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# Mute Swan Cygnus olor in Slovenia

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## Zusammenfassung

Es wird ein Überblick über den Status des Höckerschwans in Slowenien gegeben. Die erste Freibrut fand 1982 im Norden statt. Zur Zeit beträgt der Brutbestand ca. 50 Paare, davon die Hälfte entlang der Drau. Zwischen 400 und 700 Vögel überwintern in Slowenien, die Mehrzahl im nordöstlichen Landesteil.

#### Introduction

Mute Swan Cygnus olor is a common breeding species in north-western Europe, whereas during winter Mute Swans may migrate south to Central and southern Europe (e.g. Beaman & Madge 1998, Wieloch et al. 1998). In the last thirty years the breeding population of Mute Swans increased and expanded to the south and east (e.g. Wieloch 1984, 1991). The wintering population in the East Mediterranean and in the Black Sea region also

increased and was recently estimated at about 45 000 individuals (DELANY et al. 1999).

In Slovenia *Cygnus olor* is a less studied species with only a few published papers (e.g. Bracko 1996, Hudoklin 1996). According to Wieloch (1991), Slovenian breeding swans belong to the so-called southeast European or west Ukrainian-Hungarian group.

# Breeding

According to the Atlas of Slovene breeding birds (GEISTER 1995), the Mute Swan is distributed mainly in north-eastern Slovenia along the river Drava. The breeding population was estimated in 1995 at 30-50 pairs, the recent one at 50 breeding pairs (pers. obs.). One of the most important reasons for the increase of the breeding population in Slovenia were new reservoirs on rivers and gravel pits along rivers, feeding of the birds by people and eutrophication of water (higher productivity).

The first confirmed breeding of *Cygnus* 

olor in the wild comes from the Dravograd reservoir along the river Drava, near the border with Austria, from 1982 (VREŠ & VRHOVNIK 1984). From this year on breeding occurred regularly in the north-east and the population increased to about 22 pairs (BRACKO 1996). Before this confirmed breeding only nesting of so-called park swans was known. Today most birds breed on reservoirs along Drava river, the rest nests also on gravel-pits and on fishponds situated along rivers Drava and Mura.

Very probably many birds breeding in

Slovenia are descendants of naturalised birds and, to a minor degree, birds from north-eastern countries. The first swans were released in 1902 at the Lake Bled (north-western Slovenia) (JAN & SLIVNIK 1996) and at river Krka near Otocec (southeastern Slovenia) around 1970 (HUDOKLIN 1996).

## Winter

Wintering data mainly come form surveys which were carried out in mid January as part of the International Waterbird Census. General surveys were presented by ŠTUMBERGER (1997, 1998, 1999) and GEISTER (1997).

Winter distribution of Mute Swan is very similar to summer distribution (SOVINC 1994). Mute Swans were found almost exclusively on big rivers, except during autumn and spring migration when swans were recorded also on various standing waters. Peak numbers of Mute Swans occurred between December and January. In February followed a slow reduction (according to author's estimation by 10 %) and in March a strong reduction.

In the last years wintering Mute Swans in Slovenia numbered between 400 and 700 (Table 1). The maximum total winter count in Slovenia reached 725 birds in January 1999. The majority of birds were recorded in the north-east, first of all on river Drava and their reservoirs, where more than half of the Slovenian wintering population was recorded (Table 1).

Table 1: Numbers of wintering Mute Swan Cygnus olor in Slovenia. Data from national mid-winter waterfowl counts. – Zahlen überwinternder Höckerschwäne in Slowenien.

Year	River Drava	Whole country
1996	110	206
1997	202	397
1998	<b>24</b> 5	389
1999	408	725

About 15 years ago, wintering on river Drava was only about 10-30 % of todays numbers (pers. obs.). Numbers of wintering Mute Swan on river Drava increased also in the last years as elsewhere in Europe (Delany et al. 1999). During mid-winter the proportion of young in north-eastern Slovenia was about 20-40 % (pers. obs.). On the Krka river Hudoklin (1996) found that the proportion of young throughout the year was between 3 (winter) and 29 % (spring).

Numbers of wintering swans on river Drava in last years are close to 1 % thresholds for East Mediterranean / Black Sea (450 birds) where Slovenia belongs to, becoming an area of international importance for wintering Mute Swans (DELANY et al. 1999).

First data about wintering on the coast come from 1993 (ŠKORNIK 1996) where 8 birds were present. However, from 1997 Mute Swans were not present during midwinter counts.

Birds tend to be gregarious in winter. The largest flocks with up to 200 birds were found on the reservoir Ptuj (pers. obs.). Here they benefit from food provisioned by the public.

Observed ringed swans indicate that Mute Swans which winter in Slovenia are those which breed in Slovenia as well as birds from north-eastern Europe (e.g. Austria, Slovakia, Hungary, Poland) (ŠERE 1996, pers. obs.). From observations of ringed swans in larger flocks during winter I estimate that about 5-10 % of swans

were ringed in foreign countries (see above).

According to some ringed birds wintering in the same area for many years, it seems that Mute Swans have strong winter site fidelity. For example an adult male which was ringed in 1993 in Austria (AA 1058) was observed on Vrbje pond in Lower Savinja valley each year from 1994-1999 (VOGRIN 1996, pers. obs.). Moreover, every

year with him was also a mate and young.

"Polish Swan" Cygnus olor "immutabilis" a domesticated form also occurs in Slovenia. According to Wieloch & Czapulak (1991) this form in Europe occurs in rates from 2-100 %. The rate of this form among breeding swans is not known, while during winter in the last years about 20-30 % of adult birds belong to the immutabilis form (pers. obs.).

#### **Threat**

Relatively few Mute Swans were found dead (see also Geister 1997). Most of these birds die as a direct result of vandalism, shooting and predation. The Mute Swan is protected by law but a few are still shot by vandals. Vandalism of nests or young also occurs (e.g. Vreš & Vrhovnik 1984, Brakko 1996, Jan & Slivnik 1996, pers. obs.). The species has a few natural predators in Slovenia. Only domestic dog and fox *Vulpes vulpes* are capable of taking an adult

swan, though this is thought to be rare (JAN & SLIVNIK 1996, pers. obs.). Moreover, we must take into account also lead poisoning which is mostly neglected. Ingested lead affects the neuromuscular system of the swans (and other waterfowl) and inhibits the normal functioning of the gizzard. In some areas lead poisoning was responsible for more then 50 % of deaths of swans (KIRBY et al 1994).

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#### Abstract

An overview of the status of the Mute Swan *Cygnus olor* in Slovenia is presented. First breeding in the wild took place in 1982 in the northern part of the country. Today about 50

breeding pairs are present in the country, about half of them along river Drava. During the winter between 400 and 700 birds stay in Slovenia, mainly in the north-eastern part.

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