

Current conservation status and problems of management for swan populations in the USSR.

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Four species of swan occur in the USSR: Bewick's Swans, *Cygnus bewickii*, Whooper Swans, *C. cygnus*, Mute Swans, *C. olor*, and Trumpeter Swans, *C. columbianus*. All four species are protected. They are included in the USSR Red Data Book and in the Red Data Books of the Soviet Republics (Table 1.).

Hunting is prohibited within the republics where the species is not included in the Red Data Book. Fines have been established for illegal hunting of swans. The size of fine for illegal hunting varies from 50 to 200 Roubles in different republics. It is three times higher within protected areas.

In addition the species are protected in strict nature reserves (Zapovedniks) and refuges (Zakazniks). They are protected on their breeding and wintering grounds and on fly-ways within 35 State Nature Reserves and nearly 150 republic and local refuges. Of these, 12 are wetlands of international importance (Fig.1.).

Recently swan populations have increased considerably, due partly to protection measures and to natural factors, including changes in climate, both within and between centuries. As a result there have been some previously unobserved effects. For example, hunters believe that sometimes swans, especially the aggres-

sive Mute Swan, are in competition with Anseriformes for nest sites. High bird population density, with increased defecation, can cause sanitary problems and contribute to eutrophication. Natural mortality among the swans in winter, particularly in very severe winters, becomes very high and is a source of concern to the public.

In this situation a general management strategy for the most abundant bird species (Mute and Whooper Swans) is urgently required. A similar situation occurs in countries in western Europe. For example, there has been artificial regulation of Mute Swan numbers in West Germany since 1984. In the USSR swans have been traditional game birds and were hunted commercially. At the same time they are a symbol of beauty and purity. Only since the 1930s has swan hunting been banned almost everywhere throughout the USSR.

In the USSR there is currently much debate within the media concerning the general public's views of swans. Even zoologists differ in their views. It should be remembered that swans are biological resources of international importance and the problem of their management should be considered at an international level.

Table 1. Details of inclusion of swans in Red Data Books (RDB).

Species	USSR RDB	RDB of Soviet Republics
Bewick's Swans	+	Russian Fed., Estonia, Latvia, Lithuania, Azerbaijan, Uzbekistan, Turkmenia.
Whooper Swans	-	Estonia, Latvia, Moldavia, Georgia, Armenia, Kirgizia, Kazakhstan
Mute Swans	-	Estonia, Bellorussia, Moldavia, Azerbaijan, Georgia, Armenia
Trumpeter Swans	-	Russian Federation

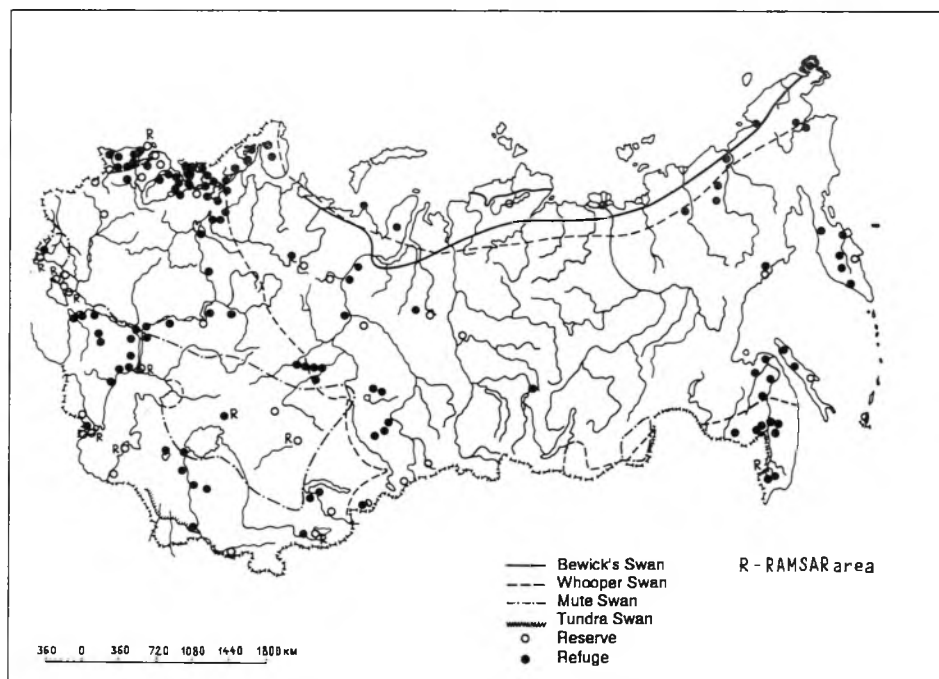


Figure 1. Map of breeding grounds, strict reserves and refuges where species of swan occur in the USSR.

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