

The mapping of waterbird concentration areas has comprised both regular counts from the ground in selected inland and coastal wetlands, and aerial surveys over coastal and offshore waters. Ground counts were mainly conducted by amateur ornithologists, and in the period 1965-1973 more than five hundred participated and supplied nearly twenty thousand reports. Aerial surveys were made from single engined aircraft, partly hired by the Game Biology Station, partly assigned to the project by the Royal Danish Airforce and the Army Air Corps. In the period 1965-1973 950 hours were spent in the air. Ground counts and aerial surveys together resulted in the registration of fifty million Anatidae, twenty million gulls, and several million other waterbirds.

The results of the study concerning the size and distribution of Anatidae has been published by JOENSEN (1974 b), and the report gives background information for the future conservation and management of their populations in Denmark.

The bird-strike aspects have been described in maps used by all pilots in Denmark (Air Information Publication Maps and Official Low Level Charts), showing areas where waterbirds constitute a particular hazard to low flying aircraft. In these maps not only the numbers of birds but also the habits of the different species have been considered. Thus more attention has been paid to species regularly performing movements in the vicinity of their resting places (e.g. gulls, geese, dabbling ducks and waders) than to more stationary species (swans and some diving ducks). In AIP maps areas indicated as hazardous cover 2-5% of the total area of Denmark and surrounding waters, but hold between one-third and two-thirds of all waterbirds.

The studies during 1965-1973 have provided the following information on the size of waterbird populations in Denmark:

Ducks, geese, swans (Anatidae): For most species breeding populations are relatively small compared to other parts of Europe.- In summer min. 500.000 diving ducks, 40.000 mute swans (*C.olor*), many thousand dabbling ducks and geese moult in Denmark and the surrounding waters.- Peak numbers of visiting geese are found in autumn (up to 50.000) and spring.- Peak numbers of dabbling ducks occur in autumn, including up to 250.000 mallards (*A.platyrrhynchos*) and 200.000 other dabbling ducks.- Most species of diving ducks have peak populations in late autumn and winter, when total numbers are up to 1.500.000. The most numerous are eiders (*Somateria mollissima*) 750.000, tufted duck (*Aythya fuligula*) 200.000, common scoter (*Melanitta nigra*) 200.000, goldeneye (*Bucephala clangula*) 75.000, scaup (*Aythya marila*) 75.000, and velvet scoter (*Melanitta fusca*) 40.000.- Peak numbers of swans are found in winter (up to 75.000).- For three species of swan and three species of diving duck Danish waters regularly hold more than half of the total European mid-winter population, and for several other species the country regularly holds more than one-quarter or one-third.

Gulls and terns (Laridae): The number of gulls breeding in Denmark has been roughly estimated to 200.000 - 250.000 pairs, including 50.000 - 70.000 pairs of herring gull (*Larus argentatus*), the most mobile and to aviation the most hazardous species of gull. The total population of gulls in summer is roughly estimated to two million, and in autumn peak numbers probably exceed three million, of which the herring gull comprises one-third or half.- The breeding population of terns probably does not exceed 20.000 pairs, and outside the breeding season numbers are generally much smaller.