

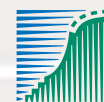
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Waterbirds around the world

A global overview of the conservation,
management and research of the
world's waterbird flyways

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Cover photography: Whooper Swans *Cygnus cygnus* arriving at Martin Mere, England. Photo: Paul Marshall.
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Fluctuations and trends in Swedish waterfowl populations during the last four decades

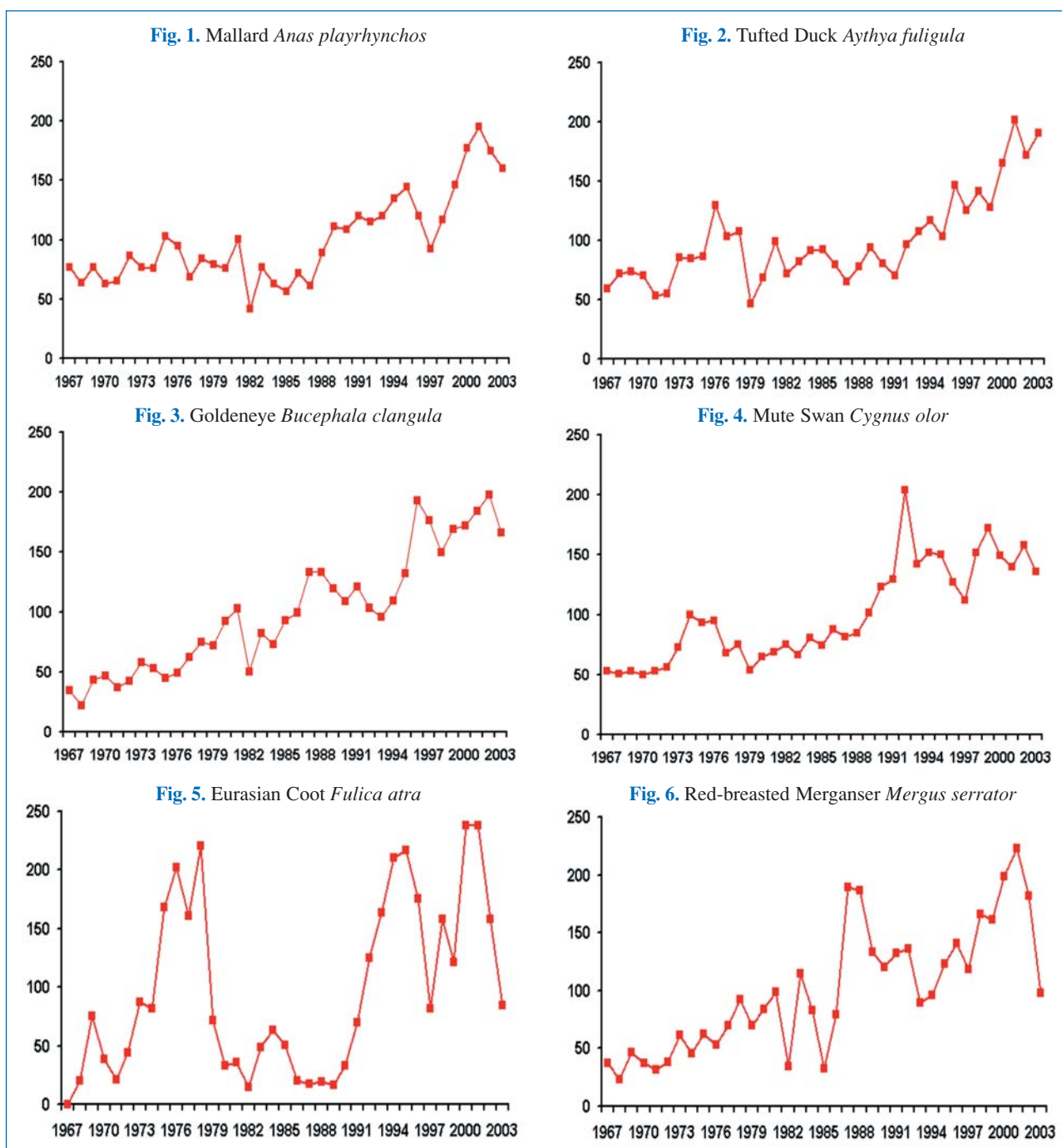
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Regular waterfowl counts have been undertaken in Sweden since 1959/60, and Sweden has participated in the international midwinter counts of the International Waterbird Census since their start in January 1967. The counts aimed at the fullest

possible coverage during the years 1969-78, after which a standardized net of sites were counted each year for the calculation of annual indices. In addition, country-wide surveys of south Sweden were undertaken in 1971-73, 1987-89 (partial - no aerial



Figs. 1–6. Annual indices for some common species based on pair-wise comparisons of counts on sites for two consecutive years. The values so obtained have been recalculated so that the mean for the series =100 (January data for the period 1987–2003).

Table 1. Totals for some species from country-wide surveys in Sweden 1971- 73 and 2004. All inshore coastal areas and the majority of inland sites were covered.

Species	1971-73	2004
<i>Anas platyrhynchos</i>	86 000	11 0000
<i>Anas penelope</i>	40	5 000
<i>Aythya fuligula</i>	65 000	201 000
<i>Bucephala clangula</i>	24 000	69 000
<i>Somateria mollissima</i>	9 000	43 000
<i>Mergus serrator</i>	3 400	4 400
<i>Mergus merganser</i>	11 000	17 000
<i>Cygnus olor</i>	10 000	30 000
<i>Fulica atra</i>	15 000	17 500
<i>Phalacrocorax carbo</i>	1 900	8 100

surveys in Baltic archipelagos) and 2004. Areas further north are normally ice-covered in January and thus not important for waterfowl numbers. Midwinter indices are presented here for six species out of ten which were analysed (Figs. 1-6). Significantly increasing trends were found for seven species, whereas there were no long-term trends in the indices for the other three species. The index for the Eider, being representative only for

the southern part of the winter area on the Swedish west coast, showed a peak in the 1970s, then very low numbers followed by an increase in the 1990s. In the Coot *Fulica atra* there was a marked peak in the late 1970s after the previous mild winters, and then the population crashed after the cold 1979 winter, remaining at a low level until it once again increased during the 1990s. In most cases the increasing trends in the Swedish International Waterfowl Census (IWC) indices reflect changes in the winter distribution of the different species in relation to the milder winters in recent years. In some cases the increase can be a combination of distribution changes and a real population change. These questions can only be answered by the coming international analysis of the IWC data gathered in several countries in the flyway. Almost complete aerial surveys were undertaken in the Baltic archipelagos and the west coast in 1971-73 and 2004, with complete land-based coverage along the open coasts and on all important inland sites. Preliminary totals for 2004 are compared with country-wide surveys in 1971-73 in Table 1, and trends for individual species are shown in Fig. 1-6. Updates of the results from the Swedish mid-winter counts are found on the homepage of the project: www.biol.lu.se/zoekologi/waterfowl/index.htm. A major analysis of the data from the Swedish midwinter counts has started and will be finished in late 2005.



Numbers of Swedish Mute Swans *Cygnus olor* have stabilised in the last decade after an earlier period of increase. Photo: Chris Wilson.