Ramsar Information Sheet

Published on 10 July 2025

Italy

Ex Lago e Padule di Bientina

Designation date	21 October 2013
Site number	2570
Coordinates	43°46'34"N 10°38'06"E
Area	1 784,00 ha

Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

1 - Summary

Summary

The Ex alveo e Padule di Bientina extends over a vast agricultural plain resulting from the nineteenth-century reclamation of the lake of Sesto or Bientina, a large lake and marsh system that stretched for about 40 sq km between the Monti Pisani to the west and the Cerbaie hills to the east. It is the second-largest inland wetland in Tuscany, in terms of extension. The area, despite the reclamation and cultivation works, still preserves residual, natural and semi-natural marsh habitats, with zones of temporary, seasonal or permanent flooding and plays a fundamental role for the stopover of migratory and wintering avifauna. The plain is now drained by a complex and dense hierarchical system of small drains, ditches, and reclamation canals, of which the major ones include the Canale Rogio and the Canale Emissario. Here, many of the plant and animal species linked to wetlands find refuge, including several noteworthy floristic and faunistic elements. During periods of higher precipitation (winter-spring), the agricultural lands remain submerged for long periods. In a mosaic with the cultivated fields (especially maize and sunflower), one can identify reed beds, helophyte formations, wet meadows and pastures, hay meadows, hedges and tree rows. In the south-western portion, which includes two protected areas, where the continuous presence of water has allowed the establishment and maintenance of marsh habitats of great conservation interest, there are relict hygrophilous and lowland forests dominated by Pedunculate Oak and/or Black Alder, alongside wet meadows, reed beds, sedge beds, and seasonal and permanent water bodies. Adjacent to the west of the site are some lands now flooded for conservation purposes, used as arable land and artificially drained until a few years ago. Due to its considerable extension and its strategic position with respect to other wetlands (Lago di Sibolla and Padule di Fucecchio), it constitutes a biodiversity hotspot which hosts a contingent of wintering waterbirds in the overall area. The naturalistic importance of the site is recognized by the presence of the SAC Ex alveo del Lago di Bientina under the Habitats Directive 92/43/EEC; the southwestern portion is also affected by the presence of the Bosco di Tanali Regional Nature Reserve and the Il Bottaccio ANPIL. Adjacent to, but outside the Ramsar site, is the Bonifica della Gherardesca SPA

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Responsible compiler

Institution/agency: Tuscany Region – Department for the Protection of Nature and the Sea

Postal address: Via di Novoli 26 - 50127 Florence -Italy

National Ramsar Administrative Authority

Institution/agency: Ministry of the Environment and Energy Security - General Directorate for the Protection of Biodiversity and the Sea (TBM)

Postal address: Via Cristoforo Colombo 44, 00147 – Rome - Italy

2.1.2 - Period of collection of data and information used to compile the RIS

From year: 2000

To year: 2024

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish): Ex Lago e Padule di Bientina

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image
<1 file(s) uploaded>

Former maps: 0

Boundaries description

The site extends over a vast agricultural plain between the Pisani Mountains to the west and the Cerbaie hills to the east. The area occupies the alluvial plain of Bientina, located between the Pisani Mountains to the east and the Cerbaie hills to the west, and the towns of Altopascio, Porcari, and Capannori to the north and Bientina to the south, including the bed of the former Lake Bientina or Sesto. The Ramsar area includes within it the ZSC IT5120101 "Former bed of Lake Bientina," the Regional Natural Reserve "Bosco di Tanali," and the ANPIL "Il Bottaccio.

2.2.2 - General location

a) In which large administrative region does the site lie? Italy, Tuscany Region, Province of Pisa and Lucca

b) What is the nearest town or population centre? Cascine di Buti

2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries? Yes ○ No ◉

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes ○ No ◉

2.2.4 - Area of the Site

Official area, in hectares (ha): 1784

Area, in hectares (ha) as calculated from GIS boundaries: 1776.321

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
EU biogeographic regionalization	Mediterranean

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

<no data available>

☑ Criterion 2 : Rare species and threatened ecological communities

Optional text box to provide further information: The wetland area hosts relict floral species and habitats of conservation interest and is a reference point for waterfowl with species of conservation interest

☑ Criterion 3 : Biological diversity

Justification: The site hosts over 10% of the wintering birdlife in Tuscany, and in connection with the wetlands of Padule di Fucecchio and Lake Sibolla, it reaches over 27,500 wintering waterfowl.

☑ Criterion 4 : Support during critical life cycle stage or in adverse conditions

Optional text box to provide further information: The site is a reference point for many species of waterfowl as a stopover area during autumn and spring migrations, during the breeding period, molting, and wintering. It is a site of national importance for the wintering of Vanellus vanellus and Gallinago gallinago, and of regional importance for the wintering of an increasing number of Anas crecca and Anas platyrhynchos.

3.2 - Plant species whose presence relates to the international importance of the site

Phylum	Scientific name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CITES Appendix I	Other status	Justification
Plantae								
TRACHEOPHYTA / LILIOPSIDA	*Anacamptis palustris*	☑	☑	☐	LC	☐	EN IUCN Red List of Italian Flora (among the NPS Non Policy Species)	Few populations in coastal lowlands in Mediterranean Bioregion.
TRACHEOPHYTA / MAGNOLIOPSIDA	*Hottonia palustris*	☑	☑	☐	LC	☐	EN IUCN Red List of Italian Flora*	Hydrophyte in decline in the Tuscan wetlands
TRACHEOPHYTA / LILIOPSIDA	*Leucojum aestivum*	☑	☑	☐	LC	☐	VU IUCN Red List of Italian Flora**	Species of concern due to its link to wet meadows and marshlands
TRACHEOPHYTA / POLYPODIOPSIDA	*Osmunda regalis*	☐	☑	☐	LC	☐	Protected plant species Annex C L.R. 56/00	Thermohygrophilous tertiary relict, few populations in the western Mediterranean biogeographic region
TRACHEOPHYTA / POLYPODIOPSIDA	*Salvinia natans*	☑	☑	☐	LC	☐	VU IUCN Red List of Italian Flora* App. I Bern Convention	
TRACHEOPHYTA / POLYPODIOPSIDA	*Thelypteris palustris*	☑	☐	☐	LC	☐	VU IUCN Red List of Italian Flora	

*Rossi G., Montagnani C., Gargano D., Peruzzi L., Abeli T., Ravera S., Cogoni A., Fenu G., Magrini S., Gennai M., Foggi B., Wagensommer R.P., Venturella G., Blasi C., Raimondo F.M., Orsenigo S. (Eds.), 2013 - "Lista Rossa della Flora Italiana. 1. Policy Species e altre specie minacciate". Comitato Italiano IUCN e Ministero dell'Ambiente e della Tutela del Territorio e del Mare
**Rossi G., Orsenigo S., Gargano D., Montagnani C., Peruzzi L., Fenu G., Abeli T., Alessandrini A., Astuti G., Bacchetta G., Bartolucci F., Bernardo L., Bovio M., Brullo S., Carta A., Castello M., Cogoni D., Conti F., Domina G., Foggi B., Gennai M., Gigante D., Iberite M., Lasen C., Magrini S., Nicolella G., Pinna M.S., Poggio L., Prosser F., Santangelo A., Selvaggi A., Stinca A., Tartaglini N., Troia A., Villani M.C., Wagensommer R.P., Wilhalm T., Blasi C., 2020 - "Lista Rossa della Flora Italiana. 2 Endemiti e altre specie minacciate". Ministero dell'Ambiente e della Tutela del Territorio e del Mare

3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
		2	4	6	9	3	5	7	8								
Others																	
CHORDATA / AMPHIBIA	*Bufo bufo*	☑	☐	☐	☐	☑	☐	☐	☐				LC	☐	☐	VU Italian Red List	
CHORDATA / AMPHIBIA	*Bufotes viridis*	☐	☐	☐	☐	☑	☐	☐	☐				LC	☐	☐	App. II Bern Convention Ann. IV Habitats Directive	
CHORDATA / MAMMALIA	*Canis lupus*	☐	☐	☐	☐	☑	☐	☐	☐				LC	☑	☐	App. II Bern Convention Ann. II and IV Habitat Directive	
CHORDATA / REPTILIA	*Emys orbicularis*	☑	☐	☐	☐	☑	☐	☐	☐					☐	☐	EN Italian Red List App. II Bern Convention Ann. II and IV Habitats Dir. Ann. B Reg.L. 56/00	
ARTHROPODA / INSECTA	*Euplagia quadripunctaria*	☐	☐	☐	☐	☑	☐	☐	☐					☐	☐	Ann. II Habitats Dir. Ann. B Reg.L. 56/00	
CHORDATA / REPTILIA	*Hierophis viridiflavus*	☐	☐	☐	☐	☑	☐	☐	☐				LC	☐	☐	App. II Bern Convention Ann. IV Habitats Directive	
CHORDATA / AMPHIBIA	*Hyla arborea*	☐	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	App. II Bern Convention Ann. IV Habitats Dir. Ann. B Reg.L. 56/00	Critical life cycle phase: migration, nesting, wintering
ARTHROPODA / INSECTA	*Lycaena dispar*	☐	☐	☐	☐	☑	☐	☐	☐					☐	☐	App. II Bern Convention Ann. II and IV Habitat Directive	
CHORDATA / REPTILIA	*Podarcis muralis*	☐	☐	☐	☐	☑	☐	☐	☐				LC	☐	☐	App. II Bern Convention Ann. IV Habitat Directive	
CHORDATA / REPTILIA	*Podarcis siculus*	☐	☐	☐	☐	☑	☐	☐	☐				LC	☐	☐	App. II Bern Convention Ann. IV Habitat Directive	
ARTHROPODA / INSECTA	*Proserpinus proserpina*	☐	☐	☐	☐	☑	☐	☐	☐				DD	☐	☐	Ann. IV Habitat Directive	
CHORDATA / MAMMALIA	*Rhinolophus ferrumequinum*	☑	☐	☐	☐	☑	☐	☐	☐				LC	☐	☐	VU Red Italian List Ann. II Habitat Directive	
CHORDATA / AMPHIBIA	*Triturus carnifex*	☑	☐	☐	☐	☑	☐	☐	☐				VU	☐	☐	VU Italian Red List App. II Bern Convention Ann. II and IV Habitat Directive	
ARTHROPODA / INSECTA	*Zerynthia cassandra*	☐	☐	☐	☐	☑	☐	☐	☐				LC	☐	☐	App. II Bern Convention Ann. IV Habitat Directive endemism	
Fish, Mollusc and Crustacea																	
CHORDATA / ACTINOPTERYGII	*Anguilla anguilla*	☑	☐	☐	☐	☑	☐	☐	☐				CR	☐	☐	Barcelona Convention, Annex III	
CHORDATA / ACTINOPTERYGII	*Telestes souffia*	☐	☐	☐	☐	☑	☐	☐	☐				LC	☐	☐	Ann. II Habitats Directive	
CHORDATA / ACTINOPTERYGII	*Tinca tinca*	☑	☐	☐	☐	☑	☐	☐	☐				LC	☐	☐	EN Italian Red List	
MOLLUSCA / BIVALVIA	*Unio elongatulus*	☑	☐	☐	☐	☑	☐	☐	☐				EN	☐	☐	App. II Bern Convention Ann. IV Habitat Directi EN IUCN Red List	
Birds																	

Phylum	Scientific name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
		2	4	6	9	3	5	7	8								
CHORDATA / AVES	*Acrocephalus melanopogon*	☑	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	VU Italian Red List Annex I Birds Directive	Critical life cycle phase: migration, nesting
CHORDATA / AVES	*Alauda arvensis*	☑	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	VU Italian Red List	Critical life cycle phase: migration, nesting, wintering
CHORDATA / AVES	*Alcedo atthis*	☐	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	App. II Bern Convention, Annex I Birds Directive	Critical life cycle phase: migration, nesting, wintering
CHORDATA / AVES	*Anas crecca*	☑	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	EN Italian Red List	Critical life cycle phase: migration, wintering
CHORDATA / AVES	*Ardea alba*	☐	☑	☐	☐	☐	☐	☐	☐				LC	☐	☐	App. II Bern Convention, Annex I Birds Directive	Critical life cycle phase: migration, nesting
CHORDATA / AVES	*Ardea purpurea*	☐	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	App. II Bern Convention, Annex I Birds Directive	Critical life cycle phase: migration, nesting
CHORDATA / AVES	*Ardeola ralloides*	☐	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	App. II Bern Convention, Annex I Birds Directive REpertorio NAturalistico TOscano – (RE.NA.TO	Critical life cycle phase: migration, nesting
CHORDATA / AVES	*Aythya ferina*	☑	☑	☐	☐	☑	☐	☐	☐				VU	☐	☐	VU Italian Red List	Critical life cycle phase: migration, wintering
CHORDATA / AVES	*Aythya nyroca*	☑	☑	☐	☐	☑	☐	☐	☐				NT	☐	☑	VU Italian Red List	Critical life cycle phase: migration, wintering
CHORDATA / AVES	*Botaurus stellaris*	☑	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	EN Italian Red List App. II Bern Convention, Annex I Birds Directive	Critical life cycle phase: wintering
CHORDATA / AVES	*Caprimulgus europaeus*	☐	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	App. II Bern Convention, Annex I Birds Directive	Critical life cycle phase: migration
CHORDATA / AVES	*Ciconia ciconia*	☐	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	App. II Bern Convention, Annex I Birds Directive	Critical life cycle phase: migration, wintering
CHORDATA / AVES	*Circaetus gallicus*	☐	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	Annex I Birds Directive	Critical life cycle phase: migration
CHORDATA / AVES	*Circus aeruginosus*	☑	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	VU Italian Red List Annex I Birds Directive	Critical life cycle phase: migration, wintering
CHORDATA / AVES	*Circus cyaneus*	☐	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	Annex I Birds Directive	Critical life cycle phase: migration, wintering
CHORDATA / AVES	*Columba oenas*	☑	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	VU Italian Red List	Critical life cycle phase: migration
CHORDATA / AVES	*Coracias garrulus*	☑	☑	☐	☐	☑	☐	☐	☐				LC	☐	☑	EN Italian Red LisT App. II Bern Convention, Annex I Birds Directive	Critical life cycle phase: migration, nesting
CHORDATA / AVES	*Egretta garzetta*	☐	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	App. II Bern Convention, Annex I Birds Directive	Critical life cycle phase: wintering
CHORDATA / AVES	*Emberiza schoeniclus*	☑	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	CR Italian Red LisT App. II Bern Convention	Critical life cycle phase: migration, wintering
CHORDATA / AVES	*Falco tinnunculus*	☐	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	App. II Bern Convention	Critical life cycle phase: reproduction
CHORDATA / AVES	*Grus grus*	☐	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	Annex I Birds Directive	Critical life cycle phase: migration
CHORDATA / AVES	*Himantopus himantopus*	☐	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	Annex I Birds Directive	Critical life cycle phase: migration
CHORDATA / AVES	*Ixobrychus minutus*	☑	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	VU Italian Red List App. II Bern Convention Annex I Birds Directive	Critical life cycle phase: migration, nesting
CHORDATA / AVES	*Jynx torquilla*	☑	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	EN Italian Red List	Critical life cycle phase: nesting
CHORDATA / AVES	*Lanius collurio*	☑	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	VU Italian Red List Annex I Birds Directive	Critical life cycle phase: nesting

Phylum	Scientific name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
		2	4	6	9	3	5	7	8								
CHORDATA / AVES	*Locustella luscinioides*	☑	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	EN Italian Red List	Critical life cycle phase: migration
CHORDATA / AVES	*Mareca strepera*	☑	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	VU Italian Red List	Critical life cycle phase: wintering
CHORDATA / AVES	*Nycticorax nycticorax*	☐	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	App. II Bern Convention, Annex I Birds Directive	Critical life cycle phase: migration, nesting, wintering
CHORDATA / AVES	*Platalea leucorodia*	☐	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	Annex I Birds Directive	Critical life cycle phase: migration
CHORDATA / AVES	*Plegadis falcinellus*	☑	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	VU Italian Red List Annex I Birds Directive	Critical life cycle phase: migration
CHORDATA / AVES	*Pluvialis apricaria*	☐	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	Annex I Birds Directive	Critical life cycle phase: wintering
CHORDATA / AVES	*Porzana parva*	☑	☑	☐	☐	☑	☐	☐	☐					☐	☐	CR Italian Red List App. II Bern Convention Annex I Birds Directive	Critical life cycle phase: migration
CHORDATA / AVES	*Porzana porzana*	☑	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	CR Italian Red List App. II Bern Convention Annex I Birds Directive	Critical life cycle phase: migration
CHORDATA / AVES	*Remiz pendulinus*	☑	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	VU Red Italian List	Critical life cycle phase: migration, nesting, wintering
CHORDATA / AVES	*Saxicola torquatus*	☑	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	EN Red Italian List App. II Bern Convention	Critical life cycle phase: migration, nesting, wintering
CHORDATA / AVES	*Spatula clypeata*	☑	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	VU Red Italian List App. II Bern Convention	Critical life cycle phase: migration
CHORDATA / AVES	*Spatula querquedula*	☑	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	VU Italian Red List	Critical life cycle phase: migration
CHORDATA / AVES	*Streptopelia turtur*	☑	☑	☐	☐	☑	☐	☐	☐				VU	☐	☐	App. II Bern Convention VU IUCN Red List	Critical life cycle phase: migration, nesting

1) Percentage of the total biogeographic population at the site

Balletto, E., Bonelli, S., Barbero, F., Casacci, L.P., Sbordoni, V., Dapporto, L., Scalercio, S., Zilli, A., Battistoni, A., Teofili, C., Rondinini, C. (compilatori), 2015 - Lista Rossa IUCN delle Farfalle Italiane - Ropaloceri. Comitato Italiano IUCN e Ministero dell'Ambiente e della Tutela del Territorio e del Mare
Italian Red List: Rondinini, C., Battistoni, A.,Teofili, C. (compilatori) - 2022 "Lista Rossa IUCN dei vertebrati italiani 2022". Comitato Italiano IUCN e Ministero dell'Ambiente e della Sicurezza Energetica

3.4 - Ecological communities whose presence relates to the international importance of the site

Name of ecological community	Community qualifies under Criterion 2?	Description	Justification
3130 - Standing waters, from oligotrophic to mesotrophic, with vegetation of Littorelletea uniflorae and/or Isoëto-Nanoj	☑	Small amphibious plant communities in oligotrophic to mesotrophic lakes and ponds on nutrient-poor substrates. Mainly in northern regions, with some in the Mediterranean Macrobioclimate	EU Habitat Directive Annex I.
3150 - Natural eutrophic lakes with vegetation of the Magnopotamion or Hydrocharition	☑	Lacustrine, marsh, and stagnant eutrophic water habitats rich in bases with zonal freshwater hydrofitic vegetation, either submerged or floating, with a broad distribution. This habitat can be associated with the classes Lemnetea and Potametea.	EU Habitat Directive Annex I.
3260 - Plains and mountain rivers with Ranunculion fluitantis and Callitricho-Batrachion vegetation. Waters with floating vegetation dominated by hydrophytes of Ranunculus subgen. Batrachium.	☑	Perennial and pioneer aquatic plants (Ranunculion fluitantis and Callitricho-Batrachion) in plains and mountain watercourses. Submerged in fast flows, some foliage reaches the surface in slower flows. Often linked with Butomus umbellatus.	EU Habitat Directive Annex I.
3270 - Rivers with muddy banks with vegetation of Chenopodion rubri p.p and Bidention p.p. Muddy banks of rivers in the basal and submontane zones with emicryptophytic alo-nitrophilous vegetation.	☑	Pioneer annual vegetation communities on muddy, periodically flooded, nitrate-rich riverbanks in plains and submontane zones. Substrates include sands, silts, clays, sometimes with gravel.	EU Habitat Directive Annex I.
3280 - Mediterranean rivers with permanent flow and Paspalo-Agrostidion vegetation, with riparian rows of Salix and Populus alba. Herbaceous formations in Mediterranean rivers with Paspalo-Agrostidion vegetation and riparian rows of Salix and Populus alba	☑	Hygro-nitrophilous vegetation along Mediterranean rivers with permanent flow on moist, temporarily flooded soils. Dominated by Paspalum grasses. Found on fine-grained, moist, silty river deposits rich in organic material.	EU Habitat Directive Annex I.
6420 - Mediterranean wet meadows with tall herbaceous plants of the Molinio-Holoschoenion. Wet meadows of helophytes dominated by tall grasses and rushes.	☑	Mediterranean rushes and other tall hygrophilous herbaceous formations of the Molinio-Holoschoenion, primarily located near coasts in dune systems on sandy-clayey soils, sometimes found in inland wet areas capable of tolerating temporary dry phase	EU Habitat Directive Annex I.
91E0* - Alluvial forests of Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae). Swamp f	☑	Alluvial, riparian, and swamp forests of Alnus spp., Fraxinus excelsior, and Salix spp. Develop on frequently flooded alluvial soils or with a shallow water table, mostly in temperate and some Mediterranean climates.	Listed as a priority habitat in Annex I of the Habitat Directive
91F0 - Mixed riparian forests of large rivers with Quercus robur, Ulmus spp., and Fraxinus spp.	☑	Meso-hygrophilous mixed alluvial and riparian forests along large river banks, subject to flooding. Dependent on groundwater table level. Mark the outer limit of the "river's jurisdiction area."	EU Habitat Directive Annex I.
92A0 - Gallery forests of Salix alba and Populus alba Dominated by Salix alba, Populus alba, and Populus nigra.	☑	Riparian forests dominated by Salix spp. and Populus spp. along Mediterranean watercourses, attributed to Populion albae and Salicion albae. Found in mesomediterranean, thermomediterranean, and temperate submediterranean climates.	EU Habitat Directive Annex I.

4 - What is the Site like? (Ecological character description)

4.1 - Ecological character

The site retains its marshy character despite reclamation works and the cultivation of most of the land. The true marshy and aquatic environments are primarily the canals and smaller ditches that cross and delineate the site, as well as periodically flooded depressed areas. In the southwestern part of the site (corresponding to the Bosco di Tanali and Bottaccio areas), the most significant environments and good environmental heterogeneity, now lost elsewhere, are reported, with important relics of hygrophilous and planar forest (91F0 and 92A0), marsh reed beds, tall sedge marshes, wet meadows, helophytic communities (6420), and water bodies characterized by aquatic vegetation. In the highly simplified agricultural mosaic, important biodiversity elements include hunting clearings (small artificial ponds) surrounded by reed beds and other helophytic communities, meadows, and pasture meadows. The agricultural lands, mainly used for annual crops (corn, sunflower, and wheat), are flooded during winter and spring, providing an important habitat for overwintering and migrating waterfowl.

4.2 - What wetland type(s) are in the site?

Inland wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
Fresh water > Flowing water >> M: Permanent rivers/ streams/ creeks		2		
Fresh water > Flowing water >> N: Seasonal/ intermittent/ irregular rivers/ streams/ creeks		2		
Fresh water > Lakes and pools >> Tp: Permanent freshwater marshes/ pools		3		
Fresh water > Lakes and pools >> Ts: Seasonal/ intermittent freshwater marshes/ pools on inorganic soils		4		
Fresh water > Marshes on inorganic soils >> W: Shrub-dominated wetlands		2		
Fresh water > Marshes on inorganic soils >> Xf: Freshwater, tree-dominated wetlands		3		

Human-made wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type
2: Ponds		3	
4: Seasonally flooded agricultural land		4	
9: Canals and drainage channels or ditches		4	

4.3 - Biological components

4.3.1 - Plant species

Invasive alien plant species

Phylum	Scientific name	Impacts
TRACHEOPHYTA/MAGNOLIOPSIDA	*Acer negundo*	Actual (major impacts)
TRACHEOPHYTA/MAGNOLIOPSIDA	*Ailanthus altissima*	Actual (major impacts)
TRACHEOPHYTA/MAGNOLIOPSIDA	*Amorpha fruticosa*	Actual (major impacts)
TRACHEOPHYTA/LILIOPSIDA	*Arundo donax*	Actual (minor impacts)
TRACHEOPHYTA/MAGNOLIOPSIDA	*Bidens frondosa*	Actual (major impacts)
TRACHEOPHYTA/MAGNOLIOPSIDA	*Lindernia dubia*	Actual (major impacts)
TRACHEOPHYTA/MAGNOLIOPSIDA	*Myriophyllum aquaticum*	Potential
TRACHEOPHYTA/LILIOPSIDA	*Phyllostachys edulis*	Actual (major impacts)
TRACHEOPHYTA/MAGNOLIOPSIDA	*Robinia pseudoacacia*	Actual (major impacts)
TRACHEOPHYTA/MAGNOLIOPSIDA	*Symphyotrichum squamatum*	Actual (major impacts)

4.3.2 - Animal species

Invasive alien animal species

Phylum	Scientific name	Impacts
CHORDATA/AVES	*Amandava amandava*	Actual (major impacts)
CHORDATA/AVES	*Coturnix japonica*	Actual (major impacts)
CHORDATA/AVES	*Leiothrix lutea*	Actual (major impacts)
CHORDATA/MAMMALIA	*Myocastor coypus*	Actual (major impacts)
CHORDATA/MAMMALIA	*Sylvilagus floridanus*	Actual (major impacts)
CHORDATA/AVES	*Threskiornis aethiopicus*	Actual (major impacts)
CHORDATA/REPTILIA	*Trachemys scripta*	Actual (major impacts)
CHORDATA/ACTINOPTERYGII	*Alburnus arborella*	Actual (major impacts)
MOLLUSCA/GASTROPODA	*Arion vulgaris*	Actual (major impacts)
CHORDATA/ACTINOPTERYGII	*Carassius carassius*	Actual (major impacts)
CHORDATA/ACTINOPTERYGII	*Cyprinus carpio*	Actual (major impacts)
CHORDATA/ACTINOPTERYGII	*Gambusia holbrooki*	Actual (major impacts)
CHORDATA/ACTINOPTERYGII	*Gobio gobio*	Actual (major impacts)
CHORDATA/ACTINOPTERYGII	*Ictalurus punctatus*	Actual (major impacts)
CHORDATA/ACTINOPTERYGII	*Lepomis gibbosus*	Actual (major impacts)
ARTHROPODA/MALACOSTRACA	*Procambarus clarkii*	Actual (major impacts)
CHORDATA/ACTINOPTERYGII	*Pseudorasbora parva*	Actual (major impacts)
CHORDATA/ACTINOPTERYGII	*Rhodeus sericeus*	Actual (major impacts)
CHORDATA/ACTINOPTERYGII	*Rutilus rutilus*	Actual (major impacts)
CHORDATA/ACTINOPTERYGII	*Salmo trutta*	Actual (major impacts)
MOLLUSCA/BIVALVIA	*Sinanodonta woodiana*	Actual (major impacts)

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
C: Moist Mid-Latitude climate with mild winters	Csb: Mediterranean (Mild with dry, warm summer)

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres): 4

a) Maximum elevation above sea level (in metres): 12

- Entire river basin ☐
- Upper part of river basin ☐
- Middle part of river basin ☐
- Lower part of river basin ☑
- More than one river basin ☐
- Not in river basin ☐
- Coastal ☐

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.

The Bientina water body is geographically, historically, and administratively part of the Arno River Basin. As a reclaimed area, a main drainage canal called Canale Emissario is identified, collecting water from numerous canals and watercourses that converge into the depression once occupied by the lake. The Canale Emissario, of artificial origin, passes under the Arno River through a siphon built in 1859 specifically for the lake's reclamation. The Canale Emissario independently reaches the sea. Considering the Canale Emissario watershed at the siphon under the Arno, its area extends to about 320 km², including portions of mountainous areas (Monti Pisani, Pizzorne) with a maximum altitude of about 970 m above sea level, and the more modest hills of Cerbaie and Montecarlo

4.4.3 - Soil

- Mineral ☐
- Organic ☑
- No available information ☐

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes ○ No ◉

4.4.4 - Water regime

Water permanence

Presence?	
Usually seasonal, ephemeral or intermittent water present	No change

Source of water that maintains character of the site

Presence?	Predominant water source	
Water inputs from groundwater	☑	No change
Water inputs from surface water	☑	No change
Water inputs from precipitation	☑	No change

Water destination

Presence?	
Feeds groundwater	No change

Stability of water regime

Presence?	
Water levels fluctuating (including tidal)	No change

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology:

This is a residual wetland area resulting from reclamation works completed in the 19th century on a vast lake up to 40 km² in size. Today, there is a dense drainage network with ditches, small channels, and larger canals. In some areas, water is pumped with hydraulic pumps. Groundwater is mainly associated with alluvial deposits, predominantly sandy and gravelly ("Conglomerato del Serchio"), reaching a maximum depth of 65-70 meters from the ground level.

4.4.5 - Sediment regime

- Significant erosion of sediments occurs on the site ☐
- Significant accretion or deposition of sediments occurs on the site ☐

Significant transportation of sediments occurs on or through the site ☐

Sediment regime is highly variable, either seasonally or inter-annually ☑

Sediment regime unknown ☐

4.4.6 - Water pH

Acid (pH<5.5) ☐

Circumneutral (pH: 5.5-7.4) ☐

Alkaline (pH>7.4) ☐

Unknown ☑

4.4.7 - Water salinity

Fresh (<0.5 g/l) ☑

Mixohaline (brackish)/Mixosaline (0.5-30 g/l) ☐

Euhaline/Eusaline (30-40 g/l) ☐

Hyperhaline/Hypersaline (>40 g/l) ☐

Unknown ☐

4.4.8 - Dissolved or suspended nutrients in water

Eutrophic ☑

Mesotrophic ☐

Oligotrophic ☐

Dystrophic ☐

Unknown ☐

4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the site itself: i) broadly similar ○ ii) significantly different ◉

Surrounding area has greater urbanisation or development ☑

Surrounding area has higher human population density ☑

Surrounding area has more intensive agricultural use ☑

Surrounding area has significantly different land cover or habitat types ☐

Please describe other ways in which the surrounding area is different:

Part of the surrounding area is sparsely urbanized and partly used for intensive agriculture. However, to the north lie the industrial sectors of Porcari and Altopascio. The site is crossed by a major road infrastructure that connects Altopascio to Bientina from north to south.

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Food for humans	Sustenance for humans (e.g., fish, molluscs, grains)	Low
Fresh water	Water for irrigated agriculture	High

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Groundwater recharge and discharge	High
Climate regulation	Local climate regulation/buffering of change	Medium
Biological control of pests and disease	Support of predators of agricultural pests (e.g., birds feeding on locusts)	Medium
Hazard reduction	Flood control, flood storage	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Recreational hunting and fishing	High
Recreation and tourism	Nature observation and nature-based tourism	High
Scientific and educational	Educational activities and opportunities	High
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	High
Scientific and educational	Long-term monitoring site	High
Scientific and educational	Major scientific study site	High

Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganizms, the genes they contain, and the ecosystems of which they form a part	High
Soil formation	Sediment retention	High
Nutrient cycling	Carbon storage/sequestration	High
Pollination	Support for pollinators	High

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes ○ No ○ Unknown ◉

4.5.2 - Social and cultural values

i) the site provides 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) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland ☑

Description if applicable

Microhistorical testimony relating to the relationship between man and swamp (The Fishermen's Castle and the ancient Lake of Bientina) and related local subsistence activities: hunting and fishing in the marsh (the art of the gorro and cerchiaia), small boats, reclamation and water management, attempts to cultivate areas reclaimed from stagnant waters, collective rights, transport via waterways, collection of marsh reeds and wood, hydraulic works of the Medici principality for the "happiness of the people", fishermen and hunters accustomed to living "from meager uncertain earnings", as noted by Grand Duke Leopold II, and farmers, perpetually exposed to the whims of the seasons, condemned to see their fields periodically transformed into "reeds and marsh rushes

iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples ☐

iv) 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 ☐

4.6 - Ecological processes

<no data available>

5 - How is the Site managed? (Conservation and management)

5.1 - Land tenure and responsibilities (Managers)

5.1.1 - Land tenure/ownership

Public ownership

Category	Within the Ramsar Site	In the surrounding area
Provincial/region/state government	☑	☐

Provide further information on the land tenure / ownership regime (optional):

Tuscany Region

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site: Tuscany Region – Nature and Sea Protection Department

Provide the name and/or title of the person or people with responsibility for the wetland: Ing. Gilda Ruberti

Postal address: Via di Novoli n. 26 - 50127 Florence - Italy

E-mail address: gilda.ruberti@regione.toscana.it

5.2 - Ecological character threats and responses (Management)

5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Commercial and industrial areas	High impact	High impact	☐	☑

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Drainage	High impact	High impact	☑	☑
Water abstraction	High impact	High impact	☑	☑
Canalisation and river regulation	High impact	High impact	☑	☑

Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Annual and perennial non-timber crops	High impact	High impact	☑	☑

Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Roads and railroads	Medium impact	High impact	☑	☑

Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Hunting and collecting terrestrial animals	Medium impact	Medium impact	☑	☑
Fishing and harvesting aquatic resources	Low impact	Low impact	☑	☑

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Recreational and tourism activities	Low impact	Low impact	☑	☐
(Para)military activities	Medium impact	Medium impact	☑	☐

Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Vegetation clearance/ land conversion	Medium impact	Medium impact	☑	☑

Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Invasive non-native/ alien species	High impact	High impact	☑	☑

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Industrial and military effluents	High impact	High impact	☑	☑
Agricultural and forestry effluents	High impact	High impact	☑	☑
Garbage and solid waste	High impact	High impact	☑	☑

Climate change and severe weather

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Droughts	High impact	High impact	☑	☑

5.2.2 - Legal conservation status

Regional (international) legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
EU Natura 2000	ZSC IT5120101 Ex alveo del Lago di Bientina		partly

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
National designation of Ramsar site (DM 21.10.2013)	Ex lago e Padule di Bientina	http://www.minambiente.it/sites/default/files/archivio/normativa/ramsar/tos_dm_21_10_2013_Padule Bientina.pdf	partly

5.2.3 - IUCN protected areas categories (2008)

Ia Strict Nature Reserve ☐

Ib Wilderness Area: protected area managed mainly for wilderness protection ☐

II National Park: protected area managed mainly for ecosystem protection and recreation ☐

III Natural Monument: protected area managed mainly for conservation of specific natural features ☐

IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention ☑

V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation ☐

VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems ☐

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Implemented

Habitat

Measures	Status
Faunal corridors/passage	Proposed

Species

Measures	Status
Control of invasive alien animals	Proposed
Control of invasive alien plants	Proposed

Human Activities

Measures	Status
Communication, education, and participation and awareness activities	Implemented

Other:

Current Protection Measures:

D.G.R. 454/2008 “D.M. 17.10.2007 from the Ministry of Environment and Territory Protection - Uniform minimum criteria for defining conservation measures for Special Areas of Conservation (SAC) and Special Protection Areas (SPA) – Implementation.” (Annex A - Conservation measures valid for all SPAs and Annex B - Division of SPAs into types and related conservation measures).

D.G.R. 1213/2015 “Directive 92/43/EEC "Habitat" - art. 4 and 6 - Approval of conservation measures for SCIs (Sites of Community Importance) for their designation as SACs (Special Areas of Conservation).” (Annex A - General measures valid for all terrestrial and marine SCIs, Annex B - Site-specific measures for SCIs included entirely or partly within the territory of regional and national parks, Annex C - Site-specific measures for SCIs not included entirely or partly within the territory of regional and national parks).

5.2.5 - Management planning

Is there a site-specific management plan for the site? In preparation

Has a management effectiveness assessment been undertaken for the site? Yes ○ No ◉

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party? Yes ○ No ◉

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site:

The site features nature observation paths and screened walkways. The wetland area is involved in environmental education and sustainable eco-friendly use programs.

URL of site-related webpage (if relevant): https://www.regione.toscana.it/-/aree-ramsar https://www.regione.toscana.it/-/rete-natura-2000-in-toscana-2 https://www.regione.toscana.it/riserve-naturali-regionali

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Yes, there is a plan

5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Plant community	Implemented
Plant species	Proposed
Animal community	Proposed
Animal species (please specify)	Proposed
Birds	Implemented

Census of overwintering waterfowl (IWC ISPRA)

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

Various Authors, 2022 - Management Plan for the Special Area of Conservation Ex Alveo del Lago di Bientina (IT5120101). Drafted in October 2022 (approval process not yet completed).
Tomei P.E., Guazzi E., Kugler P.C., 2001 – The wetlands of Tuscany. Investigation of floristic and vegetational components. Tuscany Region, Florence.
Venturato E. & Petrini R. (Eds.), 2001 – Along the migratory routes. Research projects on vegetation, avifauna, and alien species. Quaderni del Padule di Fucecchio no. 1. Center for Research, Documentation and Promotion of the Padule di Fucecchio.
Verducci D., 2011 - Avifauna of the Bientina marsh. Part one: Non-passerines. Gli Uccelli d'Italia XXXVI: 13-40.
Verducci D., 2013 - Avifauna of the Bientina marsh. Part two: Passerines. Gli Uccelli d'Italia XXXVIII: 20-38.
Zagli A., 2001 - The Lake and the Community. History of Bientina, a "Castle" of Fishermen in Modern Tuscany. Polistampa Edition
Zenatello M., Baccetti N., Borghesi F., 2014 - Results of the censuses of overwintering waterfowl in Italy. Distribution, estimation, and trends of populations in 2001-2010. ISPRA, Report Series, 206/2014.
Websites:
https://www.iucnredlist.org/
https://www.iucn.it/liste-rosse-italian e.php
https://www.mase.gov.it/pagina/liste-rosse-nazionali
https://cites.org/eng/app/appendi ces.php
https://cms/int/en/species/appendix-i-ii-cms
https://www.coe.int/en/web/bern-convent ion
https://www.mase.gov.it/pagina/direttiva-uccelli
https://www.mase.gov.it/pagina/direttiv a-habitat
https://raccoltanormativa.consiglio.regione.toscana.it/articolo?urndoc=urn:nir:regione .toscana:legge:2015-03-19;30
http://vnr.unipg.it/habitat/index.jsp
https://dryades.units.it/ floritaly/index.php

See sections 3.2/3.3 for further sources (not cited here due to character limit).

6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)
<no file available>

ii. a detailed Ecological Character Description (ECD) (in a national format)
<no file available>

iii. a description of the site in a national or regional wetland inventory
<no file available>

iv. relevant Article 3.2 reports
<no file available>

v. site management plan
<no file available>

vi. other published literature
<no file available>

<no data available>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:


Sunrise on the trails of Bosco di TanaliFulvio (*Fulvio Durante, 03-02-2024*)


The flight of teal ducks in response to a marsh harrier's incursion (*Fulvio Durante, 12-02-2024*)


Penduline Tit diligently breaking apart a reed (*Fulvio Durante, 10-03-2024*)


Marsh Harrier soaring above the reed beds (*Fulvio Durante, 10-03-2024*)


Canale Rogio (*Alessandra Sani, 07-05-2016*)


Rio Ralletta (*Alessandra Sani, 04-05-2016*)


Clear pond with marsh reed bed in the protected area of Bosco Tanali (PI) (*Luca Puglisi, 03-05-2016*)


Hunting clearing in the northwestern sector of the site (*Alessandra Sani, 31-08-2016*)


Reclamation canal with the Monti Pisani in the background (*Alessandra Sani, 12-03-2016*)


Wet forest with Quercus robur (*Alessandra Sani, 16-04-2016*)


Crops in the reclaimed plain (*Alessandra Sani, 15-06-2016*)


Wet meadows and pastures (*Alessandra Sani, 09-02-2016*)


Flooded arable lands (*Alessandra Sani, 09-02-2016*)


Flooded arable lands (*Alessandra Sani, 12-03-2016*)

6.1.4 - Designation letter and related data

Designation letter
<1 file(s) uploaded>

Date of Designation	2013-10-21