

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:

31.08.98

For office use only.

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Designation date Site Reference Number

2. Country:

Italy

3. Name of wetland:

Palude di Ostiglia

4. Geographical coordinates:

Lat. 45° 05' 44"; Long. 11° 05' 40"

5. Altitude: (average and/or max. & min.). 13 m a.s.l.

6. Area: (in hectares) 123 ha

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

The area is the remains of a extensive old wetland, the marshy area being 2 m higher than the surrounding zone due to the compaction of the land during reclamation works. Water is supplied to the marshland by pumping.

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:

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* X- or - *no*

(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:

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)

1d) Following the land reclamation works performed during the 1900s the area became a rare example of wetland for this particular geographical location.

2a), 2b), 3b), 4a) The presence of various endangered species of flora and fauna threatened with extinction is favoured by the type of environment which is uncommon for this geographical zone.

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

Region: Lombardy; Province: Mantova; Municipality: Ostiglia. The area borders the Veneto Region. The town of Ostiglia (population approx. 10,000) is roughly 3 km from the Reserve and the town of Mantova is approximately 35 km.

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 area is formed by alluvial terraces of relatively old deposits from the Tione, Tartaro and Po Rivers.

The surface waters upstream of the area cross steep permeable land, whereas the flatness of the land within the area and the impermeability of the soil create obstacles to the water flow.

The area is of natural origin but the land and the hydrographic network have subsequently been changed by man.

The water is pumped into the marsh and is kept at its minimum level twice a year (once in the winter and once in the summer) to allow the harvesting of the marsh crops.

According to the American classification of Soil Taxonomy, USDA 1975, the soils come under Histosols being characterised by a high content of organic substances. On the regional map of soils they are defined as very thin, organic, bounded by outcropping water table, with impeded drainage (areas which preserve the hydromorphic conditions with wetland vegetation and peat deposits. These characterised a large part of the territory before the land reclamation).

The maximum depth of the wetland is approximately 1.5 –2 m, this being at the Busatello water course which crosses the area from south to north. The water fluctuates by 60 – 80 cm between the dry and rainy periods.

The climate of the Padana plain is fresh-temperate continental type. Referring to the climatic system classification of C.W.Thornthwaite, the climate can be defined as being sub-humid to sub-arid, as shown by the dryness index ($I_a = 21.3$), second mesothermic variety with low or moderate water surplus in the winter and a water deficit in July and August.

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

The main hydrological value is the possibility of partly purifying the waters, rich in nutrients, which are flowing from the surrounding cultivated areas.

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

The main vegetation is:

- an area of willows (*Salix alba* and *Salix cinerea*)
- some areas of very large sedge
- some areas of reeds and sedge
- small zones of bulrush
- aquatic plants (hydrophytes) in the free waters

Mixed sedge-reed beds are taking the place of “pure” sedge, probably due to a continual reduction in the summer harvesting of sedge, which favours the growth of the reeds.

Some of the wetland areas are starting to suffer from silting problems, with the increase of species of infesting weeds coming from the nearby countryside such as nettle (*Urtica dioica*) and dewberry (*Rubus caesius*).

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

The following species are present in the wetland and the surrounding areas: **Equisetaceae**, *Equisetum arvense* L., *Equisetum palustre* L., *Equisetum telmateja* Ehrth., **Thelypteridaceae**, *Thelypteris palustris* Schott, **Salviniaceae**, *Salvinia natans* (L.) All., **Azollaceae**, *Azolla filiculoides* Lam., **Salicaceae** *Salix alba* L. – *P scap.*, *Salix cinerea* L., *Salix purpurea* L., *Populus alba* L., *Populus canadensis* L., **Fagaceae** *Quercus robur* L., **Ulmaceae** *Ulmus minor* Miller, *Celtis australis* L., **Moraceae** *Morus alba* L., **Urticaceae** *Humulus lupulus* L., *Urtica dioica* L., **Aristolochiaceae** *Aristolochia clematitis* L., **Polygonaceae** *Polygonum aviculare* L., *Polygonum mite* Schrank, *Polygonum hydropiper* L., *Polygonum lapathifolium* L., *Polygonum persicaria* L., *Fallopia convolvulus* (L.) Holub, *Rumex hydrolapatum* Hudson, *Rumex crispus* L., *Rumex conglomeratus* Murray, *Rumex obtusifolium* L., **Chenopodiaceae**, *Chenopodium album* L., **Amaranthaceae** *Amaranthus chlorostachys* Willd., *Amaranthus retroflexus* L., **Phytolaccaceae** *Phytolacca americana* L., **Portulacaceae** *Portulaca oleracea* L., **Caryophyllaceae** *Stellaria media* (L.) Vill., *Silene alba* (Mill.) Krause, *Mysoton aquaticum* (L.) Moench, *Lychnis flos-cuculi* L., *Cucubalus baccifer* L., **Nymphaeaceae** *Nymphaea alba* L., *Nuphar luteum* (L.) S. et S., **Ceratophyllaceae** *Ceratophyllum demersum* L., **Ranunculaceae** *Caltha palustris* L., *Clematis viticella* L., *Ranunculus acris* L., *Ranunculus repens* L., *Ranunculus bulbosus* L., *Ranunculus sceleratus* L., *Thalictrum exaltatum* Gaudin, **Guttiferae**, *Hypericum tetrapterum* Fries, *Hypericum perforatum* L., **Cruciferae**, *Rorippa amphibia* (L.) Besser, *Cardamine parviflora* L., *Capsella bursa pastoris* (L.) Med., *Rapistrum rugosum* (L.) All., *Calepina irregularis* (Asso) Tell., **Rosaceae**, *Rubus ulmifolius* Schott, *Rubus caesius* L., *Rosa canina* L., *Agrimonia eupatoria* L., *Potentilla reptans* L., *Prunus cerasifera* Ehrh., **Leguminosae**, *Galega officinalis* L., *Astragalus glycyphyllos* L., *Vicia cracca* L., *Vicia sativa* L. – *T scap.*, *Lathyrus palustris* L., *Lathyrus hirsutus* L., *Melilotus alba* Medicus, *Melilotus officinalis* (L.) Pallas, *Medicago lupulina* L., *Medicago sativa* L. subsp. *Sativa*, *Trifolium repens* L., *Trifolium fragiferum* L., *Trifolium pratense* L., *Lotus comiculatus* L., *Coronilla varia* L., **Oxalidaceae**, *Oxalis fruticosa* Bunge, **Geraniaceae**, *Geranium dissectum* L., **Euphorbiaceae**, *Euphorbia palustris* L., *Euphorbia platyphyllos* L., **Rhamnaceae**, *Frangula alnus* Miller, **Malvaceae**, *Malva sylvestris* L., *Althaea officinalis* L., *Abutilon theophrasti* Med., *Hibiscus palustris* L., **Cucurbitaceae**, *Bryonia dioica* Jacq., **Lythraceae**, *Lythrum salicaria* L., **Onagraceae**, *Epilobium hirsutum* L., **Cornaceae**, *Cornus mas* L., *Cornus sanguinea* L., **Umbellifere**, *Pimpinella major* (L.) Hudson, *Berula erecta* (Hudson) Coville, *Oenanthe aquatica* (L.) Poiret, *Conium maculatum* L., *Cicuta virosa* L., *Peucedanum palustre* (L.) Moench, *Pastinaca sativa* L., *Torilis arvensis* (Hudson) Link, *Daucus carota* L., **Primulaceae**, *Hottonia palustris* L., *Lisimachia vulgaris* L., **Menyanthaceae**, *Nymphoides peltata* (Gmelin) O. Kuntze, **Rubiaceae**, *Galium elongatum* Presi, *Galium verum* L., *Galium album* Miller, *Galium aparine* L., *Cruciata laevipes* Opiz., **Convolvulaceae**, *Cuscuta*

europaea L., *Calystegia sepium* (L.) R. Br., *Convolvulus arvensis* L., **Boraginaceae**,
Symphytum officinale L., *Myosotis scorpioides* L., **Verbenaceae**, *Verbena officinalis* L.,
Labiatae, *Scutellaria galericulata* L., *Galeopsis pubescens* Besser, *Ballota nigra* L., *Stachis*
palustris L., *Lycopus eurupeus* L., *Mentha aquatica* L., *Salvia pratensis* L., **Solanaceae**,
Physalis alkekengi L., *Solanum nigrum* L., *Solanum dulcamara* L., **Scrophulariaceae**,
Verbascum blattaria L., *Scrophularia nodosa* L., *Scrophularia umbrosa* Dumort, *Linaria*
vulgaris Miller, *Veronica persica* Poirer, **Lentibulariaceae** *Utricularia vulgaris* L.,
Plantaginaceae, *Plantago major* L., *Plantago lanceolata* L., **Caprifoliaceae**, *Sambucus*
ebulus L., *Sambucus nigra* L., **Valerianaceae**, *Valerianella locusta* (L.) Laterr., *Valeriana*
officinalis L., **Compositae**, *Eupatorium cannabinum* L., *Solidago gigantea* Aiton, *Conyza*
canadensis (L.) Cronq., *Erigeron annuus* (L.) Pers., *Bellis perennis* L., *Inula britannica* L.,
Pulicaria dysenterica (L.) Bemh., *Bidens cernua* L., *Bidens frondosa* L., *Galinsoga parviflora*
Cav., *Achillea roseo-alba* Ehrend., *Artemisia vulgaris* L., *Petasites hybridus* (L.) Gaertn.,
Senecio paludosus L., *Arctium minus* (Hill) Bemh., *Cirsium vulgare* (Savi) Ten., *Cirsium*
arvense (L.) Scop., *Cirsium palustre* (L.) Scop., *Centaurea nigrescens* Wild., *Cichorium*
intybus L., *Lapsana communis* L., *Tragopogon pomfolius* L., *Pioris hieracioides* L., *Pioris*
echioides L., *Taraxum officinale* Weber, *Sonchus palustris* L., *Sonchus arvensis* L., *Sonchus*
oleraceus L., *Lactuca serriola* L., **Alismataceae**, *Alisma plantago-aquatica* L., *Sagittaria*
sagittifolia L., **Butomaceae**, *Butomus umbellatus* L., **Hydrocharitaceae**, *Hydrocharis morsus-*
ranae L., *Vallisneria spiralls* L., *Elodea canadensis* Michx, **Potamogetonaceae**, *Potamogeton*
natans L., **Amarillidaceae**, *Leucojum aestivum* L., **Iridaceae**, *Iris pseudacorus* L.,
Graminaceae, *Dactylis glomerata* L., *Poa trivialis* L., *Festuca pratensis* Hudson, *Glyceria*
maxima (Hartm.) Holmb., *Lolium perenne* L., *Bromus sterillis* L., *Bromus hordaceus* L.,
Brachipodium sylvaticum (Hudson) Beauv., *Hordeum murinum* L., *Agropyron repens* (L.)
Beauv., *Calamagrostis canescens* (Weber) Roth, *Phragmites australis* (Cav.) Trin., *Typhoides*
arundinacea (L.) Moench, *Alopecurus geniculatus* L., *Cynodon dactilon* (L.) Pers.,
Echinochloa crus-galli (L.) Beauv., *Setaria glauca* (L.) Beauv., **Aracae**, *Acorus calamus* L.,
Lemnaceae, *Lemna trisulca* L., *Lemna gibba* L., *Lemna minor* L., *Spirodela polymhiza* (L.)
Schleid., *Wolffia amhiza* (L.) Wimm., **Sparganiaceae**, *Sparaganium erectum* L., **Typhaceae**,
Typha latifolia L., *Typha angustifolia* L., **Cyperaceae**, *Carex contigua* Hoppe, *Carex*
appropinquata Schum., *Carex paniculata* L., *Carex elata* All., *Carex pseudocyparis* L., *Carex*
vesicaria L., *Carex acutiformis* Ehrh., *Carex riparia* Curtis, *Carex hirta* L., *Schoenoplectus*
lacustris (L.) Palla

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

Invertebrates (which form 97% of all known animals) are well represented in the area. Although the studies have only been carried out on a sampling basis there is an up-to-date record of all the species present. The plain is of “recent” origin and therefore not all the species endemic in mountains are found, where the environment is geologically consolidated and consequently able to host old, genetically isolated groups.

The wetland environment, with its many micro-environments, permits the formation of extremely interesting associations of fauna, even if numerically they are relatively insignificant. The following families are present: Protozoi, Flagellati, Eliozoi, Ciliati, Poriferi, Celenterati, Platelmini, Rotiferi, Gastrotrichi, Nematodi, Anellidi, Oligocheti, Briozoi, Tardigradi, Artropodi, Araneidi, Aracnidi, Acaridi, Crostacei, Ostracodi, Copepodi, Anfipodi. There are many land and freshwater molluscs present in the general framework of this continental environment.

The number of insect species associated with the wetland areas is imposing if only because many of them are linked to the water during the larvae development stage, where the required

food is found in addition to the necessary vegetation to provide the particular micro-environments and ecological niches. The following are present: *Caleopterix splendens caprai* (the species *C. virgo padana* has disappeared due to environmental changes), Carabidi, *Cataclysta lemnata*, *Cicadella viridis*, Coleotteri crisomelidi, Curculionidi, Ditteri, *Donacia crassipes*, Dryopidi, *Dytiscus marginalis*, Efemerotteri, Elmintidi, *Galerucella nymphaeae*, *Guignotus pusillus*, *Hydous piceus*, Imenotteri, *Ischodemus quadratus*, Libellule (with the genera *Platycnemis*, *Pyrrosoma*, *Ischnura*, *Coenagrion*, *Somatochlora*, *Orthetrum*, *Crocothemis*), *Nausunoe nymphaeata*, *Nepa cinerea*, Neurotteri, *Ranatra linearis*, Stafilinidi, *Tanysphyrus lemnae*, Tricotteri.

Even though there are only common species of fishlife, which are also found in the nearby areas, they nevertheless contribute to the creation of the Busatello environment since they are indispensable in the life of a wetland ecosystem. They must therefore be rigorously protected. The last two introductions (the *Siluris glanis* and the *Cyprinus carpio*) have not adhered to this intention, having been performed without the necessary trials and neither have they complied with the precise regulations for the introduction of new species into publicly-owned waters.

The present herpetofauna of Busatello, even if it is notably impoverished can still give an idea of the ERPETological wealth of wetland environments in the Padano plain during the last Century.

Rapid environmental changes and the lack of interest in these animals, judged to be unattractive if not even dangerous and therefore to be eliminated, are to be identified amongst the principal causes that have led to the reduction of the herpetofauna which at Busatello, as elsewhere, also involves very common species, such as *Ranas esculante*

The following species show an even more rapid decline and are threatened with extinction: *Lacerta vivipara*, *Triturus vulgaris*, *Triturus cristatus*, *Emys orbicularis* and *Rana Latastei*. The following species, which are more sensitive to human intervention, have actually disappeared: *Pelobate fosco*, *Pelobates fuscus* and *Vipera berus*. The only reptile that seems to adapt well to the presence of man is *Lacerta muralis*.

It therefore appears essential, apart from forming an adequate conservation plan, to reconstruct original woody areas and eliminate the practise of winter burning, at least in the outermost zones of the Reserve.

Birdlife: *Tachybaptus ruficollis*, *Podiceps cristatus*, *Podiceps nigricollis*, *Phalacrocorax carbo*, *Botaurus stellaris*, *Ixobrychus minutus*, *Nycticorax nycticorax*, *Ardeola ralloides*, *Egretta garzetta*, *Egretta alba*, *Ardea cinerea*, *Ardea purpurea*, *Ciconia ciconia*, *Anser sp.*, *Tadorna tadorna*, *Anas penelope*, *Anas strepera*, *Anas crecca*, *Anas platyrhynchos*, *Anas acuta*, *Anas querquedula*, *Anas clypeata*, *Aythya ferina*, *Aythya fulligula*, *Pemis apivorus*, *Milvus migrans*, *Circus aeruginosus*, *Circus cyaneus*, *Circus pygargus*, *Accipiter nisus*, *Buteo buteo*, *Pandion haliaetus*, *Falco tinnunculus*, *Falco vespertinus*, *Falco columbarius*, *Falco subbuteo*, *Perdix perdix*, *Coturnix coturnix*, *Phasianus colchicus*, *Rallus aquaticus*, *Porzana porzana*, *Porzana parva*, *Gallinula chloropus*, *Fulica atra*, *Himantopus himantopus*, *Charadrius dubius*, *Charadrius hiaticula*, *Charadrius alexandrinus*, *Pluvialis apricana*, *Vanellus vanellus*, *Philomachus pugnax*, *Lymnocyptes minimus*, *Gallinago gallinago*, *Scolopax rusticola*, *Limosa limosa*, *Numenius arquata*, *Tringa totanus*, *Tringa nebularia*, *Tringa ochropus*, *Tringa glareola*, *Actitis hypoleucos*, *Larus ridibundus*, *Larus canus*, *Larus argentatus*, *Sterna hirundo*, *Sterna albitrons*, *Chlidonias niger*, *Columbia oenas*, *Columbia palumbus*, *Streptopelia decaocto*, *Streptopelia turtur*, *Cuculus canorus*, *Tyto alba*, *Athene noctua*, *Asio otus*, *Asio flammeus*, *Caprimulgus europaeus*, *Apus apus*, *Apus melba*, *Alcedo attis*, *Upupa epops*, *Jynx torquilla*, *Ficus vinidis*, *Dendrocopos major*, *Galenda cristata*, *Alauda arvensis*, *Riparia riparia*, *Hirundo rustica*, *Delichon urbica*, *Anthus trivialis*, *Anthus*

prantensis, *Anthus cervinus*, *Anthus spinoletta*, *Motacilla flava*, *Motacilla alba*, *Motacilla cinerea*, *Troglodytes troglodytes*, *Prunella modularis*, *Erithacus rubecula*, *Luscinia megarhynchos*, *Luscinia svecica*, *Phoenicurus ochruros*, *Phoenicurus phoenicurus*, *Saxicola rubetra*, *Saxicola torquata*, *Oenanthe oenanthe*, *Turdus torquatus*, *Turdus merula*, *Turdus pilaris*, *Turdus philomelos*, *Turdus iliacus*, *Cettia cetti*, *Cisticola juncidis*, *Locustella naevia*, *Locustella luscinioides*, *Acrocephalus melanopon*, *Acrocephalus paludicola*, *Acrocephalus schoenobaenus*, *Acrocephalus palustris*, *Acrocephalus scirpaceus*, *Acrocephalus arundinaceus*, *Hippolais icterina*, *Hippolais polyglotta*, *Sylvia curruca*, *Sylvia communis*, *Sylvia borin*, *Sylvia atricapilla*, *Phylloscopus sibilatrix*, *Phylloscopus collybita*, *Phylloscopus trochillus*, *Regulus regulus*, *Regulus ignicapillus*, *Muscicapa striata*, *Ficedula hypoleuca*, *Panurus biamicus*, *Aegithalos caudatus*, *Parus ater*, *Parus caeruleus*, *Parus major*, *Remiz pendolinus*, *Oriolus oriolus*, *Lanius collurio*, *Lanius minor*, *Lanius excubitor*, *Garrulus glandarius*, *Pica pica*, *Corvus fragilegus*, *Corvus corone comix*, *Stumus vulgaris*, *Passer domesticus italiae*, *Passer montanus*, *Fringilla coelebs*, *Fringilla montifringilla*, *Serinus serinus*, *Carduelis chloris*, *Carduelis carduelis*, *Carduelis spinus*, *Carduelis cannabina*, *Pymhula pymhula*, *Coccothraustes coccothraustes*, *Emberiza citrinella*, *Emberiza hortulana*, *Emberiza schoeniclus*, *Miliaria calandra*

The most recent contribution to the knowledge of mammals in the Busatello wetlands is the study carried out by researchers of the Verona Natural History Museum in the 1980s (Avesani C., Osella G., Taschera I., 1989).

Sightings of only the following 14 species have been confirmed: *Erinaceus europaeus*, *Talpa europaea*, *Sorex araneus*, *Neomys anomalus*, *Crocidura suaveolens*, *Arvicola terrestris*, *Pitymys savii*, *Micromys minutus*, *Apodemus sylvaticus*, *Rattus norvegicus*, *Myocastor coypus*, *Lepus europaeus*, *Vulpes vulpes*, *Mustela nivalis*.

Other species which have not been observed but which are almost certainly present are: *Crocidura leucodon*, *Rattus rattus*, *Mus musculus*, *Mustela putorius*, *Martes foina*.

The most characteristic fauna is certainly that related to the water, either stagnant or slowly flowing, rich with emerged or submerged aquatic plants.

At Busatello the most common wetland species are found: *Arvicola terrestris*, *Myocastor coypus* and the rice mouse. The presence of the very rare insect-eater *Neomys anomalus* is very important. This is a "relic" of the wetland environment of the Padana Plain.

At the edges of the wetland the presence of stretches with bushes and thick grasses and a relatively good tree cover is indispensable for many mammals.

The *Myocastor coypus* was imported from S. America since it was easy to breed and provided fur for human use. Following its accidental or deliberate release, this animal has acclimatised in many European countries and it has rapidly increased in numbers in Italy over recent years. Studies have highlighted the problems this animal is creating to the environment (Scaravelli D. and Martignoni C., 1994).

Apart from the damage to hydraulic structures (dangerous slips are caused by digging deep dens in the banks of canals and ditches near the water surface), damage to agricultural crops (cereals, beetroot, vegetables, plant shoots) and the disturbance to birdlife breeding in the reed thickets the coypu, which is a voracious herbivore, threatens to become a dangerous obstacle to the conservation of those species of flora mentioned previously, which are typical of wetland environments and already risk extinction within the territory: *Cicuta virosa*, *Nymphoides peltata*, *Acrus calamus*, etc.

The coypu can also be the carrier of diseases which can be transmitted to man including, firstly, leptospirosis. Since there are few predators capable of halting the increase in numbers, a careful control of this species is necessary as well as the promotion of interventions to limit its expansion.

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

The social value of the area is given mainly by:

- Tourism, including didactic activities carried out with schools
- Scientific research
- Cultivation of marshland plants (reeds and sedge)

Historical-cultural value derives from the presence of bronze age and Roman archaeological areas and by small Romanesque churches not far from the site.

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

The area is the property of the Ostiglia Municipality.

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

The human activities in the wetland comprise the harvesting of marsh plants (reeds and sedge), but this activity is slowly declining.

Activities related to tourism are starting up requiring nature guides and didactic instructors.

The surrounding area is entirely farmland which in part is forced to discharge its surface drainage waters into the wetland during the heavy rainy periods to avoid flooding.

Some agritourist enterprises are being set up in the area to host visitors; horse-riding activities are offered.

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

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)

The Ostiglia wetlands form part of the “Palude di Ostiglia” Nature Reserve established by the Lombardy Region in 1983. It has a total area of 123 Ha, of which 36 Ha wetland and the remainder arable land. The Management Plan, approved by the Lombardy Region in 1993, regulates human activities in the area and proposes management interventions which have partly been carried out. The interventions have included the formation of areas of open water to increase environmental diversity, projects to improve the water circulation and the planting of autoctonous trees and shrubs in the surrounding agricultural land.

The management of the Nature Reserve is carried out by the Ostiglia Municipality, with the collaboration of LIPU (Italian Organisation for Protection of Birdlife) for technical and scientific aspects.

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

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

The influence of the use of fire (to eliminate the wetland vegetation) on the flora, birdlife, coleopters and molluscs is being studied

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

Refresher courses for teachers and visits by Infant, Primary and Secondary School groups are organised at the Reserve to make adults and children more aware of this fascinating environment.

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

There are approximately 5,000 visitors to the area per year, which is increasing due to the recent construction of facilities on site (a visitors' centre and birdwatching hides) which help to increase public awareness of wetland areas. Tourism is mainly seasonal, during spring and autumn, and visitors generally come from northern Italy.

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

The Lombardy Region has assigned the management of the Reserve to the Ostiglia Municipality, which is the government authority with jurisdiction over the area.

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

The Ostiglia Municipality, with offices at Via Gnocchi Viani 16, 46035 Osstiglia (MN), is responsible for the conservation and maintenance of the area.

30. Bibliographical references: (scientific/technical only)

The Management Plan for the "Paludi di Ostiglia" Nature Reserve was published on 30th August 1993 in the Lombardy Official Bulletin.

The most important studies on the Ostiglia wetlands were published in 1989 in the book "*Studi sulla Palude di Busatello (Veneto e Lombardia)*" (Studies on the Busatello Wetlands), Verona Museum of Natural History.

The following two studies have been made by the Scientific Liceum "G. Galilei" of Ostiglia:

- *La vita in una goccia d'acqua – Indagine sulle forma di vita e la qualità dell'acqua presenti nellas Palude del Busatello*" (Life in a drop of water – life forms and water quality in the Busatello wetlands).
- *"La vita in una zolla di terra – Indagine chimico-fisica, biologia e palinologia sul suolo della Palude di Busatello"* (Life in a clod of earth – chemical-physical, biological and palynology studies on the soils of the Busatello wetlands).

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