenti dell’avifauna acquatica svernante nelle zone umide costiere dell’alto Adriatico*” (Census of aquatic birdlife wintering in the wetlands along the northern Adriatic coastline). In Pandolfi M. & Frugis S. (eds.), Atti I Sem. Ital. Cens. Faun. Urbino, 1988: 203-219.
- Boldreghini P., 1974. “*Importanza dei biotopi umidi dell’Emilia orientale per la riproduzione degli uccelli acquatici (nota preliminare)*” (Importance of the wetland

biotopes of East Emilia for the reproduction of waterbirds – preliminary note). Atti del IV Simposio Nazionale sulla Conservazione della Natura, Vol. I, Bari.

- Boldreghini P., Chelini A. & Spagnesi M., 1978. “*Prime considerazioni sui risultati dei censimenti invernali degli Anseriformi e della Folaga in Italia (1975-1977)*” (Preliminary considerations on the census of *Anseriformi* and coot wintering in Italy).
- Boldreghini P., Corbetta F. & Montanari F.L., 1977. “*Valori naturalistici e situazione protezionistica delle zone umide costiere dell'Emilia-Romagna*” (Naturalistic values and conservation situation in the coastal wetlands of Emilia-Romagna). Ambienti Umidi Costieri, Atti dei II Convegno Siciliano di Ecologia. Noto, 23-25 ottobre 1977.
- Boldreghini P., Montanari F.L., Santolini R. & Tinarelli R., 1993. “*Insedimento del Cormorano *Phalacrocorax carbo sinensis* nell'area del Delta del Po*” (Settling of *Phalacrocorax carbo sinensis* in the area of the Po Delta) In Spagnesi M., E. Randi (eds) “*Atti VII Conv. Ass. A.Ghigi per la Biologia e la Conservazione*”, Suppl. Ric. Biol. Selvaggina, Vol. XXI.
- Brichetti P., 1978. “*Sulla nidificazione in Italia di: Gabbiano corallino *Larus melanocephalus* (Temminck) - Gabbiano roseo *Larus genei* (Bréme) - Rondine di mare maggiore *Hydroprogne tschegrava* (Lepechin)*” (Breeding in Italy of *Larus melanocephalus* (Temminck), *Larus genei* (Bréme) and *Hydroprogne tschegrava* (Lepechin)). Riv. ital. Orn., 48: 215-233.
- Brichetti P. & Foschi U.F., 1982. “*Valli di Comacchio: situazione Laridae e Sternidae 1982*” (Valli di Comacchio – Situation *Laridae* and *Sternidae* 1982). Riv. ital. Orn., 52: 207; 1982.
- Brichetti P. & Foschi U.F., 1985. “*Valli di Comacchio: situazione Laridae e Sternidae 1985*” (Valli di Comacchio – Situation *Laridae* and *Sternidae* 1985). Riv. ital. Orn., 55: 185-186.
- Brichetti P. & Foschi U.F., 1986. “*Valli di Comacchio: situazione Laridae e Sternidae 1986*” (Valli di Comacchio – Situation *Laridae* and *Sternidae* 1986). Riv. ital. Orn., 56:249-250.
- Brichetti P. & Foschi U.F., 1988. “*Valli di Comacchio: situazione Laridae e Sternidae 1987-88*” (Valli di Comacchio – Situation *Laridae* and *Sternidae* 1987-88). Riv. ital. Orn., 58: 211-212.
- Brichetti P. & Foschi U.F., 1990. “*Valli di Comacchio: situazione Laridae e Sternidae 1989-90*” (Valli di Comacchio – Situation *Laridae* and *Sternidae* 1989-90). Riv. ital. Orn., 60: 199-200.
- Brichetti P., 1978. “*Sulla nidificazione in Italia di: Gabbiano corallino *Larus melanocephalus* (Temminck) - Gabbiano roseo *Larus genei* (Bréme) - Rondine di mare maggiore *Hydroprogne tschegrava* (Lepechin)*” (Breeding in Italy of *Larus melanocephalus* (Temminck), *Larus genei* (Bréme) and *Hydroprogne tschegrava* (Lepechin)). Riv. ital. Orn., 48: 215-233.
- Foschi U.F. & Teodorani G., 1978. “*Accertamento di nidificazione di Gabbiano corallino (*Larus melanocephalus*) e Gabbiano roseo (*Larus genei*)*” (Breeding of *Larus melanocephalus* and *Larus roseo*). Gli Uccelli d'Italia, 3: 144-148.
- Gariboldi A., Lambertini M., Tallone G. (red.), 1996. Programma di conservazione per l'area geografica del Parco del Delta del Po (I e II fase), Progetto Life “*Piano d'azione generale per il Delta del Po*” (General action plan for the Po delta). Commissione Europea DG XI/Ministero dell'Ambiente, realizzato da LIPU, Parma.
- Idroser, 1978. “*Progetto di piano per la salvaguardia e l'utilizzo ottimale delle risorse idriche in Emilia-Romagna*” (Plan for the protection and use of the water resources in Emilia-Romagna). Regione Emilia-Romagna - ENI, Bologna.

- Molena C., 1977. “*Osservazioni ornitologiche al Lido delle Nazioni (Provincia di Ferrara) dal 18 agosto al 3 settembre 1977*”. (Ornithological observations at the Lido delle Nazioni (Ferrara Province) from 18 August to 3 September 1977) Riv. Ital. Orn., 48: 245-249
 - Passarella M., 1994. “*Nuove conoscenze sulla distribuzione di alcune specie ornitiche nel Delta del Po*”. (New information on the distribution of some bird species in the Po Delta). Ecologia della Padania, Atti del XII Conv. Naz. del Gruppo per l’Ecologia di base “G. Gadio”.
 - Tinarelli R., 1989. “*Lo svernamento dei limicoli nelle zone umide costiere adriatiche dalla foce dell’Adige alle saline di Cervia*” (The wintering of *Limicoli* in the Adriatic coastal wetlands from the mouth of the Adige to the Cervia salt flats). Avocetta, 13: 41-46.
 - Tinarelli R., 1990, “*Risultati dell’indagine nazionale sul Cavaliere d’Italia, Himantopus*” (Results of the national studies on *Himantopus*). Ric. Biol. Selvaggina, 87.
 - Tinarelli R. & Baccetti N., 1989. “Breeding waders in Italy”. Waders Study Group Bull., 56.
-

Please return to: Ramsar Convention Bureau, Rue Mauverney 28, CH-1196 Gland, Switzerland
Telephone: +41 22 999 0170 - Fax: +41 22 999 0169 - e-mail : ramsar @ hq.iucn.org