

## i. taxonomic lists of plant and animal species occurring in the site

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**Criterion 5:** The following information has been compiled from a recently published book on the birds of Hortobágy (Ecsedi Z. (szerk.): A Hortobágy madárvilága. Hortobágy Természetvédelmi Egyesület, Balmazújváros, 2004. 588 p.). Data refer to the whole of Hortobágy, which includes wetlands outside the Ramsar site, but the most important staging sites, notably Hortobágy-Halastó, Lake Tisza, Zám, Egyek-Pusztakócs, Angyalháza, Szelencés, Pentezug and Kunkápolnás are within the Ramsar site.

**Overall average waterbird number:** 200000

**Start year:** 2013

**End year:** 2014

**Source of data:** Hortobágy National Park Database (unpublished monitoring data collected by rangers and volunteers)

### **White-fronted Goose** (*Anser albifrons*):

Peak numbers in the last ten years covered by the book:

1994: 100000; 1995: 80000; 1996: 20000; 1997: 200000; 1998: 8000; 1999: 33000; 2000: 160000; 2001: 40000; 2002: 100000; 2003: 21500

Peak numbers in the last couple of years: 2013: 92000, 2014: 96000. The most important roosting site for this species is still Hortobágy-Halastó.

### **Greylag Goose** (*Anser anser*):

Staging in abundance from late summer until November, and on spring migration within Hortobágy 14000-16000 individuals, sometimes up to 19000-21000, meeting also the 1 % under Criterion 5. Hortobágy 2013: 17 000 individuals, 2014: 21000 individuals

### **Teal** (*Anas crecca*):

In autumn, the main staging site within Hortobágy is Hortobágy-Halastó. Peak numbers often reach 5000-7000 individuals there.

### **Common Crane** (*Grus grus*):

Peak numbers in the last ten years covered by the book:

1994: 42000; 1995: 50900; 1996: 38 296; 1997: 42 496; 1998: 64 850; 1999: 54 525; 2000: 64100; 2001: 61 781; 2002: 69 955; 2003: 82000

Peak numbers in the last couple of years 2013: 62000 ; 2014: 75000.

The most important roost is still Hortobágy-Halastó, where annual peaks are around 40000–50000, other overnight places are in marshes of Pentezug, Egyek-Pusztakócs.

### **Ruff** (*Philomachus pugnax*):

Simultaneous counts (estimates) provide annual peaks ranging from 50000 – 200000 in the whole of Hortobágy. The most important staging sites include Hortobágy-Halastó, Zám, Angyalháza, Kunkápolnás and Egyek-Pusztakócs, with flocks of 1000-10000 on each.

### **Black-tailed Godwit** (*Limosa limosa*):

In wet years, spring peaks reach 70000 – 100000, while in dry years spring peaks are around 15000 – 20000 for the whole of Hortobágy. Hortobágy is also an important summer staging site, with peaks up to 10000 – 15000. On autumn passage, 5000 – 15000 birds pass through. Notable

counts in Hortobágy-Halastó: 28 March 1981: 40000; 9 April 1986: 25000; 28 March 1988: 53500; 30 March 1991: 20000; 28 March 1992: 22000

**Black-headed Gull** (*Larus ridibundus*):

Spring peaks are estimated at 20000–35000, while autumn peaks range from 35000-40000 in the whole of Hortobágy. There are some other notable sites for the species in Hortobágy region, but these are not part of the Hortobágy Ramsar site.

**Criterion 6:** The peak numbers of waterbirds as described under Criterion 5 reach 1% of European population in the following cases. Data for European population are taken from BirdLife International (2004): Birds in Europe: population estimates, trends and conservation status. Cambridge, UK: BirdLife International, while data for Hortobágy population are taken from the same source as under Criterion 5.

**Great White Egret** (*Egretta alba*):

European breeding population: 38800 – 54300 pairs. Hortobágy-Halastó+Kunkápolnási+Tiszató. The number of breeding birds is established at 700-900 pairs, in the last two years. There are some other notable sites for the species in Hortobágy region, but these are not part of the Hortobágy Ramsar site.

**Average population size:** 800 pairs (1600 individuals)

**Period of pop estimate:** 2013-2014

**% occurrence:** 1.6%

**Spoonbill** (*Platalea leucorodia*):

European breeding population: 11600 – 11700 pairs.

Hortobágy-halastó+Kunkápolnási mocsár+Egyek-Pusztakócs: 1993: 230-290 (1.5-3.2%), 1994: 250-280 (1.7-3.1%), 1996:230-250 (1.5-2.8%), 1997: 200-220 (1.3-2.5%), 1998:170 (1.1-1.9%), 1999: 420 (2.8-4.7%), 2000: 400-420 (2.7-4.7%), 2000: 390-400 (2.6-4.5%), 2002: 220 (1.5-2.5%), 2003: 120 (0.8-1.3 %), 2006: 200\* (1.3-2.2%), 2013: 370 (3,1 %), 2014: 420 (3,5%), 2015: 440-450.

\*Data from: Yearly report of the nature conservation ranger service of the HNPD, 2006.

**Average population size:** 420 pairs (840 individuals)

**Period of pop estimate:** 2013-2014

**% occurrence:** 7%

**White-fronted Goose** (*Anser albifrons*):

European wintering population over 1100000 individuals.

Hortobágy: 1994: 100000 (9%); 1995: 80000 (7%); 1996: 20000 (1.8%); 1997: 200000 (18%); 1998: 8000 (0.7%); 1999: 33000 (3%); 2000: 160000 (14.5%); 2001: 40000 (3.6%); 2002: 100000 (9%); 2003: 21500 (2%), 2013: 92000 (7,6%), 2014: 96000 (8%).

**Average population size:** 94000 individuals;

**Period of pop estimate:** 2013-2014;

**% occurrence:** 7.8%

**Lesser White-fronted Goose** (*Anser erythropus*):

European wintering population: 1900 individuals.

Annual peaks in the whole of Hortobágy: 1990: 131 (6.9%), 1991: 153 (8%), 1992: 160 (8.4%), 1993: 78 (4.1%), 1994: 65 (3.4%), 1995: 55 (2.9%), 1996: 110 (5.8%), 1997: 110 (5.8%), 1998: 45 (2.4%), 1999: 54 (2.8%), 2000: 30 (1.6%), 2001: 42 (2.2%), 2002: 54 (2.8%), 2003: 42

(2.2%). There are two types of Lesser White-fronted Goose population in Hortobágy Ramsar site: the Fennoscandinavian and Russian. The European population is 60-80 pair. Annual peaks in the of Hortobágy of Fennoscandinavian birds: 2013: 36 individual (22,5%), 2014: 76 individual (47,5%).

**Average population size:** 56 individuals

**Period of pop estimate:** 2013-2014

**% occurrence:** 35%

**Common Crane (*Grus grus*):**

European breeding population 110000 pairs (in autumn, approximately 385000 individuals, counting with 2 adults and 1.5 individuals per family – estimate by Ramsar Focal Point of Hungary). As the European population has largely increased recently, percentages can only be given correctly for the last two years; Hortobágy: 2013: 62000 (25,8%); 2014: 75000 (31,2%) The 30000–40000 Common Cranes, annually using Hortobágy-Halastó for roosting in autumn, represent 8-10% of the European population. There are some other notable roosting sites for the species in Hortobágy region, but these are not part of the Hortobágy Ramsar site.

**Average population size:** 68500 individuals

**Period of pop estimate:** 2013-2014

**% occurrence:** 28.5%

**Ruff (*Philomachus pugnax*):**

Annual (spring) peaks in the whole of Hortobágy (50000–200000 individuals) represent 12-25% of European breeding population (200000–510000 pairs).

**Average population size:** 125000 individuals

**Period of pop estimate:**

**% occurrence:** 10 %

**Black-headed Gull (*Larus ridibundus*):**

Annual (spring) peaks in the whole of Hortobágy (35000–40000 individuals) represent 2,2% of European breeding population (770000–1800000 pairs).

**Average population size:** 37500 individuals

**Period of pop estimate:** 2013-2014

**% occurrence:** 2.2%

**Whiskered Tern (*Chlidonias hybrida*):**

European breeding population: 98000 – 108000 pairs.

Breeding population on Hortobágy (strongholds in Halastó, Kunkápolnás) in average years is 500-600 pairs (0.6-1.4%). Records in wet years: 1999: 830-865 (1-2%) pairs, 2006\*: 3112 pairs totalling in Hortobágy region (3.6-7.4%), from which 1700 pairs (2-4%) on the Ramsar Site.

Its population highly depends on the water supply of the habitat. Breeding population on Hortobágy in average years is 500-1000 pairs (0.51-1.02%). 2013 was wet year: 2800-3000 (2,8-%) pairs. 2014: 750-1000 (2.8%) pairs.

\*Data from: Kovács, G. (2006): Effects of the 2006 flood prevention inundation measures on the birdlife of the southern and western parts of Hortobágy. Aquila 113, p. 21-38.

**Pop. Size:** usually 750-1000 pairs (1750 individuals)

**Period of pop estimate:** 2013-2014

**% occurrence:** 1.8%

**Red-breasted Goose** (*Branta ruficollis*)

In year 2014 the Red-breasted Goose population reached the number 895 individuals in Hortobágy Ramsar Sites. World population of the species: 44000 individuals. 2014: 895 birds (2%). We hope that the number of the individuals will be increasing in the future.

**Average population size:** 895

**Period of pop estimate:** 2014

**% occurrence:** 2%

**White-winged Tern** (*Chlidonias leucopterus*):

European breeding population: 74000 – 210000 pairs.

Fluctuating population, depending on habitat conditions. In especially wet years the population meets the criteria: 1999: 1125-1270 (0.6-1.6%), 2000: 2080 (1-2.8%), 2006\*: 3700 pairs (1.8-5%). Its population highly depends on the water supply of the habitat. In especially wet years the population meets the criteria: 2013: 1300 breeding pair (1,7%). There were not any breeding pair in 2014 in Hortobágy Ramsar region.

\*Data from: Kovács, G. (2006): Effects of the 2006 flood prevention inundation measures on the birdlife of the southern and western parts of Hortobágy. *Aquila* 113, p. 21-38.

**Average population size:** 1300 pairs (2600 individuals)

**Period of pop estimate:** 2013

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**Noteworthy fauna:**
**Insects:**

Endemic subspecies of moths: *Saragossa porosa kenderesiensis* and *Hadula dianthi hungarica* are food plant specialists living on halophytic plant species, *Artemisia santonicum* and *Gypsophila muralis*, respectively. The former plant is also a food plant of another endemic moth subspecies, *Narraga tessularia kasyi*.

Fairly recently, a beetle species new to science was discovered on the alkaline grasslands of the Hortobágy: *Poecilus kekesiensis*.

302 bird species have been recorded in the Hortobágy Ramsar site, which is remarkably high compared to the 394 bird species registered in Hungary.

Most important nesting species (additional to the internationally protected species listed under point 14): Little Grebe (*Tachybaptus ruficollis*) 150-200 pairs, Black-necked Grebe (*Podiceps nigricollis*) 0-200 pairs, Red-necked Grebe (*Podiceps grisegena*) 10-70 pairs, Great Crested Grebe (*Podiceps cristatus*) 30-170 pairs, mixed heron colony with all the Hungarian breeding species (with Grey Heron (*Ardea cinerea*) and others listed under point 14), In the reedbeds, 250-300 pairs of Greylag Goose (*Anser anser*), 200 pairs of Bearded Tit (*Panurus biarmicus*) and 100-150 pairs of Penduline Tit (*Remiz pendulinus*), 300-400 pairs of Savi' Warbler (*Locustella luscinioides*) breed, while Grasshopper Warbler (*Locustella naevia*) expands (50 pairs in the Ramsar site) in wet meadows. In some years 0-5 pairs of Pintail (*Anas acuta*) breed on wet meadows, but numbers are small even on passage. Montagu's Harrier (*Circus pygargus*) breeds in the area since the 80ies, recently 5-15 pairs. Red-footed Falcon (*Falco vespertinus*), Kestrel (*Falco tinnunculus*), occasionally Hobby (*Falco subbuteo*) also breed. Water Rail (*Rallus aquaticus*) is a fairly common breeder in reedbeds and marshes (300 pairs min.), possibly Baillon's Crake (*Porsana pusilla*) also breeds in tussocky wet meadows, but both are difficult to survey due to their secretive habits. In the puszta (steppe) areas, usually 25-30 Great Bustard (*Otis tarda*) are present and nest. White-winged Black Tern (*Chlidonias leucopterus*) breeds in fluctuating numbers, in wet years, the population of the Ramsar site can reach 300 pairs, while in dry years 20-25 pairs nests. Common Snipe (*Gallinago gallinago*), and Common Redshank (*Tringa totanus*) (20-50 pairs), Lapwing (*Vanellus vanellus*) (100-200 pairs)

are valued members of marshland bird communities. Other nesting species: Quail (*Coturnix coturnix*), Sand Martin (*Riparia riparia*), Common Tern (*Sterna hirundo*), Black Kite (*Milvus migrans*).

The Hortobágy Ramsar site is also an important stopover for migrant birds, especially waterbirds (additional to the species listed under point 14, Criterion 5 and 6): after the breeding period, several thousand Greylag Geese (*Anser anser*) roam the wetlands in the migration period, Ducks occur in huge masses in spring: around 40-50 000 Mallards (*Anas platyrhynchos*), 3000-4000 Garganey (*Anas querquedula*), 900-1000 Wigeon (*Anas penelope*), 700-1500 Shoveler (*Anas chapeata*). Raptors include in the marshy steppe areas in summer Long-legged Buzzard (*Buteo rufinus*), Short-toed Eagle (*Circaetus gallicus*), Saker (*Falco cherrug*). Remarkable numbers of Spotted Redshank (*Tringa erythropus*) (5000-7000 in autumn), Curlews (*Numenius arquata*) (4000-5000 in autumn), Common Redshank (*Tringa totanus*) (1500-2000 in spring) are present in the whole of the Hortobágy, but their proportion staying within the Ramsar site is not predictable, depending on water conditions in the surrounding fishponds, etc., so they are not listed under Criterion 6 in point 14. Curlews also oversummer by the hundred, but do not breed in the Hortobágy.

Important mammals include 4-5 families of Beaver (*Castor fiber*) at Lake Tisza (Kisköre Reservoir).

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