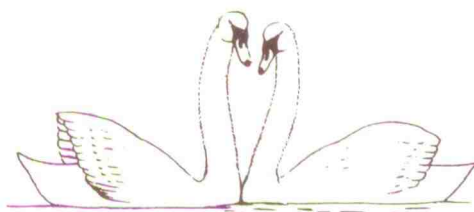


Recent status of Mute Swans *Cygnus olor* in the Ukraine, USSR.



A.I. KORZYUKOV, A.I. KOSHELEV and
V.V. SEREBRYAKOV

The recent status of Mute Swans in the Ukraine was surveyed by questionnaires, airplane counts, ground census and counts from boats, covering the area of inland water bodies. The data have been summarised and compared with information from other studies in various regions of the republic. Some preliminary results have been published elsewhere (Serebryakov 1984, Korzyukov 1987, Koshelev et al. 1987, Lisenko 1987).

Recent History

The history of Mute Swans, *Cygnus olor*, in the Ukraine has largely been determined by human factors. Relatively little is known about the population prior to the nineteenth century although in European Russia numbers dropped during the eighteenth century (Kirikov 1959). In the second half of the nineteenth century small numbers of Mute Swans still nested in the lowland valleys of the Severskiy Donets and Mzha rivers, as well as in eight sites within the catchment area of the Southern Bug river and in reedbeds bordering the Nizhney Dnieper river. Regular nesting occurred on the lakes on both banks of the Dnieper river as well as in the deltas of the Danube, Dnieper and Dniester rivers. Over most of the Ukraine Mute Swans nested as individual pairs or in small groups. In the early twentieth century Mute Swan numbers declined throughout the Ukraine. Major nesting concentrations (of up to several hundred pairs) remained in the deltas of the Danube and Dniester rivers. Only some 2-4 pairs still nested in the lower course of the Dnieper river (Klimenko 1923). In the Crimea (in the Sivash and Karkinitzki bays) only summering flocks regularly occurred. Mute Swans remained widely dispersed throughout the rest of the Ukraine. The decline throughout Western Europe continued up to the 1950s until a ban on hunting swans was adopted and Mute Swan nesting grounds were specially protected. Since then Mute Swan numbers have started to increase (Korzyukov 1972, Nazarenko & Nikolaevski 1975). The conservation of Mute Swans and their nesting grounds, favourable local attitudes and eutrophication of several water

bodies as a result of enrichment by fertilizers have all greatly contributed to the increase in numbers. Mute Swans have rapidly re-established their former range and have quickly inhabited new sites including numerous ponds and small river hollows near human settlements. Their large clutch size (on average between 5 and 9 but up to 12), high hatching success, parental care of offspring up to the next spring, long life-span (up to 19-20 years) and relatively early sexual maturity distinguish Mute Swans among other swan species.

Current status

Dispersal of Mute Swans is continuing. In 1987 a total of 812-899 nesting pairs and 9,347 single birds were recorded with 2,800 over-wintering in the Ukraine. Mute Swans have been recorded on migration in 23 out of 25 regions of the Ukraine, have nested in 18 regions, over-wintered in 17 and been recorded as summer vagrants in 7 regions.

Two separate geographical populations currently exist: the southern (Azov-Black sea) population in the area adjacent to the Black sea, numbering more than 50,000 birds; and the Baltic population in the western Ukraine with around 94-100 nesting pairs (Fig.1).

Breeding distribution

The major nesting centres are located in the delta areas of the Danube river. Breeding conditions were very favourable in 1986 and even

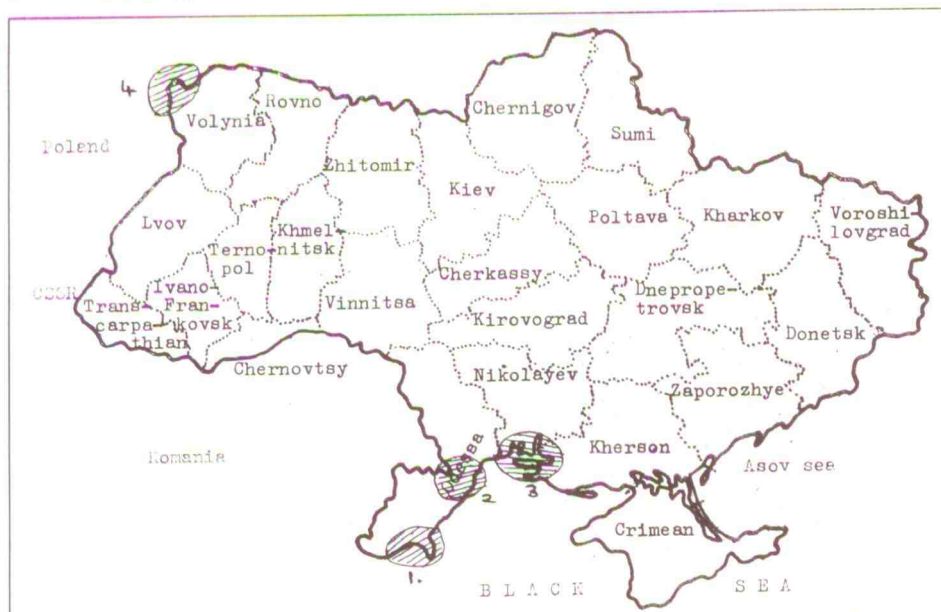


Fig. 1. Main breeding sites of Mute Swans in Ukraine. 1. Danube delta, 2. Dniester delta, 3. Dnieper delta, 4. Shatski Lakes.

Table 1. Distribution of Mute Swans nesting in the Danube delta in July 1986.

Area	Number of pairs
Kiliyskaya delta	110
Stentsovskie plavni	100
Kugurluy Lake	100
Katlabukh Lake	20
Lake Yalpug	60
Lake Kartal	8
Sasyk Lake (upper part)	5
Other waterbodies adjacent to R. Danube	20
TOTAL	400-413

young birds nested. Aerial counts for 17 July 1986 recorded a total of 400-413 pairs breeding (Table 1).

After the severe winter of 1986-87 there was a decline in the number of nesting Mute Swans but this was not as significant as the effect of the 1984-85 winter. This may be due to an increase within the local populations of birds with strong migrating habits which would have left for southern wintering grounds well in advance of the cold weather. Total numbers of Mute Swans wintering in 1987 reached 320-350 pairs.

Non-breeders

During spring, immature and un-paired Mute

Swans inhabit large water bodies bordering the Danube river in groups of 5-15 birds. By late May they have formed major flocks of 50-150 birds and total around 100 birds. In June about 1,000 birds move to the large shallow waters in the southern area of the Kiliyskaya delta on the territory of 'Kurilskie Islands'. This site has been a moulting ground for Mute Swans for more than 20 years according to local inhabitants. In August the population of non-breeders numbers 2,000-3,000 birds (the maximum recorded was 3,000 on 11 August 1983). After the very severe winter of 1986-87 only 100 moulting swans were observed in July and 400 in August 1987. Accurate counts are difficult to obtain since the birds tend to fly to the open sea or the USSR state boundaries in the event of any threat of danger.

Dniester population

The other major population centre, the lower reaches of the Dniester river, has also faced a catastrophic situation. The drought of 1986-87 led to the almost entire dessication of areas of tall reed swamp. The numbers of nesting pairs decreased from 120-150 pairs to 12-7 pairs accordingly. The drying up of fish breeding ponds in the lower reaches of the Dniester river also forced the swans to change sites. Some

Mute Swans probably moved to the Danube delta and the rest to the reed-swamp areas of the Tiligul river. 150 pairs were observed here by helicopter in 1986 and 120 pairs in 1987, a large increase compared with the 5-10 pairs recorded in previous years. In total about 500 pairs nested in the whole of the Odessa region. Single pairs were recorded 100-250 km inland from the sea, on ponds and in the lower reaches of smaller rivers in Kotovski, Baltski, Savranski, and Ananevski districts. In 1988, 240 pairs were recorded nesting in the lower reaches of rivers, and in April 1989, 184 nests were observed by aerial census.

In Nikolaevskaya region the breeding conditions are less favourable. In 1987, 85 pairs were recorded mostly in the lowlands of the Southern Bug, Kodyma, Ingul, and Chichikliya rivers, numbering 1-4 pairs in each site. In Kersonskaya region, Mute Swans currently nest on the lakes of Kinburnski peninsula, in reedswamps of the Dnieper river (where numbers fell sharply from 500 pairs in 1906-07 to 4-5 pairs in 1985-87) and 4-5 pairs nest in the adjacent bays of the Black Sea (T. Ardamskaya, pers. comm.) A total of 20 pairs nest in this district.

The distribution of Mute Swans nesting in the Zaporozhskaya region in 1986 is given in Table 2. In Donetskaya region one to two pairs nested on the Krivaya spit.

Table 2. Distribution of Mute Swans nesting in the Zaporozhskaya region of the Dniester river, in 1986.

Area	Number of pairs
Konka River (lower reaches)	1-3
Molochny liman	1
Berdianskaya spit	2
Yastrebovka	1
Total (including other sites)	15-20

In the Crimea Mute Swans were recorded nesting near the town of Saki in 1911-15, since the clutches and adults that had been shot were given to the local museum, but no subsequent nesting was recorded. Since the beginning of the construction and operation of the Northern-Crimea canal in the 1960s and the introduction of irrigated rice, the desalination process of the Sivash waters has led to the growth of reed thickets. Mute Swans have started summering on the Sivash since 1983, and in 1985 a total of 5-7 pairs were recorded on nests with clutches and broods, for the first time. In 1986 the severe winter caused mass mortality among the birds

and the swans did not nest at this site, but in 1987, 15-20 pairs were observed nesting there (Table 3); one pair within Simferopol town with 11 eggs in one clutch. A total of 30 pairs nested in the Crimea in 1987. The nesting capacity of this site appears to be quite high and an increase in numbers to 100-150 pairs is expected in the near future.

Table 3. Distribution of Mute Swans nesting in the Sivash region in 1987.

Area	Number of nests
<u>Western Sivash</u>	3
<u>Eastern Sivash:</u>	
Kalininskoye hunting management area	2
Soviet Bay	3
Dniestrovski discharge	2
Lake Aktashskoye	1
Total for Eastern Sivash	8

Non-breeders

Major concentrations of moulting non-breeding swans are currently forming on the Sivash. In 1980 there were 30-40 birds, in 1985 up to 400-500 and in 1987, a drop to 100 birds (two groups of 30-70 individuals).

Other regions

The available data from other regions are fragmentary or non-existent. In Poles'e on Lake Shatskie, Mute Swans have been known to nest since 1968. In 1983 on Svityaz lake and on the ponds of a fishery farm, 'Ladinka', six pairs were observed. In Vinitskaya region Mute Swans have been known to nest near the Fedykovo settlement since 1984 (Tulchinski district). In Cherkasskaya region one pair nested in 1986-87 on the fish breeding ponds near the Pastyrskoye settlement of the Smelyanski district (I.S. Mityai & H. Ignatenko, pers. comm.). One pair was recorded on the Dnieper river in the Zolotonozhski district.

In the lower reaches of the Oreli river in Dnepropetrovskaya and Kharovskaya regions, 40-60 pairs are nesting. Around 10-12 pairs have been nesting in the middle course of the Dnieper river and 12-15 pairs breed in the catchment area of the Severski Donets river. About 3-4 pairs have nested in the valleys of the Aidar and Derkul tributaries since 1985 (V.V. Vetrova, pers. comm.).

Conclusion

Mute Swan dispersal in the USSR is still progressing with some interruptions attributed to several severe winters. Presently Mute Swans mainly inhabit the coastal areas of the Azov and Sivash seas as well as the reservoirs on the Dnieper river and in the lowlands of smaller rivers. Fish breeding ponds and reservoirs have become occupied more gradually. The total increase in Mute Swan numbers in the USSR has led to the re-establishment of spatial links between the Azov-Black sea and the Caspian populations of this species, as well as the Kazakh one, as proved by the recent data on the occurrence of ringed birds. Range overlap of Azov-Black sea and Baltic populations in the western Ukraine is likely to have taken place and may result in further population exchange.

Mute Swan dispersal and population increase in the Ukraine should continue for several reasons. Swans are inhabiting new sites including small waterbodies such as ponds which are becoming more numerous. Numbers of Mute Swans have stabilized in the deltas of main rivers including, probably, the Dnieper river, as well as on the reservoirs, due to the support of regular conservation measures, the favourable attitudes of local people and the active promotion of nature conservation by the media. Along with this awareness, there appears to be a problem among hunters who perceive Mute Swans as harmful, somehow limiting the breeding and population increase of other game waterfowl, particularly on smaller waterbodies. Our own observations do not support this view but further specific investigations are required.

References

- Kirikov, S.V. 1959. *Changes of the animal world of life zones of the USSR (XIII - XIX centuries); Steppe zone and forest steppe*. Moscow (Acad. Sci USSR) pp. 175. (in Russian).
- Klimenko, M.I. 1950. Some information on avifauna of Chernomorski strict nature reserve. *Proc. Chernomorski strict nature reserve* 1: 71-84.
- Korzyukov, A.I. 1972. On mass migration and nesting of Mute Swans in north-west Black Sea area. *Ornithology* 22: 349-350.
- Korzyukov, A.I. 1987. Some features of Mute Swan biology and seasonal distribution in south west of Odessa region. In: *Swan Ecology and Migration in the USSR*. Nauka: Moscow. Pp. 44-46.
- Koshelev, A.I., Korzyukov, A.I. & Valyaev, M.E. 1987. Mute Swans in north west Black Sea. *Ornithology* 22: 51-67.
- Lisenko, V.I. 1987. Numbers, dynamics and some features of swan ecology in north of the Sea of Azov area. In: *Swan Ecology and Migration in the USSR*. Nauka: Moscow. Pp. 66-68.
- Nazarenko, L.F. & Nikolaevski, O.V. 1975. Mute Swan seasonal distribution on the Ukraine and conservation of this species' nesting and wintering grounds. *The materials of All-Union Conf. on bird migration, Moscow University* 2:244-245.

A.I. Korzyukov, Department of Biology, Odessa State University, Shampanskyy per 2, Su 270015, Odessa 15, USSR.

A.I. Koshelev, Teacher's Training Institute, Melitopol, USSR.

V.V. Serebryakov, Department of Biology, Kiev State University, Vladimiskaya 64, Kiev 252017, USSR.