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## DEVELOPMENT OF THE BREEDING POPULATION OF THE CORMORANT *PHALACROCORAX CARBO* IN WEST GERMANY IN THE LAST DECADE (1980-1992)

**ABSTRACT:** The breeding population of the cormorant in western part of Germany in the period 1980-1992 increased up to 2327 pairs (20 colonies). Majority of cormorants breed in colonies close to the Baltic coast. The inland colonies are distributed along the

valley of the river Rhine and on lakes of the Bavarian Lower Alps.

**KEY WORDS:** cormorant, breeding population, distribution, number trends, West Germany

### 1. INTRODUCTION

In comparison with several of its neighbours (The Netherlands, Denmark and the eastern part of Germany), West Germany has less suitable habitats for cormorants *Phalacrocorax carbo*. Nevertheless, the occurrence of the cormorant, both historically and currently, shows that there are some regions of importance for

the species. The following data are a contribution to national and international research and protection on this species.

Data on population growth and size of colonies given below are based on counts of occupied nests (pairs) within the main breeding period. They give no information about breeding success.

### 2. RESULTS

#### 2.1. DEVELOPMENT OF THE POPULATION

In the beginning of the 1980s the breeding population of the cormorant in West Germany started to increase slowly but constantly by 19% per annum (p.a.) on average until 1985 (Fig. 1). The total number of pairs did not exceed 200 and the number of colonies ranged between 2

and 5. In the following years a sudden exponential increase (growth rate averaging 45%; range 5-79%) was noted. In 1992 the overall number of breeding pairs reached, after a 3-year period of deceleration (range 5-18%), 2327 pairs. The number of colonies rose to 20.

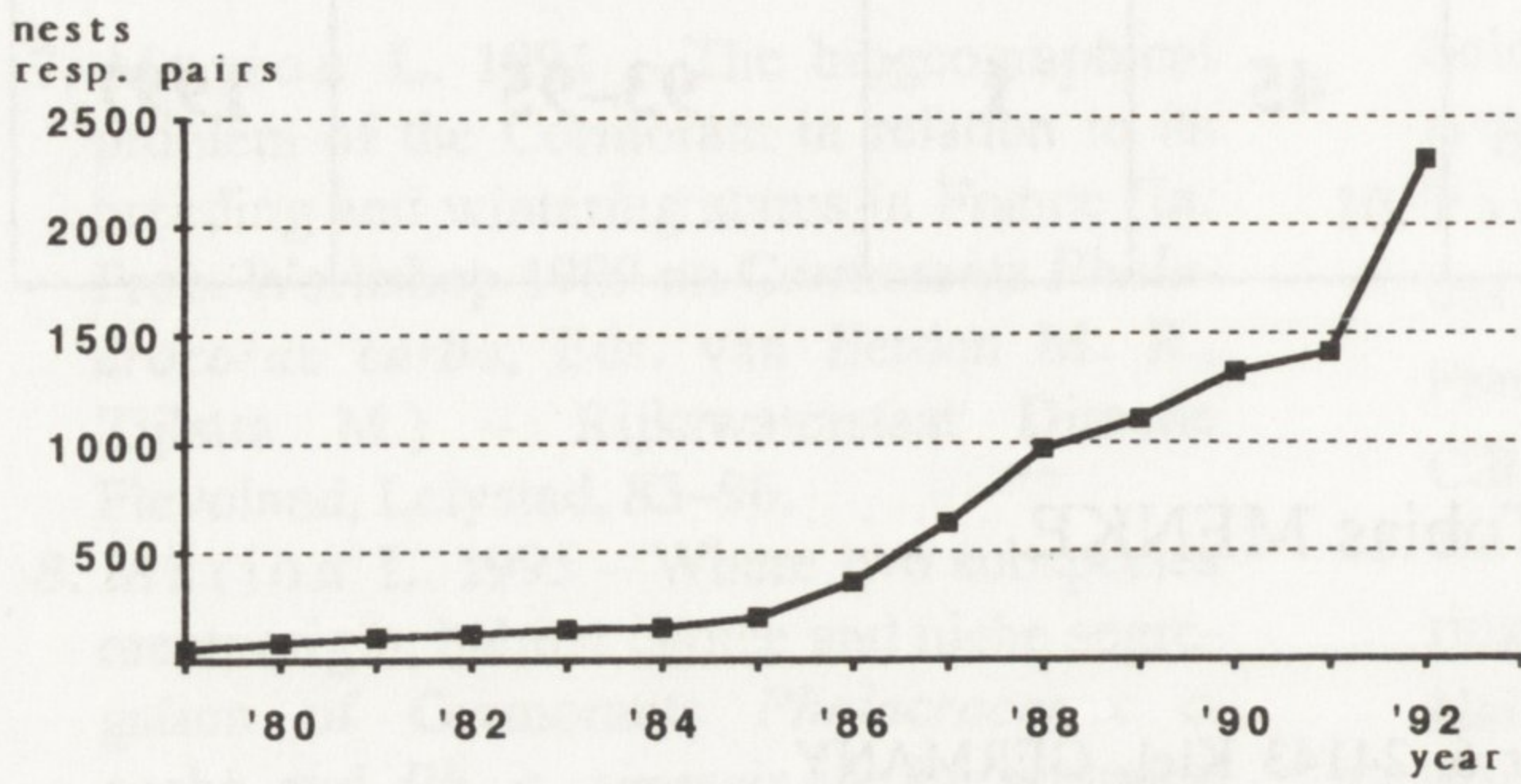


Fig. 1. Population development of cormorants in West Germany, 1980–1992

## 2.2. DISTRIBUTION

The longest existing breeding place of cormorants in West Germany is situated on the coast (North Sea/mouth of the River Weser, Fig. 2). Although the number of coastal and inland (exclusively inland feeding) colonies increased more or less equally, the overwhelming majority (80%) are in colonies near the coast.

Since 1987 most are concentrated on the Baltic coast or the Schleswig-Holstein lake district (2 colonies, > 400 pairs in 1992). The inland colonies, which range in size from 1–2 to 150 pairs, are distributed along the valley of the River Rhine and on the lakes of the Bavarian Lower Alps.

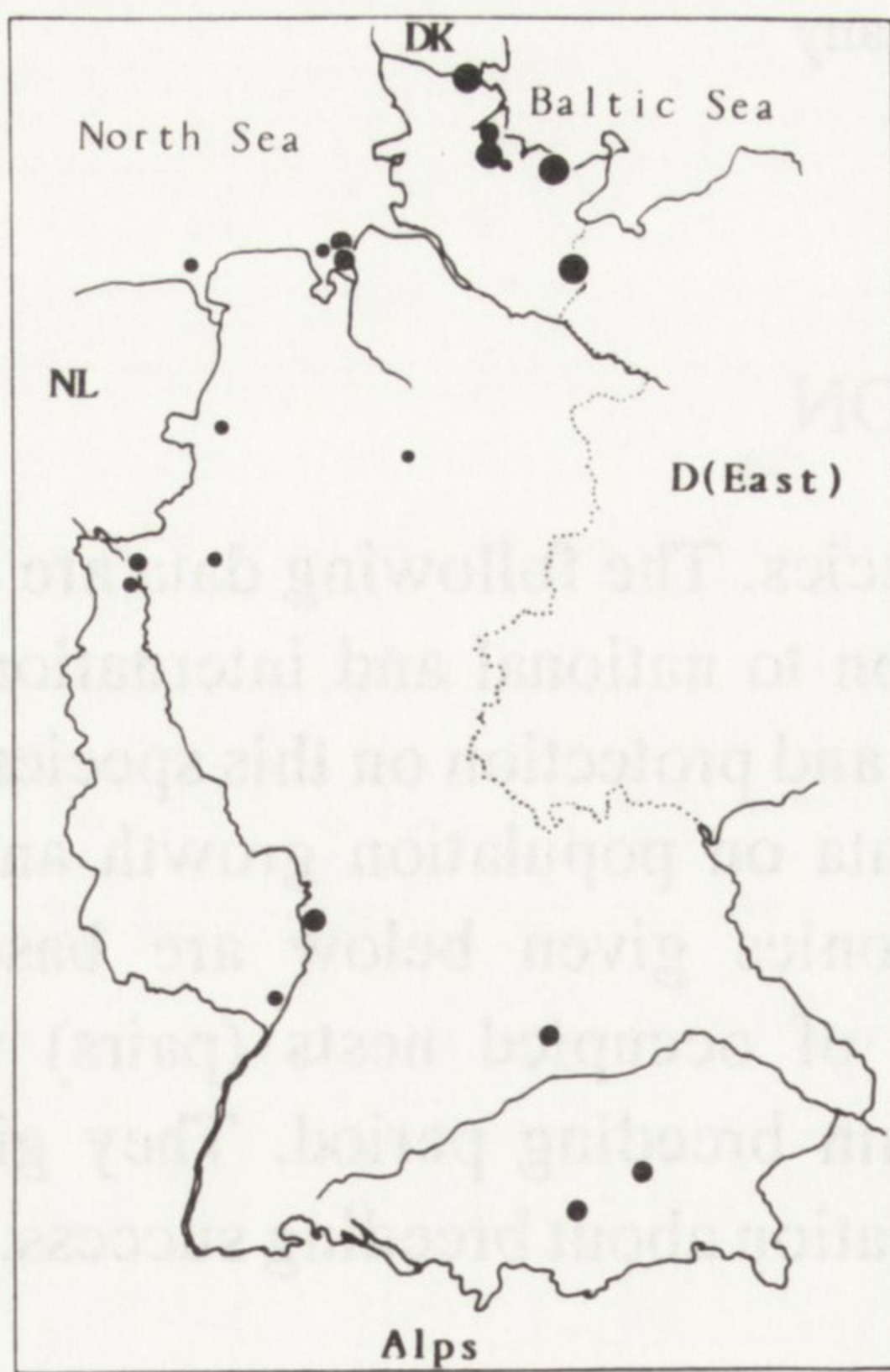


Fig. 2. Distribution of cormorant colonies in West Germany in 1992

## 3. DISCUSSION

The West German cormorant population represents between 1% (1986) and 2% (1992) of the total North-Sea-Baltic population (van Eerden and Zijlstra 1991, pers. comm.), and shows the same tendency to increase as in countries bordering on West Germany, though delayed by around 10 years. The average growth

of 35% p.a. (1982–1992), which is even higher than in those neighbouring countries (The Netherlands: 11%, eastern part of Germany: 18%, Sweden: 24%, Denmark: 26%), but runs closest to the Danish and Swedish trend. Taking into account data on ringed birds (Menke, in press, J. Gregersen, M. Zijlstra, H. Zim-

mermann, pers. comm.), this indicates that the West German population is basically affected by the interrelating dynamics of neighbouring populations.

This concerns especially the breeding area on the Baltic coast, which determines the population trend in West Germany. Obviously this region has, in contrary to inland areas, the largest habitat capacity and food stability for the bird.

In general, the West German population development might be seen as the occupation of border areas by strongly expanding populations in neighbouring countries. Nevertheless, gradual fluctuations, for instance the deceleration of 1989–1991, are last but not least caused by human intervention.

#### 4. SUMMARY

The breeding population of the cormorant in western Germany started to grow in the beginning of 1980s. In 1985 the number of breeding pairs did not exceed 200 pairs yet, and there were only 2-5 breeding colonies. During next years the rapid growth of the number was noticed (Fig. 1) and in 1992 2327 pairs bred in 20

colonies. The oldest colony is located at the mouth of the River Weser. Majority of birds have been occurring in coastal colonies (Baltic coast) and in the Schleswig-Holstein lake district. The inland colonies are located along the valley of the River Rhine and on lakes of the Bavarian Lower Alps.

#### 5. POLISH SUMMARY

Lęgowa populacja kormorana w zachodniej części Niemiec zaczęła zwiększać swoją liczebność na początku lat 80. W roku 1985 liczba par lęgowych nie przekraczała jeszcze 200, a liczba kolonii lęgowych wahała się pomiędzy 2 a 5. W latach następnych nastąpił bardzo gwałtowny wzrost liczebności (rys. 1) i w 1992 r. stwierdzono gnieźdzenie się

2327 par w 20 koloniach. Najstarsza kolonia lęgowa znajduje się przy ujściu Wezery. Najwięcej kormoranów występuje w koloniach położonych w pobliżu wybrzeża Bałtyku i na pojezierzu Szleswik-Holsztynu. Kolonie śródlądowe znajdują się wzdłuż doliny Renu i na jeziorach bawarskiego przedgórze Alp (rys. 2).

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