# Ramsar Information Sheet

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# Croatia

## Lonjsko Polje Nature Park


| | |
|---|---|
| Designation date | 2 November 1992 |
| Site number | 584 |
| Coordinates | 45°21'36"N 16°49'01"E |
| Area | 51 218,00 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

This area is a vast floodplain along the Sava River protected as a Nature Park. It serves as a natural retention area for high waters of the Sava River.
Over 67% of the Park consists of alluvial forest, representing the most integral complexes of oak and ash stands, as well as valuable communities of alder swamp forests. The wet meadows and pastures in the Sava depression are extremely important habitats in the preservation of the biodiversity of riverine ecosystems, and together with the riparian lowland forests make up a mosaic of the most integral floodplain ecosystem in the whole biogeographic region (European Continental region). Due to the fact that local people live here in a rather traditional way, using extensive pastures for cattle, horses and pigs (including several indigenous breeds) and conserving the unique traditional architecture of wooden houses, this area also represents a unique feature of the natural, landscape and cultural heritage.

The rich complex of wetland habitats of the Sava River provides ideal conditions for the survival of rare animal and plant species that are on the verge of extinction in Europe. The area supports more than two thirds of Croatian bird species (250 species), 138 of which actually breed in Lonjsko Polje Nature Park. The white stork (Ciconia ciconia) achieves high breeding success in the Park; the population of spoonbills (Platalea leucorodia) is one of just a few that exist in an alluvial ecosystem. The area also supports stable populations of species that depend on forest integrity, the most important being the white-tailed eagle (Haliaeetus albicilla ) and the other the lesser spotted eagle (Aquilla pomaria) that also uses agricultural land, especially wet meadows and pastures for feeding.

Apart from the rich ornithofauna, in Lonjsko Polje, 58 species of mammals, 16 species of amphibians, 10 species of reptiles and 27 species of fish are also recorded.

See additional material for further information

# 2 - Data & location

## 2.1 - Formal data

### 2.1.1 - Name and address of the compiler of this RIS

#### Compiler 1

| | |
|---|---|
| Name | Valerija Hima |
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#### Compiler 2

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

| | |
|---|---|
| From year | 2011 |
| To year | 2019 |

### 2.1.3 - Name of the Ramsar Site

| | |
|---|---|
| Official name (in English, French or Spanish) | Lonjsko Polje Nature Park |

### 2.1.4 - Changes to the boundaries and area of the Site since its designation or earlier update

| | |
|---|---|
| (Update) A. Changes to Site boundary | Yes ◉ No ○ |
| (Update) The boundary has been delineated more accurately | ☑ |
| (Update) The boundary has been extended | ☐ |
| (Update) The boundary has been restricted | ☐ |
| (Update) B. Changes to Site area | the area has increased |
| (Update) The Site area has been calculated more accurately | ☑ |
| (Update) The Site has been delineated more accurately | ☑ |
| (Update) The Site area has increased because of a boundary extension | ☐ |
| (Update) The Site area has decreased because of a boundary restriction | ☐ |

### 2.1.5 - Changes to the ecological character of the Site

| | |
|---|---|
| (Update) 6b i. Has the ecological character of the Ramsar Site (including applicable Criteria) changed since the previous RIS? | No |

## 2.2 - Site location

### 2.2.1 - Defining the Site boundaries

b) Digital map/image
<3 file(s) uploaded>

Former maps: 0

Boundaries description

The border of the Ramsar site is identical to the current administrative border of Lonjsko Polje Nature Park as defined in Article 2 of the Law on the Proclamation of Lonjsko Polje Nature Park (Official Gazette 11/90).
"The border of the Nature Park runs from the confluence of the Česma and the Lonja, along the Lonja as far as Brezovica Sluice on the southern defensive embankment of the Lonjsko Polje flood water detention zone. Then along the defensive embankment as far as the Gušče-Čigoč road, and along that road to the Sava River. The southern border of Lonjsko Polje Nature Park consists of the left bank of the Sava, downstream to the confluence of the Mali Strug and the Sava River. The eastern border runs from the confluence of the Mali Strug along the eastern defensive embankment of the Mokro Polje flood water detention zone as far as the Lonja-Strug (New Sava) relief channel, then along the embankment alongside the Lonja- Strug relief channel to the western edge of Vrbovljani Fish Pond. Then along the northern edge of the forest to the Zagreb-Belgrade motorway as far as the exit of the motorway from the forest by Novska, then along the edge of the forest to the Veliki Strug, northwards along the edge of the forest of the Trstika I forest management unit to the lateral Novska channel, then along the Novska lateral channel to the motorway, along the motorway to the Muratovica channel. Then it heads to the south along the edge of the forest to the Stara Subocka-Plesmo road, and along the road until it comes out of the forest and along the forest edge of Trstika II forest management unit to the Veliki Strug River. Downstream along the Veliki Strug to the edge of the Žaborski Bok forest management unit. Then along the edge of the forest northwards to the motorway. Along the edge of the Josip Kozarac forest management unit to the Pakra and then along the Pakra to the motorway. Along the motorway to the Ilova, then along the Ilova River to the channel that goes towards Trebež Sluice. Then in the same direction to the connection with the existing forest road – at a distance of about 1,600 m south of the northern defensive embankment of the Lonjsko Polje flood water detention area and along the forest road to the old bed of Kutinica Brook. Along the left bank of the Kutinica to the motorway, and along the motorway until the road for Osekovo. From Osekova along the road via Bjelovina to the village of Stružec.
See additional material for further information

## 2.2.2 - General location

a) In which large administrative region does the site lie? Sisačko-moslavačka & Brodsko-posavska Counties

b) What is the nearest town or population centre? Zagreb

## 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): 51218

Area, in hectares (ha) as calculated from GIS boundaries: 51182.477

## 2.2.5 - Biogeography

Biogeographic regions

| Regionalisation scheme(s) | Biogeographic region |
|---|---|
| EU biogeographic regionalization | continental biogeographic region of Europe |

Other biogeographic regionalisation scheme

EU biogeographic regionalization, in accordance with the Habitat Directive (Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, 92/43/EEC). EU biogeographic regions EU 27+1, Doc. Hab. 11-05/04

# 3 - Why is the Site important?

## 3.1 - Ramsar Criteria and their justification

☑ Criterion 1: Representative, rare or unique natural or near-natural wetland types

| | |
|---|---|
| Hydrological services provided | Hydrological importance:<br><br>i) Lonjsko polje alluvial floodplains are an important natural retention area for the whole of the Danube Basin<br>ii) natural floodplains as a part of the flood control system play a major role in the natural prevention of flooding<br>iii) the area has two aquifers: the Lonja (weight of 100 m) and the Sava aquifer (weight of 70 m)<br>iv) 70% of the wetland area consists of lowland riparian forests, which have a major hydrological influence on regional climate stability<br>v) natural retention areas are important in the water purification processes from streams and in maintaining high water quality standards |
| Other reasons | Lonjsko and Mokro polje including Krapje Đol is situated in the continental biogeographic region according to EU biogeographic regionalization under the Habitat Directive (Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, 92/43/EEC). Source: Map of EU biogeographic regions EU 27+1, Doc. Hab. 11-05/04.<br><br>Lonjsko Polje Nature Park is one of the rare preserved complex wetlands in Europe. It is a highly representative example of an extensive river flooded area covered with a mixture of alluvial forests, wet grasslands, watercourses, oxbows and other wetland habitats. Semi-natural forests are managed in such a way that they contain very rich biodiversity, including good populations of a number of rare and threatened species at a European or even a global level. Due to its ecological characteristics it plays a very important role in the natural functioning of the Sava River as well as of the whole Danube River basin.<br><br>Ecological processes generated by both the traditional land use and the dynamics of inundation have created a unique mosaic of secondary and natural habitats, which makes the area the most complete integral floodplain ecosystem of the central part of a river basin. The lowland riparian forests are part of the most complete and largest remaining complex of those oak and ash stands in the world.<br>Change caused by natural geomorphological and flood dynamics may be understood as an essential part of the property's integrity due to the fact that all bird species historically recorded can be found in the property today. The appearance of bird species indicating primeval forest structures and large undisturbed woodland complexes indicates the well-preserved naturalness of the recent riparian forest ecosystem. |

☑ Criterion 2 : Rare species and threatened ecological communities

☑ Criterion 3 : Biological diversity

Justification

Due to the combination of regular flooding and high level of underground waters, this area contains a great variety of different habitat types, mostly depending on water and belonging to some of the Ramsar wetland types: marshes, wet grasslands and alluvial forests. These habitat types are highly representative for the continental biogeographic region of Europe.

Habitat types and plant species

Surface terrestrial water and wetlands or marshes occupy 2,255 ha, or 4.4% of the area of Lonjsko Polje Nature Park. Oxbows, ditches and pools are overgrown with the following vegetation: Scripo-Phragmitetum, Glycerietum maximae, Sparganio- Glycerietum fluitantis, sedges (Caricetum gracilis; Caricetum tricostato- vulpinae). Free water areas are covered with freely floating vegetation, in which the most prominent are: Lemno-Spirodeletum polyrrhizae and Myriophyllo-Nupharetum.

Significant plant species of these habitats include: the four leaf clover (Marsilea quadrifolia) – Annex II and IV of the Habitat Directive, michelianus sedges (Cyperus michelianus), mare's tail (Hippuris vulgaris), water soldier (Stratiotes aloides), spotless watermeal (Wolffia arrhiza).

Grasslands occupy 4,593 ha, or 10.1% of the area of the Park. The most represented habitat types are nitrophilous pastures and hay meadows of the lowland vegetation zone. They are mostly used for grazing and mowing within the traditional animal husbandry system. The grassland areas that are directly impacted by regular flooding are overgrown with the following communities: periodically humid meadows (Deschampsietum cespitosae) and Illyrio-Pannonic humid meadows (Bromo-Cynosuretum cristati).
Plant

See additional material for further information

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

☑ Criterion 5 : >20,000 waterbirds

| | |
|---|---|
| Overall waterbird numbers | 33. 479 |
| Start year | 2003 |
| Source of data: | Lonjsko Polje Nature Park Public Institution |

☑ Criterion 6 : >1% waterbird population

☑ Criterion 7 : Significant and representative fish

Justification

Lonjsko Polje Nature Park with the Sava River and its tributaries are all part of the Danube, or Black Sea Basin. The area of the lowland part of the Sava River is rich in mixed fish populations: it is inhabited by about 45 species, classified into 13 families. In Lonjsko Polje Nature Park itself, 34 species of fish from eight families were found. The Danube basin is the only area in Central Europe with a fairly large number of endemic species in the fish fauna; there are seven endemic species here – European mudminnow (Umbra krameri), Danube salmon (Hucho hucho), Balkan loach (Cobitis elongata), Danube gudgeon (Gobio uranoscopus), Danube roach (Rutilus pigus), striped ruffe (Gymnocephalus schraetzer), Danube streber (Zingel streber); four of them are found in the Lonjsko Polje Nature Park area: the European mudminnow (Umbra krameri), Balkan loach (Cobitis elongata), Danube roach (Rutilus pigus), Danube streber (Zingel streber).
Indicator species of fish that can show changes in habitat quality in Lonjsko Polje are: the Crucian carp (Carassius carassius), weather loach (Misgurnus fossilis), tench (Tinca tinca) and common rudd (Scardinius erythropthalmus) as well as the sunbleak (Leucaspius delineatus) and European mudminnow (Umbra krameri).

☑ Criterion 8 : Fish spawning grounds, etc.

Justification

Lonjsko and Mokro Polje floodplain area is important spawning ground for the fishes of the Sava River and its tributaries. From the ichthyological point of view, water in the area of Lonjsko Polje Nature Park is classified as the cyprinid (carp) water. Thus, due to the slow current the Sava and its tributaries have created meanders, broad channels, marshes, oxbows and wetlands, forming the characteristic image of this lowland landscape. The water of the Sava River is biologically highly reproductive, because of the high content from the upstream tributaries. Dense populations of plankton are important for the feeding of fish. This is also an area very rich in organic and mineral substances, which is a result of the constant transport and sedimentation of silt and other tributaries – Kupa, Una, Strug, Trebež. Natural watercourses without any flood gates have a great impact on the production of natural food, and hence on the size and quality of the fish communities as well as on the successful production.

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

| Scientific name | Common name | Criterion 2 | Criterion 3 | Criterion 4 | IUCN Red List | CITES Appendix I | Other status | Justification |
|---|---|---|---|---|---|---|---|---|
| *Cyperus michelianus* | michelianus sedges | ☑ | ☑ | ☐ | LC | ☐ | Acording to the National Rule on strictly protected species - VU | maintained in the area of the Park in specific water bodies, like ponds and swamp areas |
| *Fraxinus angustifolia* | narrow leaved ash | ☐ | ☑ | ☐ | LC | ☐ | | wetland woods along the course of the river |
| *Gratiola officinalis* | hedge-hyssop | ☐ | ☐ | ☑ | LC | ☐ | | Criterion 4: maintained in the area of the Park only thanks to the traditional pig pasturing |
| *Hippuris vulgaris* | mare's tail | ☐ | ☑ | ☐ | LC | ☐ | | maintained in the area of the Park in specific water bodies, like ponds and swamp areas |
| *Marsilea quadrifolia* | water shamrock | ☑ | ☑ | ☑ | LC | ☐ | Annex II and IV of the Habitat Directive | Criterion 4: The specific water regime in partly flooded areas enables survival of the rare plant species like the four leaf clover (Marsilea quadrifolia) which can survive during the high water as well during the dry periods. |
| *Mentha pulegium* | pennyroyal | ☐ | ☐ | ☑ | LC | ☐ | | Criterion 4: maintained in the area of the Park only thanks to the traditional pig pasturing |
| *Populus alba* | white poplar | ☐ | ☑ | ☐ | LC | ☐ | | wetland woods along the course of the river |
| *Populus nigra* | black poplar | ☐ | ☑ | ☐ | LC | ☐ | | wetland woods along the course of the river |
| *Quercus robur* | common oak | ☐ | ☑ | ☐ | LC | ☐ | | wetland woods along the course of the river |
| *Salix alba* | white willow | ☐ | ☑ | ☐ | LC | ☐ | | wetland woods along the course of the river |
| *Salix purpurea* | purple willow | ☐ | ☑ | ☐ | LC | ☐ | | wetland woods along the course of the river |
| *Salix triandra* | willows | ☐ | ☑ | ☐ | LC | ☐ | | wetland woods along the course of the river |
| *Stratiotes aloides* | water soldier | ☑ | ☑ | ☐ | LC | ☐ | Acording to the National Rule on strictly protected species - VU | maintained in the area of the Park in specific water bodies, like ponds and swamp areas |
| *Wolffia arrhiza* | spotless watermeal | ☐ | ☑ | ☐ | LC | ☐ | | maintained in the area of the Park in specific water bodies, like ponds and swamp areas |

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

| Phylum | Scientific name | Common 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 | | | | | | | | |
| **Birds** | | | | | | | | | | | | | | | | | | |
| CHORDATA/ AVES | *Anas penelope* | Eurasian Wigeon | ☐ | ☑ | ☐ | ☐ | ☑ | ☐ | ☐ | ☐ | 214 | | 1.01 | LC | ☐ | ☐ | | Criterion 3: Lonjsko Polje Nature Park is of considerable importance for threatened species: aquatic habitats are permanent habitats for this species |
| CHORDATA/ AVES | *Anser anser* | Greylag Goose | ☑ | ☐ | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | 6191 | | 8.04 | LC | ☐ | ☐ | Acording to the National Rule on strictly protected species - nesting population VU | Criterion 6: Biogeographic region: Breeding Central Europe Wintering North Africa Wintering range |

| Phylum | Scientific name | Common 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 | *Aquila pomarina* | Lesser Spotted Eagle | ☑ | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | | | | ☐ | ☐ | Acording to the National Rule on strictly protected species - nesting population EN | Criterion 4: Alluvial forests of Lonjsko Polje Nature Park are the most important breeding place for this species. |
| CHORDATA/ AVES | *Ardea purpurea* | Purple Heron | ☑ | ☐ | ☐ | ☐ | ☑ | ☐ | ☐ | ☐ | 10 | | | LC | ☐ | ☐ | Acording to the National Rule on strictly protected species - nesting population EN | Criterion 3: nests in the Ornithological Reserve of Krapje Đol in a mixed colony |
| CHORDATA/ AVES | *Ardeola ralloides* | Squacco Heron | ☑ | ☐ | ☐ | ☐ | ☑ | ☐ | ☐ | ☐ | | | | LC | ☐ | ☐ | Acording to the National Rule on strictly protected species - nesting population EN | Criterion 3: nests in the Ornithological Reserve of Krapje Đol in a mixed colony |
| CHORDATA/ AVES | *Aythya nyroca* | Ferruginous Duck | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 87 | | | NT | ☐ | ☑ | Acording to the National Rule on strictly protected species NT | |
| CHORDATA/ AVES | *Ciconia ciconia* | White Stork | ☐ | ☐ | ☐ | ☐ | ☑ | ☐ | ☐ | ☐ | 150 | | | LC | ☐ | ☐ | Acording to the National Rule on strictly protected species LC | Criterion 3: part of the identity of Lonjsko Polje Nature Park and of all Posavina, as it is accustomed to coexisting with people |
| CHORDATA/ AVES | *Ciconia nigra* | Black Stork | ☑ | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 20 | | | LC | ☐ | ☐ | Acording to the National Rule on strictly protected species - nesting population VU | Criterion 4: Alluvial forests of Lonjsko Polje Nature Park are the most important breeding place for this species. |
| CHORDATA/ AVES | *Cygnus olor* | Mute Swan | ☐ | ☐ | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | 986 | | 1.37 | LC | ☐ | ☐ | | Criterion 6: Biogeographic region: Black Sea, SE Europe, wintering range |
| CHORDATA/ AVES | *Egretta garzetta* | Little Egret | ☑ | ☐ | ☐ | ☐ | ☑ | ☐ | ☐ | ☐ | 700 | | | LC | ☐ | ☐ | Acording to the National Rule on strictly protected species - nesting population VU | Criterion 3: nests in the Ornithological Reserve of Krapje Đol in a mixed colony |
| CHORDATA/ AVES | *Haliaeetus albicilla* | White-tailed Eagle | ☑ | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | 102 | | | LC | ☑ | ☑ | Acording to the National Rule on strictly protected species - nesting population VU | Criterion 4: Alluvial forests of Lonjsko Polje Nature Park are the most important breeding place for this species. |
| CHORDATA/ AVES | *Milvus migrans* | Black Kite | ☑ | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | | | LC | ☐ | ☐ | Acording to the National Rule on strictly protected species - nesting population EN | Criterion 4: Alluvial forests of Lonjsko Polje Nature Park are the most important breeding place for this species. |
| CHORDATA/ AVES | *Nycticorax nycticorax* | Black-crowned Night Heron; Black-crowned Night-Heron | ☐ | ☐ | ☐ | ☐ | ☑ | ☐ | ☐ | ☐ | 1000 | | | LC | ☐ | ☐ | Acording to the National Rule on strictly protected species - nesting population NT | Criterion 3: nests in the Ornithological Reserve of Krapje Đol in a mixed colony |
| CHORDATA/ AVES | *Platalea leucorodia* | Eurasian Spoonbill | ☑ | ☑ | ☐ | ☐ | ☑ | ☐ | ☐ | ☐ | 104 | | 1.04 | LC | ☐ | ☐ | Acording to the National Rule on strictly protected species - nesting population EN | Criterion 3: nests in the Ornithological Reserve of Krapje Đol in a mixed colony |
| **Fish, Mollusc and Crustacea** | | | | | | | | | | | | | | | | | | |
| CHORDATA/ ACTINOPTERYGII | *Carassius carassius* | Crucian | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☑ | ☐ | | | | LC | ☐ | ☐ | Acording to the National Rule on strictly protected species - VU | Criterion 7: Indicator species of fish that can show changes in habitat quality in Lonjsko Polje |
| CHORDATA/ ACTINOPTERYGII | *Cobitis elongata* | Balkan Loach | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☑ | ☐ | 262 | | | LC | ☐ | ☐ | Acording to the National Rule on strictly protected species - VU | Criterion 7: The Danube basin is the only area in Central Europe with a fairly large number of endemic species in the fish fauna such as this species. |
| CHORDATA/ ACTINOPTERYGII | *Cyprinus carpio* | Leather carp; Leather carp | ☑ | ☐ | ☐ | ☐ | ☑ | ☐ | ☐ | ☐ | | | | VU | ☐ | ☐ | | Criterion 7: The Danube basin is the only area in Central Europe with a fairly large number of endemic species in the fish fauna such as this species. |
| CHORDATA/ ACTINOPTERYGII | *Gymnocephalus schraetser* | | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☑ | ☐ | | | | LC | ☐ | ☐ | Acording to the National Rule on strictly protected species - CR | Criterion 7: The Danube basin is the only area in Central Europe with a fairly large number of endemic species in the fish fauna such as this species. |
| CHORDATA/ ACTINOPTERYGII | *Hucho hucho* | Huchen; Huchen; Huchen | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☑ | ☐ | | | | EN | ☐ | ☐ | | Criterion 7: The Danube basin is the only area in Central Europe with a fairly large number of endemic species in the fish fauna such as this species. |

| Phylum | Scientific name | Common 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/ ACTINOPTERYGII | *Leucaspius delineatus* | Foy | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☑ | ☐ | | | | LC | ☐ | ☐ | Acording to the National Rule on strictly protected species - VU | Criterion 7: Indicator species of fish that can show changes in habitat quality in Lonjsko Polje |
| CHORDATA/ ACTINOPTERYGII | *Misgurnus fossilis* | Mud loach | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☑ | ☐ | | | | LC | ☐ | ☐ | Acording to the National Rule on strictly protected species - VU | Criterion 7: Indicator species of fish that can show changes in habitat quality in Lonjsko Polje |
| CHORDATA/ ACTINOPTERYGII | *Rhodeus amarus* | Bitterling | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☑ | ☐ | 12 | | | LC | ☐ | ☐ | | Criterion 7: The Danube basin is the only area in Central Europe with a fairly large number of endemic species in the fish fauna such as this species. |
| CHORDATA/ ACTINOPTERYGII | *Romanogobio uranoscopus* | Danubian longbarbel gudgeon; Danubian gudgeon | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☑ | ☐ | | | | LC | ☐ | ☐ | Acording to the National Rule on strictly protected species. | Criterion 7: The Danube basin is the only area in Central Europe with a fairly large number of endemic species in the fish fauna such as this species. |
| CHORDATA/ ACTINOPTERYGII | *Rutilus pigus* | Danube Roach | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☑ | ☐ | | | | LC | ☐ | ☐ | | Criterion 7: The Danube basin is the only area in Central Europe with a fairly large number of endemic species in the fish fauna such as this species. |
| CHORDATA/ ACTINOPTERYGII | *Scardinius erythrophthalmus* | Pearl roach | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☑ | ☐ | | | | LC | ☐ | ☐ | | Criterion 7: Indicator species of fish that can show changes in habitat quality in Lonjsko Polje |
| CHORDATA/ ACTINOPTERYGII | *Tinca tinca* | Doctor-fish | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☑ | ☐ | | | | LC | ☐ | ☐ | | Criterion 7: Indicator species of fish that can show changes in habitat quality in Lonjsko Polje |
| CHORDATA/ ACTINOPTERYGII | *Umbra krameri* | European mudminnow | ☑ | ☐ | ☐ | ☐ | ☑ | ☐ | ☑ | ☐ | | | | VU | ☐ | ☐ | Acording to the National Rule on strictly protected species - EN | Criterion 7: The Danube basin is the only area in Central Europe with a fairly large number of endemic species in the fish fauna such as this species. |
| CHORDATA/ ACTINOPTERYGII | *Zingel streber* | Danube streber | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☑ | ☐ | | | | LC | ☐ | ☐ | Acording to the National Rule on strictly protected species - VU | Criterion 7: The Danube basin is the only area in Central Europe with a fairly large number of endemic species in the fish fauna such as this species. |
| **Others** | | | | | | | | | | | | | | | | | | |
| CHORDATA/ AMPHIBIA | *Bombina bombina* | fire bellied toad | ☐ | ☐ | ☐ | ☐ | ☑ | ☐ | ☐ | ☐ | | | | LC | ☐ | ☐ | Acording to the National Rule on strictly protected species | Criterion 3: Lonjsko Polje Nature Park is of considerable importance for threatened species: marshy and aquatic habitats are permanent habitats for this species. |
| CHORDATA/ AMPHIBIA | *Bombina variegata* | yellow-bellied toad | ☐ | ☐ | ☐ | ☐ | ☑ | ☐ | ☐ | ☐ | | | | LC | ☐ | ☐ | Acording to the National Rule on strictly protected species | Criterion 3: Lonjsko Polje Nature Park is of considerable importance for threatened species: marshy and aquatic habitats are permanent habitats for this species. |
| CHORDATA/ REPTILIA | *Emys orbicularis* | European pond turtle | ☑ | ☐ | ☐ | ☐ | ☑ | ☐ | ☐ | ☐ | | | | | ☐ | ☐ | Acording to the National Rule on strictly protected species - VU | Criterion 3: biology is bound to the water habitats |

*1) Percentage of the total biogeographic population at the site*

## 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 |
|---|---|---|---|
| Leucoio- Fraxinetum angustifoliae | ☐ | Alluvial forests in Lonjsko Polje are the part of one of the most complete and largest remained complex of the ash | important for the understanding of the history and evolution of the genes of the genera of Quercus and Fraxinus. These communities directly depend on the groundwater level, and any changes lead to destruction of the forests. |
| Genisto-elatae-Quercetum roboris, Carpino betuli-Quercetum roboris | ☐ | Alluvial forests in Lonjsko Polje are the part of one of the most complete and largest remained complex of the common oak | important for the understanding of the history and evolution of the genes of the genera of Quercus and Fraxinus. These communities directly depend on the groundwater level, and any changes lead to destruction of the forests. |

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

## 4.1 - Ecological character

The ecological processes necessary for the long-term ecological viability and appearance of all of the site floodplain habitats and ecosystems are well maintained in Lonjsko Polje Nature Park. Change caused by natural geomorphological and flood dynamics may be understood as an essential part of the site's integrity due to the fact that all bird species historically recorded can be found at the site today.

Habitats
As part of the project LIFE05 TCY/CRO/000111 a Habitat Map of Lonjsko Polje Nature Park was elaborated, to a scale of 1:25000. In line with the National habitat classification six basic habitat types were determined, comprising 113 different habitat types defined at finer level (see maps 3 and 4 in Appendix 1 (printed maps) and Appendix 2 (PDF and GIS files on CD).

Habitat types shown on the map belong to the following broad categories of the National habitat classification:
A – Surface terrestrial waters and marshland habitats C – Grasslands
D – Thickets E – Forests
I – Cultivated non-forest areas
J – Artificial and industrial habitats

Threatened and rare habitat types (according to Croatian Nature Protection Act) cover 84.60% of the Park area. Representation of different habitat types in the Nature Park is as follows:

A. Surface terrestrial water and marshland habitats 2 .255 ha, 4.4% of the Park's area
The most represented category:
A.4.1.2. Large sedge communities (Magnocaricetalia), 457 ha, 0.9% of the Park's area C. Grasslands
4,503 ha, 10.1% of Park's area The most represented category:
C.2.4.1. Nitrophilous flood swards (Agropyro-Rumicion crispi), 1,660 ha, 3.2% of the Park's area D. Thickets
1,673 ha, 2.8% of Park's area The most represented category:
D.4.1.1. Indigo bush stands (Indigo bush (Amorpha fruticosa)), 1,201 ha, 2.5% of the Park's area E. Forests
35,002 ha, 67.7% of the Park's area The most represented category:
E.2.1.7. Illyrian snow-flake ash-oak forests (Leucoio-Fraxinetum angustifoliae), 12,116 ha, 23.7% of the Park's area
E.2.2. Riparian oak-ash forests (Genisto elatae-Quercetum roboris Ht. 1938), 11,994 ha, 23.4% of the Park's area

## 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 | | | | |
| Fresh water > Lakes and pools >> P: Seasonal/ intermittent freshwater lakes | | 2 | 19.1 | Rare |
| Fresh water > Lakes and pools >> Tp: Permanent freshwater marshes/ pools | | 2 | 19.1 | Rare |
| Fresh water > Marshes on inorganic soils >> Xf: Freshwater, tree-dominated wetlands | | 1 | 69 | Rare |

Human-made wetlands

| Wetland types (code and name) | Local name | Ranking of extent (1: greatest - 4: least) | Area (ha) of wetland type | Justification of Criterion 1 |
|---|---|---|---|---|
| 6: Water storage areas/Reservoirs | Lonjsko polje | 1 | 25630 | Unique |

## 4.3 - Biological components

### 4.3.1 - Plant species

Other noteworthy plant species

| Scientific name | Common name | Position in range / endemism / other |
|---|---|---|
| *Fritillaria meleagris* | Snake's Head | Regional threat level: NT |
| *Ranunculus lingua* | Greater Spearwort | Regional threat level: VU |

Invasive alien plant species

| Scientific name | Common name | Impacts | Changes at RIS update |
|---|---|---|---|
| *Amorpha fruticosa* | Bastard Indigo;False Indigo;Indigobush Amorpha | Actually (major impacts) | increase |
| *Asclepias syriaca* | Milkweed | Actually (minor impacts) | increase |
| *Reynoutria japonica* | Japanese Knotweed | Potentially | increase |
| *Solidago gigantea* | Late Goldenrod | Potentially | unknown |

Optional text box to provide further information

5,000 hectares of pastures in Lonjsko Polje Nature Park are covered with Amorpha fruticosa. Amorpha is a species that which seeds are spread by floodwater. The biggest problem with eradicating the amorpha is that there is no livestock in the pastures as it used to be in the past. Today Public Institution has some project and plans for eradicating amorpha. For example, some part of the Site which is covered by amorpha are mechanically eradicated (mulching). After restoration some part it is necessary to keep livestock so the amorpha does not appear again.

### 4.3.2 - Animal species

Other noteworthy animal species

| Phylum | Scientific name | Common name | Pop. size | Period of pop. est. | %occurrence | Position in range /endemism/other |
|---|---|---|---|---|---|---|
| CHORDATA/AVES | *Crex crex* | Corn Crake | | | | population inhabits both natural and anthropogenic habitats, depending on flooding dynamics |
| CHORDATA/MAMMALIA | *Arvicola amphibius* | water vole | | | | deeply dependent on the water habitats |
| CHORDATA/MAMMALIA | *Castor fiber* | Eurasian Beaver | | | | deeply dependent on the water habitats |
| CHORDATA/MAMMALIA | *Lutra lutra* | European Otter | | | | deeply dependent on the water habitats |
| CHORDATA/REPTILIA | *Natrix natrix* | grass snake | | | | ecologically dependent on water habitats |
| CHORDATA/REPTILIA | *Natrix tessellata* | dice snake | | | | ecologically dependent on water habitats |
| CHORDATA/MAMMALIA | *Neomys anomalus* | Mediterranean Water Shrew;Southern Water Shrew | | | | deeply dependent on the water habitats |
| CHORDATA/MAMMALIA | *Neomys fodiens* | Eurasian Water Shrew | | | | deeply dependent on the water habitats |

## 4.4 - Physical components

### 4.4.1 - Climate

| Climatic region | Subregion |
|---|---|
| C: Moist Mid-Latitude climate with mild winters | Cfb: Marine west coast (Mild with no dry season, warm summer) |

This area is strongly influenced by the humid type of continental climate and is affected by air masses moving from the Alps. Average temperatures range from -1.5 °C in January to 20 °C in July. Annual mean temperature is 9.5 °C. Mean annual precipitation is 872 mm, maximum precipitation occurs in June, and the minimum in February. The Lang mean annual precipitation factor is 82.3, which represents a humid type of climate. Mean annual air humidity is 77%, and the maximum occurs in July and December. Evaporation in the central course of the Sava River comes to between 520 and 600 mm p.a.
Late frosts are typical of the region, and there is always the possibility of the occurrence of late spring and of early autumn frost. Temperatures below freezing point do not occur only in the three summer months of June, July and August.

See additional material for further information.

### 4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres): 90

a) Maximum elevation above sea level (in metres): 110

- 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 Sava River Basin

### 4.4.3 - Soil

- Mineral ☑
  - (Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○
- Organic ☑
  - (Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○
- No available information ☐

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

Please provide further information on the soil (optional)

Most of the soils of this area are hydromorphic soils of various types, subtypes, varieties and forms. The characteristic of hydromorphic soils is the naturally poor drainage, and the natural process of hydrogenation within a depth of 2 m, brought about by a surplus of surface and/or ground water which is neither alkaline nor brackish. The largest areas of these soils appear as carbonate, and the characteristic of such soils is that they appear almost exclusively in an area with much fine mineral detritus, and the presence of skeleton is very small or hardly perceptible.

This is also an area very rich in organic and mineral substances, which is a result of the constant transport and sedimentation of silt and other tributaries – Kupa, Una, Strug, Trebež.

### 4.4.4 - Water regime

Water permanence

| Presence? | Changes at RIS update |
|---|---|
| Usually permanent water present | |
| Usually seasonal, ephemeral or intermittent water present | |

Source of water that maintains character of the site

| Presence? | Predominant water source | Changes at RIS update |
|---|---|---|
| Water inputs from rainfall | ☐ | No change |

Water destination

| Presence? | Changes at RIS update |
|---|---|
| To downstream catchment | No change |
| Feeds groundwater | No change |

Stability of water regime

| Presence? | Changes at RIS update |
|---|---|
| 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:

The site belongs to the southwestern part of the Pannonian basin. The development of the Croatian portion of the Pannonian basin should be considered in terms of the origin and development of the basin as a whole, whose origin and evolution model was proposed by Royden et al. (1983). The model is based on an extension of the Pannonian lithosphere, on one hand, and the stretching in the areas of the Alps, Dinarides and Carpathians, on the other, caused by developments outside this area dating back to the Eocene. Floods can occur at any time of the year, and several times a year as well. The reason for this lies in the arrangement of the river catchment areas situated in different climate zones. In the spring, snowmelt in the Julian Alps causes the Sava River level to rise.

See additional material for further information.

### 4.4.5 - Sediment regime

Significant accretion or deposition of sediments occurs on the site ☑

(Update) Changes at RIS update No change ◉ Increase ○ Decrease ○ Unknown ○

Significant transportation of sediments occurs on or through the site ☑

(Update) Changes at RIS update No change ◉ Increase ○ Decrease ○ Unknown ○

Sediment regime unknown ☐

Please provide further information on sediment (optional):

This is also an area very rich in organic and mineral substances, which is a result of the constant transport and sedimentation of silt and other tributaries – Kupa, Una, Strug, Trebež.

### 4.4.6 - Water pH

Unknown ☑

### 4.4.7 - Water salinity

Fresh (<0.5 g/l) ☑

(Update) Changes at RIS update No change ◉ Increase ○ Decrease ○ Unknown ○

Unknown ☐

### 4.4.8 - Dissolved or suspended nutrients in water

Unknown ☐

<no data available>

### 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:

Land class Share (%)
Artificial surfaces 2.23
Agricultural areas 42.36
Forests and semi natural areas 54.71 Wetlands 0.08
Inland water (water bodies) 0.63

## 4.5 - Ecosystem services

### 4.5.1 - Ecosystem services/benefits

Provisioning Services

| Ecosystem service | Examples | Importance/Extent/Significance |
|---|---|---|
| Fresh water | Drinking water for humans and/or livestock | Medium |
| Wetland non-food products | Livestock fodder | Medium |
| Wetland non-food products | Timber | Medium |

Regulating Services

| Ecosystem service | Examples | Importance/Extent/Significance |
|---|---|---|
| Maintenance of hydrological regimes | Groundwater recharge and discharge | Medium |
| Erosion protection | Soil, sediment and nutrient retention | Medium |
| Hazard reduction | Flood control, flood storage | Medium |

Cultural Services

| Ecosystem service | Examples | Importance/Extent/Significance |
|---|---|---|
| Recreation and tourism | Recreational hunting and fishing | Medium |
| Recreation and tourism | Nature observation and nature-based tourism | Medium |
| Spiritual and inspirational | Cultural heritage (historical and archaeological) | Medium |
| Scientific and educational | Educational activities and opportunities | Medium |
| Scientific and educational | Long-term monitoring site | Medium |

Other ecosystem service(s) not included above:

See additional material for further information.

Within the site: 1000

Outside the site: 3000

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

Where economic studies or assessments of economic valuation have been undertaken at the site, it would be helpful to provide information on where the results of such studies may be located (e.g. website links, citation of published literature):

Lonjsko Polje Nature Park Public Institution was part of MEDESCWET project - “Economic valuation of ecosystem services provided by wetlands in terms of climate change adaptation in the Mediterranean”. The project manager was Plan Bleu from France and the partner of project was Tour de Valat from France. With the Lonjsko Polje, there was 3 more pilot sites ( Vic coastal Lagoon in France – coastal protection service, Yanicaga Lake in Turkey – carbon storage capacity, Burullus Lake in Egipt - carbon storage capacity and Lonjsko Polje Nature Park in Croatia - flood ecosystem services). The main goal of the project was promote climate change adaptation based on ecosystem services. On the website of Lonjsko Polje Nature Park is the results of this project.

One result of project was The total cost of the project for the four artificial pools that will provide the flood protection service provided by the retention area Lonjsko Polje in its current state is € 1,516,272,085.

### 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 ☑

Description if applicable

Water management - natural floodplains are used in the flood defense system. Areas naturally liable to flood are covered in the system, their basic function thus being preserved, and the protection of biological and landscape values going hand in hand with modification of the flood control system.
Forestry - The forests are managed by the state owned corporation Croatian Forests according to the stringent ecological, social and economic standards of FCS certification (Forest Stewardship Council)

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

Description if applicable

Traditional pasturing - this manner of land management preserves biological diversity to the maximum and it should be encouraged and developed by all measures. Such a system of stewardship probably exists nowhere else, and this is one more reason for it to be preserved. In the area of the Nature Park as many as seven indigenous breeds have been recorded: the Croatian Posavac horse, the Croatian cold blooded horse, the Turopolje and black Slavonian pigs, the Slavonian- Syrmian Podola cattle breed, the Posavina goose and the Posavina hound.

Pasturing of the large livestock - the common use of the land by the rural communities means that the traditional management of the land is preserved, and that the local population will be actively involved in the preservation of the environment and the management of the Park. Grazing of pigs - grazing of pigs takes place on the pastures, in the oak forests and the narrow leaved ash forests. The purpose of this way of feeding is to breed and maintain the pigs in their natural shape.

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

Description if applicable

Traditional pasturing – the site is an exceptional example of in-situ conservation of endangered indigenous domestic breeds, since it represents the genus loci of two breeds: the Turopolje pig and the Posavina horse.

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 |
|---|---|---|
| National/Federal government | ☑ | ☐ |

Private ownership

| Category | Within the Ramsar Site | In the surrounding area |
|---|---|---|
| Other types of private/individual owner(s) | ☑ | ☐ |

Other

| Category | Within the Ramsar Site | In the surrounding area |
|---|---|---|
| No information available | ☐ | ☑ |

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

within the Ramsar site:
Data about proprietary relations are not exact, but unofficially the current state of property ownership shows that 5% of the land is privately owned, and 95% is owned by the State. Most of the Park is classified as forest - 35,002 ha (67.7%) used and managed by the Croatian Forests Ltd. Grasslands and pastures cover with 4,593 ha (10.1%), water and wetland cover 2,255 ha (4.4%), cultivated non-forest land covers 6,425 ha (12.6%), while brush occupies 1,673 ha (2.7%). Areas of the villages covers 388 ha or 0.8%.

### 5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

Lonjsko Polje Nature Park Public Institution

Manager:
Ivor Stanivuković
ravnatelj@pp-lonjsko-polje.hr

Natural Resources Manager:
Valerija Hima
bio@pp-lonjsko-polje.hr

Head of Ranger Division:
Damir Culjak
ranger@pp-lonjsko-polje.hr

Head of Department of Tourism and Promotion:
Helena Radić - Bosanac
info@pp-lonjsko-polje.hr

Provide the name and title of the person or people with responsibility for the wetland:

Ivor Stanivuković, manager

Postal address:

Krapje No. 16
HR – 44325 Krapje
Republic of Croatia
Tel: +385 44 611-190, +385 44 672 080
Fax : +385 44 606 449
Web : www.pp-lonjsko-polje.hr

E-mail address:

ravnatelj@pp-lonjsko-polje.hr

## 5.2 - Ecological character threats and responses (Management)

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

Water regulation

| Factors adversely affecting site | Actual threat | Potential threat | Within the site | Changes | In the surrounding area | Changes |
|---|---|---|---|---|---|---|
| Drainage | Medium impact | Medium impact | ☑ | No change | ☐ | No change |
| Canalisation and river regulation | Medium impact | Medium impact | ☑ | No change | ☐ | No change |
| Water abstraction | Medium impact | Medium impact | ☐ | No change | ☑ | No change |

Agriculture and aquaculture

| Factors adversely affecting site | Actual threat | Potential threat | Within the site | Changes | In the surrounding area | Changes |
|---|---|---|---|---|---|---|
| Livestock farming and ranching | Medium impact | Medium impact | ☑ | No change | ☐ | No change |
| Wood and pulp plantations | Medium impact | Medium impact | ☑ | No change | ☐ | No change |

Biological resource use

| Factors adversely affecting site | Actual threat | Potential threat | Within the site | Changes | In the surrounding area | Changes |
|---|---|---|---|---|---|---|
| Unspecified | Medium impact | Medium impact | ☑ | No change | ☐ | No change |

Human intrusions and disturbance

| Factors adversely affecting site | Actual threat | Potential threat | Within the site | Changes | In the surrounding area | Changes |
|---|---|---|---|---|---|---|
| Recreational and tourism activities | | Medium impact | ☑ | No change | ☐ | No change |

Natural system modifications

| Factors adversely affecting site | Actual threat | Potential threat | Within the site | Changes | In the surrounding area | Changes |
|---|---|---|---|---|---|---|
| Unspecified/others | Medium impact | Medium impact | ☑ | No change | ☐ | No change |

Invasive and other problematic species and genes

| Factors adversely affecting site | Actual threat | Potential threat | Within the site | Changes | In the surrounding area | Changes |
|---|---|---|---|---|---|---|
| Invasive non-native/ alien species | Medium impact | Medium impact | ☑ | No change | ☐ | No change |

Pollution

| Factors adversely affecting site | Actual threat | Potential threat | Within the site | Changes | In the surrounding area | Changes |
|---|---|---|---|---|---|---|
| Industrial and military effluents | Medium impact | Medium impact | ☑ | No change | ☑ | No change |
| Household sewage, urban waste water | Medium impact | Medium impact | ☑ | No change | ☑ | No change |
| Agricultural and forestry effluents | Medium impact | Medium impact | ☑ | No change | ☑ | No change |
| Garbage and solid waste | Medium impact | Medium impact | ☑ | No change | ☑ | No change |
| Unspecified | Medium impact | Medium impact | ☑ | No change | ☑ | No change |

### 5.2.2 - Legal conservation status

National legal designations

| Designation type | Name of area | Online information url | Overlap with Ramsar Site |
|---|---|---|---|
| Architectural Heritage Village | Krapje | | whole |
| Nature Park | Lonjsko Polje | | whole |
| ornithological reserve | Krapje Đol, Rakita | | whole |

Non-statutory designations

| Designation type | Name of area | Online information url | Overlap with Ramsar Site |
|---|---|---|---|
| Important Bird Area | Lonjsko Polje and Mokro Polje | | whole |

### 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 |

Other:

The area is a part of the NATURA 2000 network. Conservation measures are implemented after the Republic of Croatia becomes a member of the European Union.
NATURA 2000 sites:
- Natura2000 site code: HR2000416, site name: Lonjsko Polje
- Natura2000 site code: HR1000004, site name: Donja Posavina

### 5.2.5 - Management planning

Is there a site-specific management plan for the site? Yes

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 Visiting system Program in Lonjsko Polje Nature Park
Three info-centres in Lonjsko Polje Nature Park have been renovated for visiting system, Čigoč No. 26 and Krapje No. 16. and Repušnica No. 184. Agreements with the local government (the Popovača Municipality) have been signed for the purpose of building up one new info-centre, in Osekovo village.
Current info-centres are equipped and have souvenir shops and resting area. Visiting is organized with tourist guides and educational programmes as follows:
• White stork in Čigoč
• Krapje – village of the architectural heritage
• Spoonbill – bird with a spoon
• The Posavina horse
• Amphibians in Lonjsko Polje
• Corncrake – secret meadow bird
• The Sava River
• Special programmes for the groups of the special interest – for example, the lowland riparian forests; original breeds in Lonjsko Polje.

See additional material for further information

URL of site-related webpage (if relevant): http://www.pp-lonjsko-polje.hr/new/hrvatski/index.html

### 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 |
|---|---|
| Animal species (please specify) | Implemented |
| Birds | Implemented |

International Waterfowl Census (accounting of the wintering birds)
Monitoring and ringing of white stork (Ciconia ciconia)
Monitoring of black stock (Ciconia nigra)
Monitoring of white-tailed eagle (Helliaetus alibicilla)
Monitoring of corn-crake (Crex crex)
Monitoring of great cormorant (Phalacrocorax carbo)
Monitoring of herons
Monitoring of spoonbills (Platalea leucorodia)
Monitoring of ferruginous duck (Aythya nyroca)
Monitoring of kingfisher (Alcedo atthis) ang bee-eater (Merops apiaster)
Monitoring of the swallows
Monitoring of otter
Monitoring of Lycaena dispar
Monitoring of riperian forests (91E0 and 91F0)
Research into bird populations on the agricultural land (arable land, meadows and pastures, overgrown areas) in Lonjsko Polje Nature Park
Research into the distribution of the Golden jackal (Canis aureus) in Lonjsko Polje Nature Park
Research into distribution of the European mudminnow (Umbra krameri) and others Natura2000 species

# 6 - Additional material

## 6.1 - Additional reports and documents

### 6.1.1 - Bibliographical references

1. Lonjsko Polje Nature Park Public Service (2007): Lonjsko Polje Nature Park Bulletin “A Management Programme for Central Posavina” , Vol.9/No.1/2, 2007, Jasenovac
2. Lonjsko Polje Nature Park Public Service (2008): Lonjsko Polje Nature Park Bulletin – “Management plan of Lonjsko Polje Nature Park – A Living Landscape and the Floodplain Ecosystem of the Central Sava Basin”, Vol.10/No.1, 2008, Jasenovac
3. Lonjsko Polje Nature Park Public Service (2002): Lonjsko Polje Nature Park Bulletin “Characteristic of fish communities in Lonjsko Polje Nature Park”, Vol.4/No.1/2,2002, Jasenovac
4. Lonjsko Polje Nature Park Public Service (2008): “Priručnik za kartiranje staništa u Parku prirode Lonjsko polje”, Krapje
5. Lonjsko Polje Nature Park Public Service (2007): Habitat map of Lonjsko Polje Nature Park, Krapje
6. Lonjsko Polje Nature Park Public Service (2008): “A Living Landscape and the Floodplain Ecosystem of the Central Sava Basin”, Nomination form on the UNESCO-s Heritage List
7. Ministry of Environmental Protection, Planning and Construction, (2010): Lonjsko Polje Nature Park Spatial Plan, Zagreb
8. Procjena utjecaja sustava obrane od poplava na šumske ekosustave u Srednjoj Posavini – Projekt Sava, 1999, Akademija šumskih znanosti, Zagreb
9. Schneider – Jacoby, M., and Ern, H., (1993): Park prirode Lonjsko polje – Raznolikost uvjetovana poplavljivanjem, Zagreb
10. The Sava Commission, the Croatian Waters (2011): Sava River Basin Management Plan, Draft ver. 5,0 20
11. Wetland International, (2006): „Waterbird Population Estimates”, 4th edition, Final Draft, Wageningen, Netherlands

### 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
<3 file(s) uploaded>

vi. other published literature
<7 file(s) uploaded>

### 6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:


Flood in retention zone of Lonjsko Polje ( *Damir Culjak, 27-05-2019* )


Leucojo aestivum - angustifoliae forest ( *Maja Sabljak, 04-05-2015* )


Ardea purpurea ( *Maja Sabljak, 21-08-2018* )


Grazing ( *Ninoslav Vrzjak, 11-10-2018* )


Mužilovčica oxbow ( *Maja Sabljak, 07-06-2016* )


Poganovo Field ( *Maja Sabljak, 15-09-2017* )

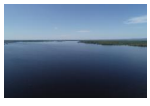

Coexistence between humans and nature, Gračansko Field ( *Maja Sabljak, 28-09-2017* )


Marsilea quadrifolia ( *Maja Sabljak, 11-08-2016* )


Platalea leucorodia ( *Ines Ljepoja, 28-06-2019* )


Ciconia nigra ( *Maja Sabljak, 26-03-2019* )


Flood ( *Damir Culjak, 27-05-2019* )


Flood in Lonjsko Polje ( *Damir Culjak, 27-05-2019* )


Riperian forest ( *Damir Culjak, 27-05-2019* )


Flood ( *Damir Culjak, 27-05-2019* )


Riperian forest in flood period ( *Damir Culjak, 27-05-2019* )


Flood in retention zone and flood defense system ( *Damir Culjak, 27-05-2019* )


Repušničko Field ( *Damir Culjak, 22-05-2019* )

### 6.1.4 - Designation letter and related data

Designation letter
<1 file(s) uploaded>

| | |
|---|---|
| Date of Designation | 1992-11-02 |