

## LIMAN LAKE AS A WINTERING GROUND OF WATERFOWL IN THE NORTHEASTERN PART OF UKRAINE

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Liman Lake (area 9.15 km<sup>2</sup>) lies in Zmiiv district, Kharkiv region and is the residue of the ancient bed of Seversky Donets river on the third terrace of its valley. Since 1961 the lake is a cooling reservoir of Zmiiv State Regional Power Station, therefore its surface is free of ice in winter, that has allowed to form the large flocks of wintering of waterfowl.

Unfortunately, data concerning the initial stages of the process of wintering accumulation of waterfowl are not available.

Since January 1991 we are carrying out the absolute census of wintering waterfowl by foot along the shores, of several times in the season - from the end of October until the middle of March.

For the period of investigation 24 species of waterfowl were censused, of which Slavonian Grebe (*Podiceps auritus*), Scaup (*Aythya marila*), Long-tailed Duck (*Clangula hyemalis*) and Little Grebe (*Larus minutus*) can be considered as a late autumnal or early spring migrants. The number of remaining species varied within (minimal-maximal) limits:

Little Grebe	( <i>Tachybaptus ruficollis</i> )	3-10
Great Crested Grebe	( <i>Podiceps cristatus</i> )	3-20
Black-necked Grebe	( <i>Podiceps nigricollis</i> )	2-12
Bittern	( <i>Botaurus stellaris</i> )	1
Mute Swan	( <i>Cygnus olor</i> )	3-20
Whopper Swan	( <i>Cygnus cygnus</i> )	1-4
Mallard	( <i>Anas platyrhynchos</i> )	1950-3750 (average 2550)
Red-crested Grebe	( <i>Netta rufina</i> )	5
Pochard	( <i>Aythya ferina</i> )	1-10
Tufted Duck	( <i>Aythya fuligula</i> )	90-100

Velvet Scoter	( <i>Melanitta fusca</i> )	1
Goldeneye	( <i>Bucphala clangula</i> )	118-414 (average 194)
Smew	( <i>Mergus albellus</i> )	2-44
Red-breasted Merganser	( <i>Mergus serrator</i> )	3-10
Goosander	( <i>Mergus merganser</i> )	40-51 (average 47)
White-tailed Eagle	( <i>Haliaeetus albicilla</i> )	1-3
Moorhen	( <i>Gallina chloropus</i> )	2-16
Coot	( <i>Fulica atra</i> )	130-150
Black-headed Gull	( <i>Larus ridibundus</i> )	2-24
Common Gull	( <i>Larus camus</i> )	1-16

Fourteen species which were observed in each of four winter seasons form the "core" of wintering. Such species as Red-breasted Pochard (perhaps, the early spring migratory bird) and Velvet Scoter were observed only once (in 1992/93). For two seasons Black-necked Grebe (in 1991/92, 1993/94) and Smew (in 1992/93, 1993/94) were registered, and Whooper Swan was observed for three seasons except the season of 1990/91.

For four years the presence of Mute Swan's and Goldeneye's number increased. The number of Mallard and Goosander is left as relatively constant. The number of remaining species are subjected to year-to-year fluctuations.

The appearance of White-tailed Eagle as a wintering species in Liman Lake in the season of 1993/94 is of interest: until now it was observed as a migratory bird only.

The formation of wintering accumulations begins from middle of November and it is completed to the end of December with Goosander appearance, and its dispersal takes place in the first half of March.

The different waterfowl species are distributed on the lake's surface in different ways, being either restricted for the same site like the Coot, or to be distributed relatively uniformly on the whole area such as the Goldeneye, as an extreme case. The remaining species demonstrate the intermediate types of distribution: from those which have several permanent sites of concentration (Moorhen, Little Grebe, Mute Swan) to those which form the periodically moving accumulations (Goosander, Mallard) that can be connected with foraging peculiarities of these species and weather conditions.

The wintering ground of waterfowl in Liman Lake is the largest in region, and high level of birds species richness and abundance allows us to consider this place as Important Birds Area in the continental part of Ukraine, especially in winter period.