

Information Sheet on Ramsar Wetlands (RIS) – 2006-2008 version

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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 7, 2nd edition, as amended by COP9 Resolution IX.1 Annex B). A 3rd edition of the Handbook, incorporating these amendments, is in preparation and will be available in 2006.
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:

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Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

20 November 2008

3. Country:

Italy

4. Name of the Ramsar site:

Stagno di Molentargius

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

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:

Thanks to a program of actions aimed to protect the coast and the wetlands of international interest occurred in the metropolitan area of Cagliari (according to ex art. 17, comma 20, law 67/88) it has been possible to recovery the ecosystems of Bellarosa Minore and Perdalonga, to improve the functionality of salt waters hydraulic system and to monitor the ecological characteristics of the site, with particular interest for waterbirds.

7. Map of site:

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:

The boundary follows the ordinary viability bordering the lake and partially the delimitation of the evaporation pans of Stagno di Quartu The evaporation pans of Stagno di Quartu (eastern side) are out of the Site.

8. Geographical coordinates (latitude/longitude, in degrees and minutes):

39°14' N 09°10'E

9. General location:

Italy, Sardinia Region, Province of Cagliari, Municipality of Cagliari.

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

Average: 2.14, maximum: 25 m a.s.l., minimum: 1 m a.s.l.

11. Area: (in hectares)

1.401 ha

12. General overview of the site:

The name Molentargius derives from "Su Molenti", the donkey which was used to transport the sacks of salt. The Site is delimited by the urban expansion of the Municipalities of Cagliari, Quartu S. Elena, Selargius, Quartucciu and by Poetto coastal area. It is situated in Southern Sardinia, in the proximity of two of the biggest cities of Sardinia, Cagliari and Quartu S. Elena, within a urban area populated by approximately 400,000 inhabitants. The exceptional nature of the site is given by the presence of both freshwater and salty water basins separated by a flat area with mainly dry features, called Is Arenas. The freshwater areas include the ponds of Bellarosa Minore and Perdalonga, born as meteoric waters expansion basins. The salty water areas include the stretches of water of the former system of Cagliari Salt Pans, and in particular Bellarosa Maggiore or Molentargius (first evaporation pan), Stagno di Quartu (2nd and 3rd evaporation pans), the other salt pans (Cagliari salt pans), and Perda Bianca (former bittern collecting area).

13. Ramsar Criteria:

ticked.

1	•	2	•	3	•	4	•	5	•	6	•	7	•	8	•	9
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14. Justification for the application of each Criterion listed in 13 above:

1. The Site is a representative example of a coastal saltpan of the Mediterranean bioregion and it is of particular value because of its position in an urban area.

2. the Stagno di Moletargius regularly hosts several vulnerable, threatened and endangered species according to the IUCN Red List and the European Directives.. Among the vulnerable species, the Site supports *Testudo graeca*, the bird *Aythya nyroca* and the plants *Halopeplis amplexicaulis*, *Halocnemum strobilaceum*, *Cynomorium coccineum*, *Limonium avei*. See also point 22.

3. The site supports population of plant and animal species very important to maintain the biodiversity of this biogeographical region. Noteworthy is *Hyla sarda* that is exclusive to Tyrrhenian islands and a few endemic plants such as *Limonium dubium*, *Limonium glomeratum*, *Euphorbia pithyusa* subsp. *cupanii*.

In a very small area such this site, a high number of waterbirds species is present:

Tachybaptus ruficollis, *Ixobrychus minutus*, *Nycticorax nycticorax*, *Ardeola ralloides*, *Bubulcus ibis*, *Egretta garzetta*, *Ardea purpurea*, *Phoenicopterus ruber roseus*, *Tadorna tadorna*, *Anas strepera*, *A. platyrhynchos*, *A. clypeata*, *Aythya ferina*, *A. nyroca*, *Circus aeruginosus*, *Rallus aquaticus*, *Gallinula chloropus*, *Porphyrio porphyrio*, *Fulica atra*, *Himantopus himantopus*, *Recurvirostra avosetta*, *Charadrius dubius*, *C. alexandrinus*, *Larus ridibundus*, *L. genei*, *L. cachinnans*, *Gelochelidon nilotica*, *Sterna hirundo*, *S. albifrons*.

Amongst the invertebrates: the presence of *Artemia salina*, found frequently in the salt evaporation pond of the Saline di Stato.

4. The ecosystem of Molentargius represents one of the most important European sites as stopover, wintering, and nesting site of several species of waterfowl. In particular, it houses the most important Italian and western European nesting colony of Slender-billed Gull (*Larus genei*), and since 1993 also the Flamingo (*Phoenicopterus roseus*) has nested here for several years in a row. Among the protected species at European level, in Molentargius there are the Purple Heron (*Ardea purpurea*), the Little Egret (*Egretta garzetta*), the Marsh Harrier (*Circus aeruginosus*), the Purple Swamphen (*Porphyrio porphyrio*), the Black-winged Stilt (*Himantopus himantopus*), the Avocet (*Recurvirostra avosetta*), the Sandwich Tern (*Sterna sandvicensis*), the Kingfisher (*Alcedo atthis*), and many others.

15. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

a) biogeographic region:

Mediterranean

b) biogeographic regionalisation scheme (include reference citation): EEA EU Habitat Directive Biogeographical Regions, Europe 2005, officially used in the Habitats Directive (92/43/EEC) and for the EMERALD Network set up under the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention). The bio-geographic regions dataset contains the official delineations used Modifications adopted by the Bern Convention Standing Committee and approved by habitats Committee in 05/04/03.

<http://dataservice.eea.eu.int/dataservice/metadetails.asp?id=839&i=1>

Mediterranean

16. Physical features of the site:

From an ecological point of view, the Molentargius lagoon can be divided into two zones: the area of Saline (salt lakes), and that of Bellarosa Minore. The Saline area is the largest and is made up of large salt lakes, while Bellarosa Minore stretches across marshland with its vegetation of thick reeds.

The Site can be divided into three parts: 1) "Bellarosa Minore", a natural area receiving freshwater 2) "Saline di Stato", a system of evaporation pan for the salt exploitation, which receives water by a artificial connection to the sea. 3) "Stagno di Quartu", an other system of evaporation pan. This wetland is in the south of Campidano trough, originated from fluvial erosion (sea regression and sea intrusion) and by subsidence of Tirreniana platform in the Quaternary. This depression is filled up by marine intrusion and separated to the sea via a littoral cordon. The platform is constituted of one 5-m depth Miocenic carbonaceous sandstone bed (Saline di Stato and Stagno di Quartu) or siliceous stones rest on plastic clay bed (Bellarosa Minore).

17. Physical features of the catchment area:

Soils are of alluvional origin and all the basin is characterised by high anthropic impact (urban areas and intensive cultures). The area is subject to a Mediterranean climate with winds predominately from NW and SE.

18. Hydrological values:

The basin of the three tributaries (Riu is Cungiaus, Riu di Selargius, Riu Mortu) is about 60 km². The Site is connected to the Gulf of Cagliari through the Canal of Terramaini. Recently rehabilitation works have enclosed: the reorganization of the hydraulic outflow system of Bellarosa Minore and Perdalonga Ponds, a change in the salt ponds water connection system by means of interception and interconnection, the reuse of treated water: through the implementation of the water treatment and purification (ecological filter) to supply the Ponds with high quality water.

19. Wetland Types

a) presence:

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: 5, 6, 8, 9, 2, J

20. General ecological features:

The variety of habitats depending from the different salinity of the water, determinates a remarkable multiplicity of vegetation kinds: muddy expanses covered with *Phragmites australis*, *Typha latifolia* and *Typha angustifolia*, submerged vegetation (*Myriophyllum spicatum*, *Potamogeton pectinatus*, *Ruppia* sp.), annual meadows and fields with *Arthrocnemum glaucum*, *A. fruticosum*, *Sueda fruticosa*, *Juncus subulatus*, *J. acutus*, *J. maritimus*, *Halimione portulacoides* dominant, and with *Arthrocnemum glaucum*, *A. fruticosum*, *Sueda fruticosa*, *Juncus subulatus*, *J. acutus*, *J. maritimus*, *Halimione portulacoides*, *Limonietales*. The dune belt is covered by cultivations and plantations.

21. Noteworthy flora:

Halocnemum strobilaceum (submediterranean distribution), *Halopeplis amplexicaulis* (submediterranean distribution), *Limonium avei*, *Limonium dubium* (endemic of Tyrrhenian region), *Limonium densiflorum* (endemic of the mediterranean region), *Limonium glomeratum* (endemic of the mediterranean region), *Polygonum scoparium*.

22. Noteworthy fauna:

There is a rich of fauna within the area consisting mainly of wetland bird life listed in Annex I of the Directive 79/409/EEC (*Acrocephalus melanopogon*, *Ardea purpurea*, *Ardeola ralloides*, *Luscinia svecica*, *Botaurus stellaris*, *Grus grus*, *Nycticorax nycticorax*, *Tringa glareola*, *Sterna albifrons*, *Sterna nilotica*, *Sterna sandvicensis*, *Plegadis falcinellus*, *Ardea purpurea*, *Glareola pratincola*, *Ixobrychus minutus*, *Phylomachus pugnax*, *Platalea leucorodia*, *Larus genei*, *Aythya farina*, *Larus audouinii*, *Aythya fuligula*, *Hieraaetus pennatus*, *Pandion haliaetus*, *Porphyrio porphyrio*, *Alectoris barbara*, *Alcedo atthis*) and listed in Annex II of the Habitat Directive *Testudo bermanni* and *T. marginata*.

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:

It is used for salt production and tourism

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: private and State owned
- b) in the surrounding area: private and State owned

25. Current land (including water) use:

a) within the Ramsar site:

salt production, cultivations, urban areas

b) in the surroundings/catchment:

urban (Cagliari, Quartu S. Elena, Selargius, Quartucciu, Monserrato) and cultivated areas.

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:

The Molentargius was included in the Montreux Record for industrial and urban effluent, illegal dumping and poaching, coastal urban development, which destroyed important nesting sites, and eutrophication problems.

b) in the surrounding area:

urban expansion.

27. Conservation measures taken:

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

National Protection status: the Site occurs in the Regional Nature Park Molentargius - Saline.

International Protection Status: the Site occurs in the Important Bird Area (IBA) Cagliari wetlands, in the Special Area for Conservation (EU Habitats Directive) Stagno di Molentargius e territori limitrofi and in the Special Protection Area (EU Birds Directive) Stagno di Molentargius.

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?:

It is in the course of definition.

d) Describe any other current management practices:

According to a program of actions aimed to protect the coast and the wetlands of international interest occurred in the metropolitan area of Cagliari (according to ex art. 17, comma 20, law 67/88) rehabilitation actions were taken for:

- freshwaters: through the reorganization of the hydraulic outflow system of Bellarosa Minore and Perdalonga Ponds (channels reshaped through ecosystem restoration techniques) by means of interception and interconnection.

- salty waters: by changing the salt ponds water connection system (run by gravity up to beyond the coastal road and demolition / recovery of the beach stretch covered by the old water pumping station), by the addition of the new greater tributary channel Bellarosa Maggiore and the reactivation of an outlet channel(of Basso Fondo).

- areas of greater conservation value by means of interventions for the Bellarosa and Perdalonga (physical demarcation of the sites), works to promote bird nesting and infrastructures dedicated to improving access to the park (trails and sighting points).

- park management and control through the construction of infrastructure for the control (Sali Scelti building and appliances) and access to the park (parking areas and recreation areas on Cagliari and Quartu Sant'Elena side).

- reuse of treated water: through the implementation of the water treatment and purification (ecological filter) to supply the Ponds with high quality water.

- monitoring environmental health: with the creation of an information system for the monitoring of the pond ecosystem and the management of future projects and programmes.

Today the managing body is equipped with environmental monitoring (Environmental Molentargius Information system: SIAM) and verification tools enabling a connection with the metropolitan area of Cagliari which is deemed to recover the social, educational and scientific role of the Park.

28. Conservation measures proposed but not yet implemented:

Management plan in preparation.

29. Current scientific research and facilities:

Ecological characteristics monitoring and census of avifauna and fish populations.

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.

A visitors' centre in the Edificio Sali Scelti; nature trails, 12 observation points; a Mediterranean Botanical Garden in Is Arenas.

31. Current recreation and tourism:

The site is mostly used for school tourism.

32. Jurisdiction:

Region Autonomous of Sardinia

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Telephone/Fax: +39.070.6067007/+39.070.6066716

Email: amb.assessore@regione.sardegna.it

33. Management authority:

Consorzio del Parco Naturale Regionale "Molentargius - Saline"

President: Luigi Ruggeri, Director: Mariano Mariani

Mailing Address: Edificio Sali Scelti, Via La Palma, I-09126 Cagliari

Telephone/Fax: +39.070.379191/+39.070.37919300

Email: info@molentargius.net

34. Bibliographical references:

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