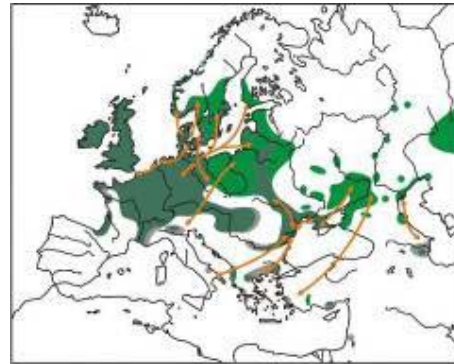


Mute Swan (*Cygnus olor*) movements

The breeding area of the Mute Swan covers west and central Europe (including southern Scandinavia and the area around the Baltic). The species also breeds locally in eastern and south-eastern Europe and locally eastward to China. The Mute Swan has also been introduced to several other continents during recent time. It is sedentary in some areas while partially or wholly migratory in others.

The recovery rate of ringed Mute Swans is very high and a large number of recoveries is therefore available. The largest numbers of recoveries are from Britain, Germany, the Netherlands and Sweden. The geographical distribution of recoveries follows to a great extent the breeding range in Europe. Birds from the northernmost breeding area in Sweden, Finland and the Baltic States regularly move SW to wintering areas in southern Sweden, Denmark and northern Germany. Mute Swans in Britain & Ireland, NW France, Belgium, the Netherlands, W Germany and Norway are mainly sedentary but can perform short-distance movements. Some central European breeders move west and south. Birds breeding in Ukraine leave inland lakes and move to the coast of Black Sea, Danube Delta or continue to the Balkans and Italy. Mute Swans in the Caspian Sea area mainly perform short-distance movements within this area. It is well known that the species can perform mass movements in severe winters in order to leave freezing lakes. The distribution by months indicates that many Mute Swans leave inland areas in the north and east, and concentrate in coastal areas during the winter months. Non-breeders perform moult migrations and are sometimes found in large concentrations in restricted areas.



Mute Swan *Cygnus olor*
Distribution Map: Bauer, Bezzel & Fiedler 2006, AULA-Verlag

Figure 1 Map depicting the movements of Mute Swan (*Cygnus olor*) based on published information and ring recoveries in the EURING Data Bank.

From:

Delany, S., Veen, J. & Clark, J.A. (eds) 2006. *Urgent preliminary assessment of ornithological data relevant to the spread of Avian Influenza in Europe*. Report to the European Commission. Study contract: 07010401/2005/425926/MAR/B4. Authors: Atkinson, P.W., Clark, J.A., Delany, S., Diagona, C.H., du Feu, C., Fiedler, W., Fransson, T., Gauthier-Clerc, M., Grantham, M.J., Gschwend, M., Hagemeyer, W., Helmink, T., Johnson, A., Khomenko, S., Martakis, G., Overdijk, O., Robinson, R.A., Solokha, A., Spina, F., Sylla, S.I., Veen, J. & Visser, D.

http://ec.europa.eu/environment/nature/nature_conservation/focus_wild_birds/avian_influenza/index_en.htm

Table 1: Summary of the movements of Mute Swan (*Cygnus olor*) from the literature based on published information and ring recoveries in the EURING Data Bank

Mute Swan *Cygnus olor*

Distribution: Palaearctic. Between 40° and 60°N from western Europe to northeast China.

Moult migration: July and August. Moult movement from mid-May to mid-June, returning in September

| Population (or part of population) | Autumn Migration | | Wintering / Non-breeding Grounds | | Spring Migration | | References |
|--|------------------------------|---------|--|---------|------------------|--------|---------------------|
| | direction / via | during | location | during | direction / via | during | |
| Northwest to central Europe | | | (mainly sedentary) | | | | 8 |
| Scandinavia-Baltic Group: Finland, Baltic Republics (increasingly sedentary), Poland, Sweden | W | Jan-Mar | Sweden, Denmark, Poland, Estonia, Latvia, Norway, Lithuania, Germany, Russia, Netherlands, Great Britain, France, coasts of Baltic Sea | | | | 1, 2, 3, 5, 6, 8, 9 |
| Baltic population | some via Poland, Czech Rep.? | | (mainly sedentary), migration occurs to Slovenia, Italy, few birds Southern North Sea, Central Europe | | | | 8, 12 |
| Southern Sweden | SW | Dec-Feb | Sweden, Denmark, Northeast Germany | | | | 4 |
| East Germany, Schleswig-Holstein | | | Denmark, Netherlands | | | | 2, 5, 6 |
| Denmark, Norway | ESE to SSE | Sep-Dec | Netherlands, Germany, Poland, Czech Rep., Slovakia | | | | 1, 2, 5, 6 |
| Southern and eastern Norway | | | (mainly sedentary) Denmark, Northern Germany, Sweden, Norway | | | | 9 |
| Northern Denmark | | | coast of Norway, Sweden, few to Netherlands | | | | 5, 9 |
| Netherlands Group: Netherlands, Nordrhein-Westfalen, Belgium, Northwest France | NNW to ENE | | (mainly sedentary) Denmark, Norway, Belgium, Germany, coast of NW-France, Netherlands, Sweden, northern Germany, Poland coast | Jan-Mar | | | 1, 2, 5, 7, 9 |

| | | | | | | | |
|--|------------------|---------|--|--|--|--|------------|
| England and Wales Group | SE | | largely sedentary; (exchanges between Denmark, Netherlands, northern France, Sweden, Germany) | | | | 1, 2, 3, 5 |
| Scotland Group (mainland, Orkneys) | | | (sedentary) | | | | 1, 3 |
| Scotland (Hebrides) Group | | Jan-Mar | (mainly sedentary) Norway (1 ringing recovery) | | | | 1, 3, 9 |
| Irish Group | | | (sedentary) | | | | 3 |
| | | | | | | | |
| Eastern Europe | | | | | | | |
| inland Black Sea, Sea of Azov | | | (limited migration); coasts of Black Sea, few to Danube, Caspian Sea, Delta, Balkan peninsula, Greece, Turkey, southern Italy | | | | 3, 8 |
| Ukraine (Black Sea Reserve) | | | Romania, Bulgaria, Greece, Turkey, Italy | | | | 8, 12 |
| Poland | SW / S | | Eastern Germany, Czech Republic, Slovak Republic, Austria, Hungary | | | | 8 |
| | | | | | | | |
| Caspian Region and Central Asia | Mostly sedentary | | | | | | 8 |
| Volga Delta, Caspian Sea | | | Within Caspian Sea and adjoining lakes interior lakes Azerbaijan, Dagestan; mass migration (mainly westerly directions) occurs in severe winters | | | | 8 |
| South Caspian region | | | immatures Iran, few Iraq | | | | 8 |

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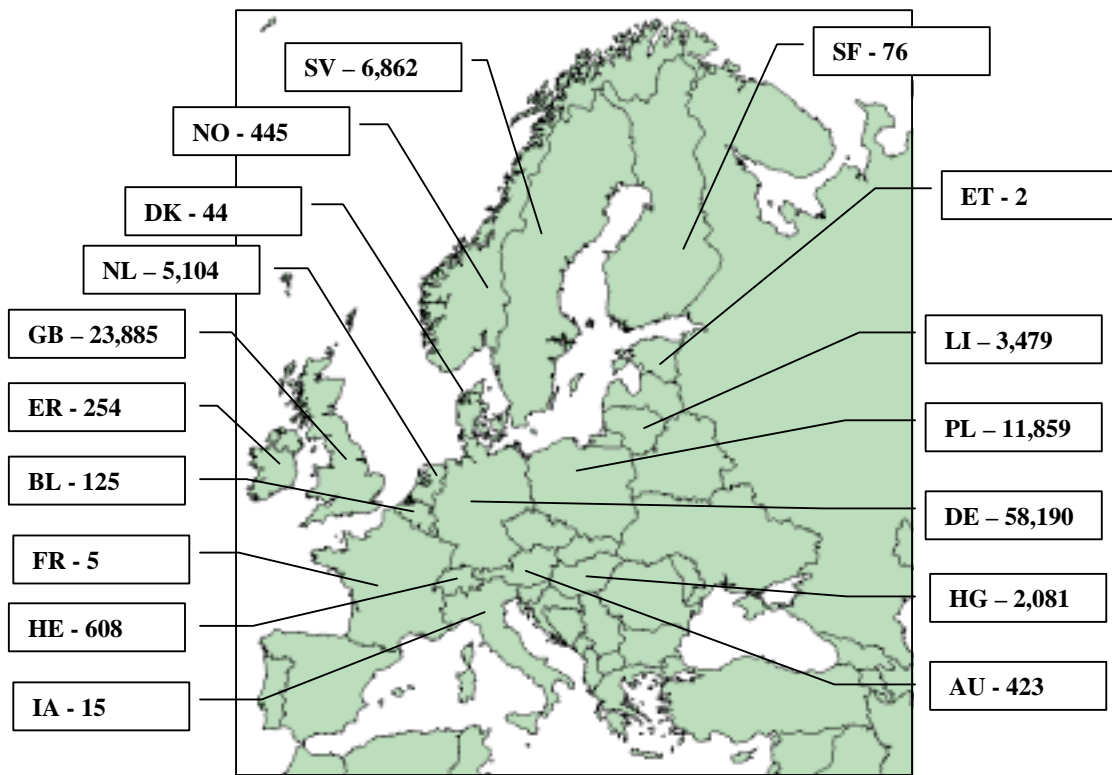


Figure 2. Country of ringing and numbers of recoveries of birds featured in maps of finding locations - Mute Swan (*Cygnus olor*).