

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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Designation date

Site Reference Number

2. Country:

Italy

3. Name of wetland:

Comacchio Valleys (Fattibello, Fossa di Porto, Campo, Lido di Magnavacca and other minor valleys) and surrounding areas.

4. Geographical coordinates:

44° 37' North; 12° 11' East

5. Altitude: (average and/or max. & min.). av. -1 m a.s.l. (max 10/min -4) **6. Area:** (in hectares) 13,500 ha

7. Overview:

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

The Comacchio Valleys represent the most extensive palustrine system in Italy with a single brackish basin of more than 10,000 Ha and numerous secondary wetlands - with waters ranging from fresh to brackish to hypersaline. The area, which includes extremely diverse environments, comprises: the peninsula and banks of Boscoforte, the banks and reed beds of Valle Furlana, Volta Scirocco, the Comacchio salt flats, Valle Spavola, Valle Capre, Valle Molino and, in the surrounding areas, the Bellocchio Sac and Veins, the pine woods and cultivated fields of Isola San Clemente, the open waters of Valle Fattibello, the Valle Zavelea reed beds. The Valleys are linked to the sea (from which they are separated by a wide duney coastal ridge), by means of two canals, while fresh waters come from an intake on the Reno river and from the drainage system of the Mezzano Valleys. The area is adjacent, on its eastern side, to the Ramsar area denominated "Sacca di Bellocchio" (Bellocchio Sac).

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, H, K, G, 7, 1, 4, B, 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 entire area constitutes the most important wetland complex in Italy with very well preserved environments. It represents an important catchment area for the Reno river which flanks the area to the south and to which the wetlands are linked from a hydrological and ecological point of view. The wetlands are a reservoir of biodiversity for the catchment area of the river and for the system of north 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 ideal habitats for breeding, resting during migration and feeding. Several endemic species are present.

There are more than 20,000 aquatic birds regularly present and in particular important populations of Ciconiiformes, Anatidae, Accipitriformes, Charadriidae, Sternidae. Several endemic species of fish are present and the Valleys are very important for the growth of the newborn and the sub-adult euryhaline species, also of rare and threatened species.

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

The area is very extensive and is situated in the Provinces of Ferrara and Ravenna. It is approximately 50 km from the city of Ferrara and approximately 20 km from Ravenna. It falls within three municipalities: Comacchio (next to the northern point of the Ramsar area), Argenta (at approximately 25 km) and Ravenna. The town of Sant'Alberto is situated to the south, immediately outside the Ramsar area, which can be reached by a ferry across the Reno river.

The entire area is crossed in a north-south direction by the Romea state road which runs between the Valleys of Comacchio and the coast, where there are several important tourist resorts (Porto Garibaldi, Lido degli Estensi, Lido di Spina, Casalborsetti).

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 Comacchio Valleys are a naturally occurring brackish wetland modified by man throughout the centuries. Sandbanks and remains of important dune ridges are still present (Boscoforte). Some of the basins have man-made embankments and are utilised for fish-farming (Lavadena, Smarlacca, Ussarola, Campo) or salt production (Comacchio salt flats,

which are no longer used). The parts nearest the intakes on the Reno have fresher waters with reed beds (La Scorticata). The valleys are permanently flooded, however some parts dry up during the summer and vast mud flats emerge. The soils are sandy, particularly in the dune ridges and on the sandbanks, whilst clay deposits occur in the flooded areas and in the reed beds.

Other environments in the area are: remains of reclaimed basins, man-made basins (Valle San Clemente), coastal ponds originating from river estuaries (Veins of Bellocchio), re-naturalised meadows (Volta Scirocco), pine woods, wet meadows and cultivated lands (Isola San Clemente).

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

The fresh water supply is provided by the Reno River (to the south) on the left banks of which are water intakes. Salt water enters the valley through the Logonovo and Gobbino canals (to the north-east). The flow of fresh water is artificially regulated and maintained mainly inside the areas bounded by embankments for fish farming. This causes a progressive increase in salinity from south to north. The water regulation structures and the canals connecting with the sea require constant maintenance in order to ensure correct operation.

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

A rich variety of habitats is present: large brackish wetlands crossed by sandbanks with halophyte vegetation such as *Salicornia* sp. and *Arthrocnemum* sp., with submerged meadows of *Ruppia cirrhosa*, expanses of reed beds (*Phragmites australis*) in some of the Valleys and in other wetlands (Zavelea Valley, southern Veins of Bellocchio). There are also salt flats, flooded meadows on salty soils with *Juncus maritimus* and *Juncus acutus*; wet meadows of *Puccinellia distans* and *Aster tripolium*, muddy and sandy areas which emerge during the summer, pine woods of *Pinus pinea* on consolidated dune ridges, stretches of woodlands and cultivated areas.

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.

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 *Egretta Alba* (Boscoforte reed beds), *Ardea purpurea* (Scorticata reed beds and the southern Veins of Bellocchio) and possible nesting of some pairs of *Botaurus stellaris* (southern Veins of Bellocchio). Nesting of several pairs of *Circus pygargus* and *Circus aeruginosus*. The only stable colony of *Platalea leucorodia* in Italy is of great importance (sand banks north of Boscoforte, 15 pairs) and the large colonies of *Caradriformi* spread over the dunes and the salt flats: *Himantopus himantopus* (110-200), *Recurvirostra avosetta* (130-250 pairs), *Larus melanocephalus* (1927 pairs) *Larus genei* (19-32 pairs), *Gelochelidon nilotica* (165 pairs), *Sterna albifrons* (250 pairs) *Sterna hirundo* (50-250 pairs) *Sterna sandvicensis* (563-569 pairs), *Sterna bengalensis* (1-2 pairs) which constitute the main national groups of these species, with the exception of *Larus genei* and *Sterna albifrons*.

The site is also locally important for nesting of *Tadorna tadorna* with the principal national nucleus (20-25 pairs) and *Charadrius alexandrinus*, and migration of many species of aquatic and non-aquatic birds (Podicipediformes, Pelecaniformes, Ciconiiformes, Anseriformes, Accipitriformes, Cruiformes, Charadriiformes).

The colony of *Glareola pratincola* is extremely important and is situated just outside the Ramsar area beyond the western boundary which runs along the Agosta embankment.

Important populations of species contained in Attachments II and IV of the EU Dir.92/43: *Emys orbicuoaris*, *Aphanius fasciatus*, *Pomatoschistus canestrini* (endemic) and *Knipowitschia panizae* (endemic) which populate the waters of the lagoon and *Lycaena dispar* and *Zerynthia polyxena*. Finally, the latest sighting of *Lutra lutra* in the entire Po Delta reclamation area occurred in the Comacchio Valleys

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

The entire basin is important at a European level from an environmental, cultural and conservation point of view due to its history and size. The town of Comacchio which was built in the Middle Ages, is particularly tied to the Valleys and preserves important monuments, structures and instruments typical of the culture of the valley, linked historically to the production of salt and fishing. The Region and local Authorities (Ferrara Province and Comacchio Municipality) have been investing resources for many years in order to restore buildings and areas which testify to this culture, to be integrated under the form of a "Museum of Human Cultures".

The Comacchio Valleys and the southern part of the Veins of Bellocchio are still utilised for fish farming and only some of the basins have been transformed for intensive fish farming; the typical fixed equipment for recreational fishing is still largely present both in the smaller Valleys and in some of the intake channels. Regulated hunting is also permitted in one part of the area.

The site is also known internationally for numerous scientific studies which have been carried out, particularly in relation to the birdlife. The site is used for visits and studies by many researchers, naturalists, excursionists and students. Tourism in the Valleys is continually increasing and it is important for the development of the towns of Comacchio and Sant'Alberto.

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

Most of the Comacchio Valleys are owned by Municipality of Comacchio. The southern part, in the province of Ravenna (Furlana Valley and surrounding areas), is almost entirely privately-owned as is the peninsula and the sand banks of Boscoforte. The Comacchio salt flats are state-owned, Volta Scirocco is owned by the Emilia-Romagna Region, but the Isola San Clemente and the southern Veins of Bellocchio are privately-owned (as is the area used by the Ministry of Defense as a firing range).

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

- a) fish-farming; agriculture, recreational fishing, regulated hunting (in the pre-park areas), firing range, nature conservation and observation,
- b) agriculture, recreational fishing, agritourism, regulated hunting, 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

One of the main conservation problems in the valley is due to the poor water circulation. Reclamation of a large area of about 60,000 Ha upstream of the Comacchio Valleys, carried out over the past 30 years, has profoundly modified the overall hydraulic regime in the area,

in which the present Comacchio Valleys formed a passage between the large quantities of fresh water of the reclaimed valleys and the frequent entrance of salt water from a coastal stretch with few natural defenses.

The problem has been worsened by the fact that there are a number of owners involved who directly manage their property. The absence of a single management or a co-ordinated and integrated management has also been pointed out in the Territorial Plan of the area as being one of the priority problems to be faced.

The intense and semi-intense fish-farming activities represent a constant threat for the valley ecosystem. Construction of the present installations has caused damage to the landscape and the ecosystem and impoverished several valley environments. Fish farming carried out in this manner, besides causing morphological upheaval and organic pollution, is in conflict with the conservation needs of fish species (*Phalacrocorax carbo*, *Egretta sp.*, *Ardea sp.*, *Nycticorax nycticorax*, *Podiceps cristatus*, *Larus sp.*, *Sterna sp.*) and therefore generates conflicts between fish farmers and those in charge of conservation.

Hunting is permitted in a regulated manner in some parts of the area; however, poaching is not uncommon. The high number of fixed nets for fishing along the canals and the Reno river represent a critical factor, capable of jeopardising the normal return of euryhaline species (*Anguilla anguilla*, Mugilidae, *Atherina boyeri*, *Platichthys flesus*). Also, the military firing range constitutes a disturbance and causes damage to the habitats.

A particular problem is represented by the Comacchio salt flats which are no longer in production and have been declared to be a protected area under a Ministerial Decree from the Ministry of the Environment. The present state of abandonment of the salt flats is considered to be detrimental from naturalistic, cultural, social and conservational points of view.

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 area is subject to the limitations of Law 431/85. Ministerial Decree dated 03.05.93 defined the Comacchio Salt Flats as a protected area and as such is subject to the protective measures foreseen in the Decree.

The whole Ramsar wetland is comprised within the perimeter of the Po Delta regional park (Comacchio Valleys Station) constituted 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 Provinces of Ferrara and Ravenna (under approval by the Region), which include the area partly in zones B and C in which hunting is forbidden and partly in a pre-park zone in which hunting is regulated.

Various agricultural enterprises have complied with the measures foreseen in EU regulations 2078 and 2080.

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 the 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.

The Region and the regional park have nominated the project "Conservation of the ecological peculiarities of the Comacchio Salt Flats) under the Life-Nature Programme '99.

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

The area has been the object of numerous studies carried out by research bodies and university departments from various towns, aimed at studying naturalistic and environmental aspects. Birdlife has been studied by the University of Bologna (prof. Paolo Boldregghini) and the University of Pavia (prof. Mauro Fasola). The fish have been studied by the University of Ferrara (prof. Remigio Rossi). Studies are in progress under the regional investment programmes to monitor the chemical and biological properties of the waters of the Comacchio Valleys (University of Ferrara, University of Parma, ARPA of Ferrara).

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.

Further important studies and monitoring programmes relative to the main physical-chemical properties of the waters are being carried with regional funds.

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

A Visitors' Centre for the regional park is being set up together with various information points. The offices of the management consortium of the regional park are in the nearby town of Comacchio.

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.

Environmental educational activities (guided tours and schools trips) are run by local Associations and Co-operatives (Cultural Coop. of S.Alberto, Atlantide Coop., Arca Coop.) in collaboration with the regional park. Visits to the oasis of Volta Scirocco, run by LIPU, are also frequent.

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

Numerous possibilities exist in the Comacchio Valleys for tourist excursions. For example, from the Casone Foce it is possible to visit, by boat, several restored buildings within the Comacchio Valleys where fishing instruments and everyday objects from the life of the valley are preserved. The footpath (also open to cyclists) which follows the left embankment of the Reno river from Boscoforte to Primaro is particularly attractive.

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

Region: Emilia-Romagna; Province: Ferrara (Municipalities of Comacchio and Argenta)
Province: Ravenna (Ravenna Municipality).

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

The "Special Consortium of Comacchio Valley" set up by the Municipality of Comacchio and the Province of Ferrara is responsible for the management of the property of the Municipality of Comacchio which represents the largest part of the Valleys. LIPU is responsible for running the oasis in Volta Scirocco. The Municipality of Comacchio manages the Zavelea Valley. Military authorities are responsible for the management of the firing range. The remaining properties are run by the respective owners. All those responsible for management of the area must operate in accordance with the general plan of the Po Delta regional park.

30. Bibliographical references: (scientific/technical only)

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