

# Information Sheet on Ramsar Wetlands (RIS) – 2006 version

Available for download from [http://www.ramsar.org/ris/key\\_ris\\_index.htm](http://www.ramsar.org/ris/key_ris_index.htm).

*Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8<sup>th</sup> Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX.22 of the 9<sup>th</sup> Conference of the Contracting Parties (2005).*

## Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 7, 2<sup>nd</sup> edition, as amended by COP9 Resolution IX.1 Annex B). A 3<sup>rd</sup> edition of the Handbook, incorporating these amendments, is in preparation and will be available in 2006.
3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

---

### 1. Name and address of the compiler of this form:

Boros Emil – nature conservation inspector  
Directorate of Kiskunság National Park  
H - 6000 Kecskemét, Liszt F. 19  
Phone: 36/ 76-482-611  
Fax: 36/ 76-481-074  
E-mail: [vajdaz@knp.hu](mailto:vajdaz@knp.hu)

FOR OFFICE USE ONLY.

DD MM YY

--	--	--

Designation date

--	--	--	--	--	--

Site Reference Number

---

### 2. Date this sheet was completed/updated:

September 2006.

---

### 3. Country:

Hungary

---

### 4. Name of the Ramsar site:

The precise name of the designated site in one of the three official languages (English, French or Spanish) of the Convention. Alternative names, including in local language(s), should be given in parentheses after the precise name.

## Felső-Kiskunsági szikes puszták (Upper Kiskunság alkaline steppes)

---

### 5. Designation of new Ramsar site or update of existing site:

This RIS is for (tick one box only):

- a) Designation of a new Ramsar site ; or  
b) Updated information on an existing Ramsar site

---

### 6. For RIS updates only, changes to the site since its designation or earlier update:

- a) Site boundary and area

The Ramsar site boundary and site area are unchanged:

or

**If the site boundary has changed:**

- i) the boundary has been delineated more accurately ; or
- ii) the boundary has been extended ; or
- iii) the boundary has been restricted\*\*

and/or

**If the site area has changed:**

- i) the area has been measured more accurately ; or
- ii) the area has been extended ; or
- iii) the area has been reduced\*\*

\*\* Important note: If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

**b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:**

---

**7. Map of site:**

Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

**a) A map of the site, with clearly delineated boundaries, is included as:**

- i) a hard copy (required for inclusion of site in the Ramsar List): X;
- ii) an electronic format (e.g. a JPEG or ArcView image) X;
- iii) a GIS file providing geo-referenced site boundary vectors and attribute tables X.

**b) Describe briefly the type of boundary delineation applied:**

e.g. the boundary is the same as an existing protected area (nature reserve, national park etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The site boundary follows the boundary of the national park. In the northeast, the site extends beyond the national park and follows physical boundaries (canals) and land registration plot boundaries there.

---

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

Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

47° 4' 20" N, 19° 9' 48" E

---

**9. General location:**

Include in which part of the country and which large administrative region(s) the site lies and the location of the nearest large town.

The site is located in Central Hungary in the middle Hungarian reach of the River-Danube basin. Most part of the site belongs to County Bács-Kiskun and north part of the site belongs to County Pest. The neighboring villages are Apaj, Bugyi, Kunpeszér, and Kunszentmiklós town around the territories. The northern border of the site is only within 20 km from the capital (Budapest).

---

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

95 m above Baltic Sea level

**11. Area:** (in hectares)

13 632.3 ha

**12. General overview of the site:**

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The intermittent sodic-alkaline marshes and meadows of Kiskunság give a good special example of continental saline ecosystems which are characteristic, unique wetland habitat types of the Pannonic biogeographic region. It hosts several noteworthy endemic and regionally endemic plant and animal species and communities. The site is a very important area for waterbirds during both breeding and migration season. The migrating water birds numbers – especially regards to Anseriiformes and Charadriiformes species – reach 20.000 individuals.

**13. Ramsar Criteria:**

Tick the box under each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11). All Criteria which apply should be ticked.

1	•	2	•	3	•	4	•	5	•	6	•	7	•	8	•	9
<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

**14. Justification for the application of each Criterion listed in 13 above:**

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

1. In common with the Upper Kiskunság Alkaline Lakes Ramsar Site, this site also represents a rare example of the natural sodic-alkaline type wetlands within the Pannonic biogeographic region. The sodic plain has a rather variegated micro-relief. Differences of just a couple of dozen inches in elevation can produce different types of soils with distinctive floras to go with them. The high salinity and poor water economy of the soil allow only halophytic grass. It presents a nice variation of marshes, sodic meadows, grazing lands, sodic terraces and sodic barrens with a typical vegetation consisting of various salt-resistant and halophyte species. The sodic pans and salt marshes are the other important habitat types of the site from the point of view of birds and invertebrates as well. The site is important not only from the point of view of natural inland salt habitats, but is important for birds as a nesting, feeding and roosting site as well.

Habitat types listed on Annex I of the Habitats Directive:

1530 Pannonic salt steppes and salt marshes (EU Council Directive 92/43/EGK Annex I)

6250 Pannonic loess steppic grasslands (EU Council Directive 92/43/EGK Annex I)

2. The site holds numerous internationally protected species and is one of the Hungarian strongholds for several of them, for example for *Otis tarda* and *Himantopus himantopus*. Other noteworthy bird species with international designations are listed in 20.

Internationally designated species, for which the site is important:

*Cirsium brachycephalum* – included in 92/43/EGK directive Annex II

*Orchis morio* EU-CITES BII;

*Dorcadion fulvum cervae* – Pannonic endemic, listed in 92/43/EGK directive Annex II

*Misgurnus fossilis*– listed in 92/43/EGK directive Annex II

*Aspius aspius* – listed in 92/43/EGK directive Annex II  
*Rhodens sericeus amarus* – listed in 92/43/EGK directive Annex II  
*Cobitis taenia* – listed in 92/43/EGK directive Annex II  
*Bombina bombina* – listed in 92/43/EGK directive Annex II  
*Bufo viridis* Bern Convention Appendix II + Habitats Directive Annex IV  
*Hyla arborea* Bern Convention Appendix II + Habitats Directive Annex IV  
*Rana ridibunda* Bern Convention Appendix III + Habitats Directive Annex V  
*Rana esculenta* Bern Convention Appendix III + Habitats Directive Annex V  
*Rana dalmatina* Bern Convention Appendix II + Habitats Directive Annex IV  
*Triturus dobrogicus* – listed in 92/43/EGK directive Annex II  
*Emys orbicularis* – listed in 92/43/EGK directive Annex II  
*Lacerta agilis* Bern Convention Appendix II + Habitats Directive Annex IV  
*Natrix natrix* Bern Convention Appendix III  
*Lutra lutra* – listed in 92/43/EGK directive Annex II  
*Mustela eversmannii* – listed in 92/43/EGK directive Annex II  
*Spermophilus citellus* – threatened and listed in 92/43/EGK directive Annex II

3. The site holds several species endemic to the Carpathian Basin (the Pannonic biogeographical region).

*Aster tripolium ssp. pannonicum* - Pannonic subendemic  
*Entbostodon hungaricus* – Pannonic endemic moss, listed in Hungarian Red Data Book  
*Lepidium crassifolium* - Pannonic endemic, biogeographically important  
*Limonium gmelini ssp. hungaricum* – Pannonic endemic, biogeographically important  
*Plantago schwarzenbergiana* – Pannonic endemic, biogeographically important and protected in Hungary  
*Puccinellia limosa* - Pannonic subendemic, biogeographically important  
*Dorcadion fulvum cervae* – Pannonic endemic, listed in 92/43/EGK directive Annex II

4. Notable breeding, migrating, wintering and resident birds on wetlands which are included in 79/409/EGK Annex I:

*Acrocephalus melanopogon*, *Alcedo atthis*, *Ardeola ralloides*, *Aythya nyroca*, *Charadrius alexandrinus*, *Charadrius morinellus*, *Ciconia nigra*, *Ciconia ciconia*, *Circus aeruginosus*, *Egretta alba*, *Egretta garzetta*, *Grus grus*, *Haliaeetus albicilla*, *Himantopus himantopus*, *Ixobrychus minutus*, *Lanius minor*, *Larus minutus*, *Larus melanocephalus*, *Luscinia svecica*, *Nycticorax nycticorax*, *Pandion haliaetus*, *Phalacrocorax pygmeus*, *Philomachus pugnax*, *Platalea leucorodia*, *Porzana parva*, *Porzana porzana*, *Recurvirostra avosetta*, *Sterna hirundo*, *Tringa glareola*.

6. *Anser anser*: 500 individuals are 2% (threshold for Central European population: 250)  
*Anser albifrons*: 300 individuals are 1,2% (threshold for “Pannonic” population: 250)

---

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

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

**a) biogeographic region:**

Pannonic

**b) biogeographic regionalisation scheme** (include reference citation):

European Commission DG Environment webpage

Bern Convention/ EU Habitats Directive

---

### 16. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

#### *Geology, hydrogeology,*

Following the withdrawal and the sedimentation of the last lake, the so-called Late Miocene Lake Pannon in this region on the Great Plain, approximately 4.5 million years ago, the ancestor structures of the Danube, the ancient Tisza and the tributaries of the latter appeared. From this point on the previous lake sediment supply was replaced by river sedimentation (primarily by the Danube). Until the Günz-Minden Interglacial Episode in the Pleistocene Ice Age following Pliocene Epoch the Danube run southeast-bound towards Szeged, cutting the region in half, and supplied river sedimentation in a width of some 1000 metres. In the Günz-Minden Interglacial Episode of the Ice Age a major change occurred: with the development of the region's southwestern depression (Kalocsa depression) the Danube gradually started to drift westward by leaving its previous diagonal flow direction and took over its present north-south position. The Danube had already filled up the previous areas. River sedimentation ceased on the alluvial fan replacing these, situated east of the region, which remained higher than the Transtisza region, and a thick eolic sedimentary layer were deposited on it (in the areas undisturbed by water).

This sedimentary layer consists of sand blown out of the Danube valley in the ice-free periods of the Ice Age, which was structured as a series of sand piles in the north-south direction according the dominant wind direction, as well as loess developed during the ice formation periods, their transformed (e.g. soil) varieties and sediments washed out by local precipitation.

The sediment pattern delivered by the Danube-Tisza interfluvial winds protrudes slightly east of the current Tisza route, between the river layers of the Tisza. Therefore a geological situation developed in the smaller eastern section of the region where the Tisza, through its westbound movement, entered the alluvial fan of Danubian origin and in certain locations cut up and destroyed the surface of Danubian origin from the late Pleistocene period and enriched it with its own sediments (occasionally in an astonishing width of several hundred metres).

Based on geological evolution, the geological structures covering the surface and the morphological conditions the region can be divided into three major geological units:

- Danube Valley (a tectonic and erosional depression along the Danube river in a width of some 20-30 km) with an average height of 90-100 m above sea level.

#### *Pedology*

Prior to the river control of the Danube the Danube Valley used to be the river's normal floodplain, then it was an area covered with inland waters on a regular basis subsequently, as well. Also, as a result of its pedological (mainly calcareous-sodic plains developed on a fine granule rock bed) and geological structure (the significant presence of a fine waterproof clay layer) precipitation filter downwards with difficulty and may remain permanently in the depressions. It is generally true that due to the winter precipitation and the high ground water level in the spring significant water volumes appear in the depressed areas (in the isolated depressions of lake beds and old water flows).

The total solute content of the region's ground water is relatively high. Even the smallest values are around 1000 mg/l. The highest values vary between 2000-10.000 mg/l. In the event of high ground water levels the ground water also brings solutes to the surface via its capillary ascent.

The most important cations and anions in the ground water are Na<sup>+</sup>, Ca<sup>2+</sup>, Mg<sup>2+</sup> and HCO<sub>3</sub><sup>-</sup>, according to predominance Na<sup>+</sup>, HCO<sub>3</sub><sup>-</sup> couple with high pH values (sodic water).

The soil types developed here are:

- Chernozem meadow soil types, which are surfaces developed on a sandy loess base situated in the highest level layers in the region, with a high humus content. Their layer thickness varies between 20-40 cm. Generally the salty ground water already does not impregnate these layers. In cases where these highest locations are relatively expansive, tillage activities are carried out on them, and if they are smaller in size (a few 100 m<sup>2</sup>), they form islands on the saline steppe, partly conserving the old sand and loess steppe flora of these areas.
- Solonetz meadow or carbonated solonetz soils, which appear in non-classical forms, in patches, and are more of a transition between the meadow and sodic soils in various combinations,
- Solonchak-solonetz soils, sodic solonchak soils, solonchak soils of eroded salt berms. Among these calcareous-sodic solonchak-solonetz soils are the most common, giving the character of the sodic plains found here. Due to their isolation and weak runoff conditions such depressions and low areas promoted the accumulation of periodic waters, which, as a result of the known salt composition of ground water, led to the formation of sodic wetlands and higher level sodic areas.

The cause of salination in all cases is the salty ground water with a high Na(Mg,Ca)HCO<sub>3</sub> content. The Pannonic salt (sodic) steppes, wetlands and marshes have developed by characteristic salt composition and continental climate.

#### *Climate*

The climate variations are limited in the region of the Carpathian Basin. The macroclimate can be considered a homogenous basic feature in terms of surface and fauna evolution, as well.

The region has a temperate continental climate. Its unique features are limited cloudiness, a relatively high number of sunshine hours, high daily and annual temperature variation, relative dryness and very low humidity values.

This region is the area with the least cloudiness in Hungary. The annual average cloudiness is 52-57%. The annual average number of sunshine hours is approx. 2050. At the same time this is one of the warmest areas in the country. No significant variations exist in this region. The annual average temperature is between 10-11°C. The mean temperature of the coldest month (January) is between minus 1.5 and minus 2°C, while that of the warmest month (July) is 21-22°C. Characteristically of areas with a continental climate, the annual average temperature variance is quite significant (23-24°C). The region can be classified within Hungary as one with a short winter and a long summer. The number of winter days is only 26-31, however, major frosts are common. Spring comes early, and the average temperature rises above 10°C in the whole region between 7-12 March. The number of summer days is 81-84. In the fall the daily average temperature falls below 10°C again generally between 17-21 October.

The region is one of the parts of the country having the least precipitation. Under normal conditions the annual precipitation is between 450-550 mm in the region. The rainfall of the summer semester (April-September), the so-called breeding period, is around 300-350 mm. The winter precipitation occurs mainly in the form of snow. The number of snow-cover days is 30-40. The precipitation conditions therefore are relatively disadvantageous. This is further intensified by low humidity values, with an annual average of many years at 71-74%. Based on this data we may declare that the balance of precipitation and evaporation is negative in the region. The wetlands that have developed and exist can thank their subsistence to supplementary water influences (e.g. ground water).

The region so characteristic of the plain territories of the Carpathian Basin in terms of geology and climate offered settling opportunities for the natural continental fauna, including elements of both steppe and mediterranean nature. In addition, due to its geographical location (e.g. as a

basin centre surrounded by mountains) and its other features it became a place for the development of numerous endemic plant and animal species.

Under the given geological situation and under homogenous climate conditions the varied fauna is primarily the result of the abundance of pedological, hydrological and micro-relief conditions.

#### 17. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

The sodic plain belongs to River Danube catchment area. The general physical features of the site is characteristic for almost whole catchment area of the pans, but have to put emphasis on sodic wetlands have more extensive groundwater catchment area than on the surface. The local wetland catchment area has two main part, on the major part is the lowland River Danube basin, and on the eastern part is the plain sandy ridge plateau.

Prior to the river control of the Danube the Danube Valley used to be the river's normal floodplain, then it was an area covered with inland waters on a regular basis subsequently, as well. Also, as a result of its pedological (mainly calcareous-sodic plains developed on granulated gravel rocky bed) and geological structure (the significant presence of a fine waterproof clay layer) precipitation filter downwards with difficulty and may remain permanently in the depressions. It is generally true that due to the winter precipitation and the high ground water level in the spring significant water volumes appear in the depressed areas (in the isolated depressions of lake beds and old water flows).

#### 18. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

The sodic-alkaline alkaline wetlands are special type of continental salt waters, which is a typical Pannonic wetland type in Hungary. These pans have primarily groundwater and rainfall supplied water bodies. These are seasonal intermittent shallow waters (max. depth = 0.4-0.5 m), because there is notable seasonal water level fluctuation and frequently dries out entirely to middle of summer or autumn. The salinity regularly varies between hypo- (0,8-20 g.l<sup>-1</sup>), sometimes in mesosaline ( 20-50 g.l<sup>-1</sup>) ranges corresponding with water level. The total dissolved solids is dominated in sodium (Na<sup>+</sup>), calcium (Ca<sup>2+</sup>), carbonate (CO<sub>3</sub><sup>2-</sup>) ions, and high grey-brown coloured holomictic turbidity being permanently by colloidal suspended ion complex. Some shallow opened water tables have very high turbidity attributed to continuous re-suspension of the sediments by the winds coupled with its shallowness.

The susceptibility to re-suspension of sediments is different for each lake as it depends on the sediment type and on the shape and depth profile of a lake. Hypothetically, wave re-suspension occurs depends on the critical fetch ( $F_{crit}$ ) at which the wavelength exceeds twice the depth, relative to the total length of the lake measured in the direction of the wind. It causes that generally at lower wind velocity there can be found a lower turbidity less re-suspended belt ( $F_{crit}$ ) around the shoreline below a critical water depth. The lowest turbidity can be found every time among emergent marshland vegetation. The non-turbid transparent sodic-alkaline waters have dull brown colour.

#### 19. Wetland Types

##### a) presence:

Circle or underline the applicable codes for the wetland types of the Ramsar "Classification System for Wetland Type" present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

Marine/coastal: A • B • C • D • E • F • G • H • I • J • K • Zk(a)

Inland: L • M • N • O • P • Q • R • Sp • Ss • Tp Ts • U • Va •  
Vt • W • Xf • Xp • Y • Zg • Zk(b)

Human-made: 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

#### b) dominance:

List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area.

Habitats	%
Wet meadow, grassland (R, Ss), steppe	52,8
Marshland (Sp)	17,1
Fishpond (1)	3,7
Arable land	24,0
Other (9)	2,4

---

#### 20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

The sodic alkaline wetland habitat structures have strength depending on water levels and seasonal fluctuation, which may be very variable year to year.

Lepidio-Puccinellietum and Astero-Agrostetum albae sodic marshes: The feature of this habitat is that it has only temporary or ephemeral saline water-flooding zone (0-10 cm), usually from later autumn to later spring. After it has dried out saline crystals often occur high density on the bare surface, this reason is that the plants growing are strength hampered here. The characteristic vegetation, which can thrive in these extreme condition mainly terrestrial halophyte and succulent plants as: *Lepidio crassifolium*, *Puccinellia limosa*, *Camphorosma annua*, which occur sporadically on the surface. This habitat is one of the most important shorebird feeding zone because it has seasonal shallow (0-10 cm) water coverage and bare surface, often only the surface is wet and the muddy ground is soft. This feeding habitat exists mainly in spring and autumn for the waterbirds, when there is higher water level on the site.

Puccinellietum limosae sodic marshes: This habitat is similar as Lepidio marshes, but it has longer and a bit deeper saline water-flooding (0-20 cm), usually from early autumn to beginning of summer, due to more vegetation biomass can be found here, especially high dominant of halophyte *Puccinellia limosa*. The sodium crystal accumulation is not so expressed on the surface only in the deeper level of the soil. The vegetation coverage abundance may be very variable.

Bolboschoenus-Phragmitetum sodic marshes: This habitat regularly is covered with shallow water (0-30 cm) or wet all over the year. Due to here can overgrow more abundant halophyte vegetation as on saline marshes 2. zone. The characteristic dominant plants are *Bolboschoenus maritimus* and saline ecotype of *Phragmites communis*, these may occurrence in very different coverage proportion.

Open bed of pans: This habitat regularly is covered with deeper saline shallow water (10-50 cm) all over the year. This habitat is the major importance for waterbirds. In hot summer, when the water level may be dropped seriously, so pool-bed surfaces can be become only wet or dried out.

Other not characteristic wetlands types can be also found such as *Alopecuretum pratensis* meadow, *Caricetum acutiformis ripariae* and *Cladium mariscus* marshes.

Continental Pannonic sodic affected steppes are extensively scattered around the wetlands such as *Artemisio-Festucetum pseudovinae danubiale*, and *Achilleo-Festucetum pseudovinae*. Fragmented Pannonic loess steppe grasslands are also such as *Salvio-Festucetum rupicolae*.

---

**21. Noteworthy flora:**

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14, Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

*Aster tripolium ssp. pannonicum* - Pannonic subendemic

*Cirsium brachycephalum* – listed in 92/43/EGK directive Annex II

*Desmatodon cernuus* – moss species listed in Hungarian Red Data Book

*Entbostodon hungaricus* – Pannonic endemic moss, listed in Hungarian Red Data Book

*Lepidium crassifolium* - Pannonic endemic, biogeographically important

*Limonium gmelini ssp. hungaricum* – Pannonic endemic, biogeographically important

*Phascum floerkeanum* – moss species listed in Hungarian Red Data Book

*Plantago schwarzenbergiana* – Pannonic endemic, biogeographically important and protected in Hungary

*Puccinellia limosa* - Pannonic subendemic, biogeographically important

**22. Noteworthy fauna:**

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

*Aspius aspius* – listed in 92/43/EGK directive Annex II

*Bombina bombina* – listed in 92/43/EGK directive Annex II

*Cobitis taenia* – listed in 92/43/EGK directive Annex II

*Dorcadion fulvum cervae* – Pannonic endemic, listed in 92/43/EGK directive Annex II

*Emys orbicularis* – listed in 92/43/EGK directive Annex II

*Lutra lutra* – listed in 92/43/EGK directive Annex II

*Misgurnus fossilis* – listed in 92/43/EGK directive Annex II

*Mustela eversmannii* – listed in 92/43/EGK directive Annex II

*Rhodeus sericeus amarus* – listed in 92/43/EGK directive Annex II

*Saragossa porosa kenderiensis* – Pannonic endemic

*Spermophilus citellus* – threatened and listed in 92/43/EGK directive Annex II

*Triturus dobrogicus* – listed in 92/43/EGK directive Annex II

Notable breeding, migrating, wintering and resident birds on wetlands which are included in 79/409/EGK Annex I.:

*Acrocephalus melanopogon*, *Alcedo atthis*, *Ardeola ralloides*, *Aythya nyroca*, *Charadrius alexandrinus*, *Charadrius morinellus*, *Ciconia nigra*, *Ciconia ciconia*, *Circus aeruginosus*, *Egretta alba*, *Egretta garzetta*, *Grus grus*, *Haliaeetus albicilla*, *Himantopus himantopus*, *Ixobrychus minutus*, *Lanius minor*, *Larus minutus*, *Larus melanocephalus*, *Luscinia svecica*, *Nycticorax nycticorax*, *Pandion haliaetus*, *Phalacrocorax pygmeus*, *Philomachus pugnax*, *Platalea leucorodia*, *Porzana parva*, *Porzana porzana*, *Recurvirostra avosetta*, *Sterna hirundo*, *Tringa glareola*.

**Others:**

*Acrocephalus arundinaceus*, *Acrocephalus schoenobaenus*, *Acrocephalus scirpaceus*, *Actitis hypoleucos*, *Anas acuta*, *Anas clypeata*, *Anas crecca*, *Anas penelope*, *Anas querquedula*, *Anser albifrons*, *Anser anser*, *Anser fabalis*, *Anthus pratensis*, *Anthus spinoletta*, *Ardea cinerea*, *Arenaria interpres*, *Aythya ferina*, *Aythya fuligula*, *Calidris alba*, *Calidris alpina*, *Calidris ferruginea*, *Calidris minuta*, *Calidris temminckii*, *Charadrius dubius*, *Charadrius hiaticula*, *Chlidonias leucopterus*, *Cygnus olor*, *Fulica atra*, *Gallinago gallinago*, *Gallinula chloropus*, *Larus cachinnans*, *Larus canus*, *Larus fuscus*, *Larus ridibundus*, *Limicola falcinellus*, *Limosa limosa*, *Locustella*

*fluviatilis*, *Locustella luscinioides*, *Motacilla flava*, *Numenius arquata*, *Numenius phaeopus*, *Phalacrocorax carbo*, *Pluvialis squatarola*, *Podiceps cristatus*, *Podiceps grisegena*, *Podiceps nigricollis*, *Rallus aquaticus*, *Remiz pendulinus*, *Tachybaptus ruficollis*, *Tringa erythropus*, *Tringa nebularia*, *Tringa ochropus*, *Tringa stagnatilis*, *Tringa totanus*, *Vanellus vanellus*.

---

**23. Social and cultural values:**

**a)** Describe if the site has any general social and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values:

No traditional fisheries, forestry production, religious importance, archaeological sites corresponding with the wetlands. Social relations with existing wetlands can be understood by traditional Hungarian extensive farmland lifestyle especially regard to domestic semi-nomadic animals grazing.

**b)** Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning? No

If Yes, tick the box  and describe this importance under one or more of the following categories:

- i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:
- ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

---

**24. Land tenure/ownership:**

a) within the Ramsar site:

National park owned	61 %
Other state owned	19 %
Privat owned	18 %
Local government owned	2 %

b) in the surrounding area: basically private owners

---

**25. Current land (including water) use:**

a) within the Ramsar site:

The extensive grassland, fishpond, reedbed cutting and agricultural using are involved.

b) in the surroundings/catchment:

primarily intensive agricultural land use

---

**26. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:**

a) within the Ramsar site:

Groundwater decrease, water regulation, extensive agricultural pollution and disturbing factors, drying out, low grazing pressure, alien species invasion (e.g. *Eleagnus angustifolia*), waterfowl hunting, increasing of mammalian (fox) and avian (crows) predators, burning.

b) in the surrounding area:

Increase of gravel exploitation, groundwater decreasing, water regulation, intensive agricultural pollution and disturbing factors, artificial forest planting, drying out, eutrophication, alien species invasion (e.g. *Eleagnus angustifolia*), waterfowl hunting, increasing of natural mammalian (fox) and avian (crows) predators, burning.

---

**27. Conservation measures taken:**

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

In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.

83 % of the site belongs to Kiskunsági National Park, the core zones are strictly protected area within the national park territory. The whole site is Natura 2000 Special Protection Area for Birds (SPA), furthermore 90 % part of the site is proposed Site of Community Importance (pSCI) with regard to Pannonic salt steppes and marshes within the site. The national park site comprises the Kiskunság UNESCO Biosphere Reserve.

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate):

Ia ; Ib ; II ; III ; IV ; V ; VI

c) Does an officially approved management plan exist; and is it being implemented?: The management plan is applied for the part that belongs to the Kiskunság NP (83 % of the site belongs to Kiskunsági National Park)

d) Describe any other current management practices:

Extensive wetland restorations programmes were also carried out on 2000 ha of the site. The site and surrounding area are declared as an environmentally sensitive area, which means a zonal compensation scheme for farmers.

---

**28. Conservation measures proposed but not yet implemented:**

e.g. management plan in preparation; official proposal as a legally protected area, etc.

Natura 2000 management plan.

---

**29. Current scientific research and facilities:**

e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

General Hungarian biodiversity and bird monitoring program is run on the site.

---

**30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:**

e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

There are 5 observation towers and one nature trail on the site. General information booklets are also available.

---

### 31. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

Some ecotourism, especially amateur birdwatchers visit the area.

---

### 32. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

The Közép-Duna-völgyi Authority for Environmental Protection, Nature Conservation and Water Management is the first instant authority of the Ministry for Environment and Water.

---

### 33. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Directorate of Kiskunság National Park

H - 6000 Kecskemét, Liszt F. 19

Phone: 36/ 76-482-611

Fax: 36/ 76-481-074

vajdaz@knp.hu

---

### 34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

Boros, E. – Pigniczki, CS. (2001): Feltöltődött szikes tavak rekonstrukciója és a szikes mocsári vegetáció kezelése a kiskunsági szikes tavaknál. With English summary: Habitat reconstruction of charged sodic lakes and the maintain of the sodic marshland vegetation at the Kiskunsagian sodic lakes. *Tűzok* 6(1), 2001. p8-14.

Boros, E. (2002): Partimadarak (Charadrii) potenciális táplálékkínálata és az élőhelykezelés összefüggései kiskunsági szikes gyepterületeken. With English summary: Investigations on the relation between potential food resource of shorebird (Charadrii) and habitat management practices on sodic grassland habitats in the Kiskunság. *Aquila*, 107-108, p. 15-35.

Boros, E. (2003): Vízimadár populációváltozások és környezeti okai a Kiskunsági Nemzeti Park szikes tavain és mocsarain. With English summary: Waterbird population changes and their environmental reasons on sodic lakes of the Kiskunság National Park. *Természetvédelmi Közlemények* 10. pp. 289-312, 2003

Faragó, S. (1995): Geese in Hungary 1986-1991. IWRB Publication 36, 1995.

Faragó, S. (1996): A magyar vadlúd adatbázis 1984-1995: egy tartamos monitoring – Data base of gees in Hungary 1984-1995: A long-term monitoring. *Magyar Vízivad Közlemények – Hungarian Waterfowl Publications* No. 2. p3-222.

Mahunka, S. [eds.] 1986: The fauna of the Kiskunság National Park, Vol I. Akadémia Kiadó, Budapest 1986.

Mahunka, S. [eds.] 1987: The fauna of the Kiskunság National Park, Vol II. Akadémia Kiadó, Budapest 1987.

Szabó, S. 1993: The effect of becoming waterless and experiments of livingplace reconstruction on Mollusca living in the soid laces of Upper Kiskunság. *Malacological Newsletters*. 12. 47-57p.

Szabó, S. 1990: The survival, resettle and Return of the protected snails living in the National Parks of Hungary, - Abstr. 2<sup>nd</sup> Int. Congr. on Medical and Applied Malacology (Seul, Korea 1990

Szabó, S. (2003): Két évtized a Felső-Kiskunság szikes vizeiben élő Molluscák kutatásában. With English summary: Aquatic Mollusca of the sodic waters in the Upper Kiskunság. *Természetvédelmi Közlemények* 10. pp.273-288, 2003

Szujkó-Lacza, J. & Kováts, D. (eds.) 1993: The Flora of the Kiskunság National Park. In the Danube-Tisza Mid-Region of Hungary. Vol. I. Magyar Természettudományi Múzeum, Budapest 1993. 469pp.

---

Please return to: Ramsar Convention Secretariat, Rue Mauverney 28, CH-1196 Gland, Switzerland

Telephone: +41 22 999 0170 • Fax: +41 22 999 0169 • e-mail: ramsar@ramsar.org