

**BREEDING POPULATIONS OF MEDITERRANEAN
GULL *LARUS MELANOCEPHALUS* IN THE
NETHERLANDS AND BELGIUM**
*BROEDPOPULATIES VAN ZWARTKOPMEEUW IN
NEDERLAND EN BELGIË*

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Before 1970, the Mediterranean Gull *Larus melanocephalus* was a rare and irregular breeding bird in The Netherlands and Belgium. Since 1970, the species has bred annually and in increasing numbers, reaching at least 410 pairs in The Netherlands and at least 275 pairs in Belgium in 1998. Some data on habitat choice, food and breeding success are presented. Considering the population growth, the ongoing high breeding success, and the population development elsewhere in Europe, a breeding population of over 1000 pairs in The Netherlands and Belgium around the year 2000 seems quite possible. This will, however, strongly depend on the ongoing availability of suitable breeding sites.

INTRODUCTION

In the 1940s and early 1950s, the breeding range of the Mediterranean Gull *Larus melanocephalus* was almost confined to the north-west Black Sea coast of Ukraine. In recent decades, this range has expanded and the population has increased (reviews Meininger & Bekhuis 1990; Chernichko 1993; Goutner & Isenmann 1993; Bekhuis *et al.* 1997). Until the early 1980s, the Mediterranean Gull was a rare breeding species in north-west Europe (Cramp & Simmons 1983). In the 1970s, only a few pairs bred annually in Belgium and The Netherlands (*e.g.* Jansen & Remeeus 1978; Bekaert 1988). Since the early 1980s, numbers breeding in The Netherlands and Belgium have increased considerably, and it is obvious that this species is now becoming firmly established in these countries. Bekaert (1988) and Meininger & Bekhuis (1990) presented previous summaries of the breeding status of Mediterranean Gulls in Belgium and The Netherlands. This paper describes the rather spectacular development of the combined breeding population of the two countries up to and including 1998. In addition, some observations on habitat choice, food and breeding success are presented.

METHODS

Data on breeding Mediterranean Gulls were mainly collected during systematic breeding bird censuses. In the south-west Netherlands, the core breeding area in the Low Countries, these censuses were carried out as part of the biological monitoring programme of the Rijksinstituut voor Kust en Zee (RIKZ) (e.g. Meininger *et al.* 1998). Most Black-headed Gull *L. ridibundus* colonies in the south-west Netherlands and in Belgium were visited between 10 and 31 May. Black-headed Gull nests were counted individually by a small group of experienced people slowly walking through the colony. Mediterranean Gull nests were reported to a person only dealing with the nests of this species. Nests were identified on the basis of egg coloration, egg size, nest structure and nest material. To facilitate relocating breeding sites, the nests were often marked with a 1.25 m long bamboo stick, with a numbered red tape flag in top. These sticks have proved to be essential in relocating nests during subsequent visits, when vegetation height had often increased to 1-1.5 m or more. The sticks were also useful for locating chicks for ringing, as even weeks old chicks were faithful to the immediate surroundings of the nest. Nests found up to 10 June were included in the total. Nests found after 10 June were considered as replacement clutches and were not included in the total. In a few cases, the size of relatively large Black-headed Gull colonies were estimated by expert judgement without actually counting nests, and numbers of Mediterranean Gulls in these colonies were only based on adult birds seen flying. In these cases, numbers of Mediterranean Gull may well have been (considerably) underestimated.

Elsewhere in The Netherlands, and in some smaller Belgian colonies, the data have been collected in various ways, ranging from a careful search for nests to the occasional observation of a bird or pair in a Black-headed or Common Gull *L. canus* colony. Most data on breeding numbers outside the south-west Netherlands were submitted to SOVON for the nation-wide census work on colonial birds and rare breeding bird species in The Netherlands (van Dijk *et al.* 1994, 1996a, 1996b, 1997). Additional data were received through correspondence with observers. Data presented on habitat choice, food and breeding success were obtained by the authors during their fieldwork in the south-west Netherlands and Belgium.

RESULTS

Breeding numbers in The Netherlands In 1933-35, a mixed breeding pair of Mediterranean x Black-headed Gull was found on Schouwen-Duiveland, Zeeland (Vijverberg 1935; Haverschmidt 1942). The first 'pure' breeding pairs

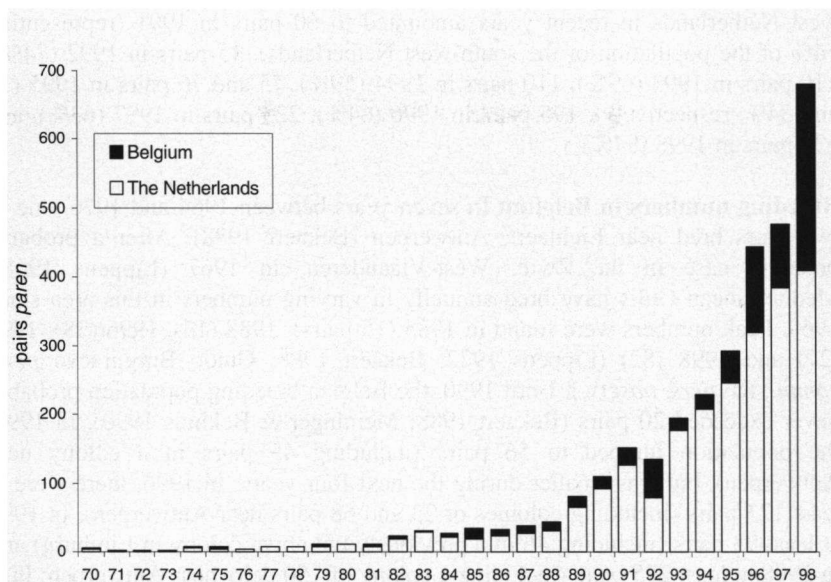


Figure 1. Number of breeding pairs of Mediterranean Gull in The Netherlands and Belgium in 1970-98.

Figuur 1. Aantal broedparen van de Zwartkopmeeuw in Nederland en België in 1970-98.

of Mediterranean Gull were noted at Scheelhoek, Zuid-Holland, and at Ossendrecht, Noord-Brabant, in 1959 (Japin & van der Velden 1959; Van der Vloet 1962). During the 1960s, breeding could not be confirmed each year; most pairs were then found in the south-west Netherlands. Since 1970, the species has bred annually. In the early 1970s, only one pair or a few pairs bred, slowly increasing to 10 pairs in 1980. Numbers then jumped to 27 pairs in 1983, 64 pairs in 1989 and 92 pairs in 1990 (Meininger & Bekhuis 1990). Since 1991, the increase has continued, reaching at least 410 pairs in 1998 (Figs 1, 2). Most colonies outside the south-west Netherlands held up to only a few pairs. Exceptions were colonies at Schoorl, Noord-Holland (up to five pairs in 1983; Meininger & Bekhuis 1990), De Krim, Overijssel (up to seven pairs in 1997; SOVON *pers. comm.*), Budel, Noord-Brabant (up to 10 pairs in 1989; Meininger & Bekhuis 1990), and Nieuwkoopse Plassen, Zuid-Holland (up to 13 pairs in 1997; SOVON). In the south-west Netherlands, there are several small settlements, but the majority of Mediterranean Gulls tend to concentrate in only

a few Black-headed Gull colonies. The largest breeding colonies in the south-west Netherlands in recent years amounted to 60 pairs in 1991 (representing 54% of the population of the south-west Netherlands), 45 pairs in 1992 (74%), 110 pairs in 1993 (69%), 110 pairs in 1994 (59%), 75 and 76 pairs in 1995 (33 and 34%, respectively), 195 pairs in 1996 (64%), 225 pairs in 1997 (63%), and 334 pairs in 1998 (87%).

Breeding numbers in Belgium In seven years between 1964 and 1976, one or two pairs bred near Lichtaert, Antwerpen (Bekaert 1988). After a probable breeding case in the Zwin, West-Vlaanderen, in 1967 (Lippens 1968), Mediterranean Gulls have bred annually in varying numbers in this area since 1969. Peak numbers were found in 1985 (15 pairs), 1988 (13), 1996 (28), 1997 (27) and 1998 (82) (Lippens 1972; Bekaert 1988; Guido Burggraave *pers. comm.*; RF *pers. observ.*). Until 1990, the Belgian breeding population probably never exceeded 20 pairs (Bekaert 1988; Meininger & Bekhuis 1990). In 1992, the population jumped to 56 pairs (including 45 pairs in a colony near Antwerpen), but was smaller during the next four years. In 1996, there were at least 123 pairs (including colonies of 23 and 68 pairs near Antwerpen), in 1997 at least 93 pairs (including 46 in a previously unknown colony in Limburg) and in 1998 at least 275 pairs (including a colony of 150 pairs near Antwerpen; Figs 1, 2).

HABITAT CHOICE

The great majority of Mediterranean Gulls breeding in The Netherlands and Belgium are found within colonies of Black-headed Gulls. Breeding sometimes occurs among or near Common Gulls (Vlieland, Friesland; Texel, Schoorl and Kennemerduinen, Noord-Holland; Europoort and, incidentally, Hompeloet, Zuid-Holland). In the south-west Netherlands the largest colonies are situated on recently built islands in freshwater areas. Most of these freshwater lakes are former estuarine areas, which were dammed in the 1970s and 1980s. Other relatively large colonies are situated on silt settling basins near factories (De Krim, Overijssel; Stampersgat and Budel, Noord-Brabant; Belgian Limburg) and on temporary artificial sand flats in industrial areas (Zeebrugge, West-Vlaanderen; Lillo and Kallo, Antwerpen). Most of these areas have a relatively short vegetation cover when birds settle in early spring, but a long and dense vegetation by the end of the breeding season. Both Black-headed and Mediterranean Gulls tolerate some small trees (remarkably often nests of the latter are clumped around or even under a tree). These sites are only available for breeding for a few years, as trees emerge, resulting in abandonment of the site by the gulls. Breeding in habitats other than these man-made environments is rare. A few pairs have bred on natural inland lakes (*e.g.* boggy ponds) and in

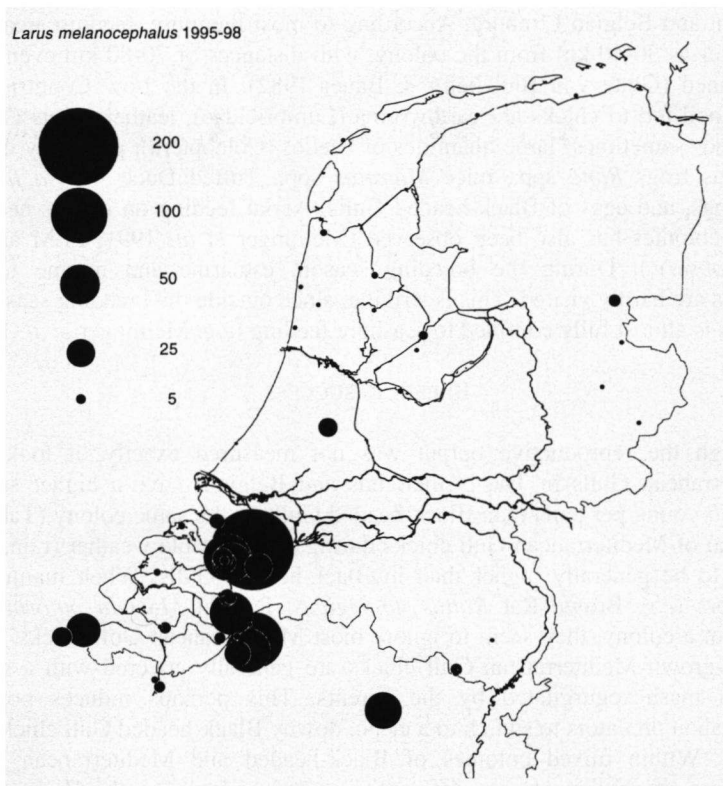


Figure 2. Breeding sites of Mediterranean Gull in The Netherlands and Belgium in 1995-98.
Figuur 2. Broedplaatsen van de Zwartkopmeeuw in Nederland en België in 1995-98.

freshwater marshes (Nieuwkoopse Plassen, Zuid-Holland; Ooypolder, Gelderland). Breeding in saltmarshes is confined to locations along the Westerschelde estuary (Saeftinghe, Zuidgors and Het Zwin, Zeeland) and in the Wadden Sea area (Terschelling, mainland coast). Within mixed colonies, Mediterranean Gulls tend to prefer higher and drier parts than Black-headed Gulls. Often, Mediterranean Gull nests are clustered into one or more groups. In Mediterranean Gulls, nest density is clearly higher than in Black-headed Gulls in the same colonies.

FOOD

Breeding birds in The Netherlands and Belgium mainly feed in open agricultural areas, such as meadows and (recently) ploughed land, on the sandy soils of

Brabant and Belgian Limburg. According to most literature, feeding areas may be as far as 30-40 km from the colony, with distances of 70-80 km even being mentioned (Glutz von Blotzheim & Bauer 1982). In the Low Countries, the main food fed to chicks are earthworms (Lumbricidae), leatherjackets (Tipulidae) and -sometimes- large quantities of beetles (Coleoptera); prey may include items as frogs *Rana* spp., mice *Microtus* spp., Tufted Duck *Aythya fuligula* ducklings, and eggs of Black-headed Gulls. Aerial feeding on insects near and above colonies has also been observed (Meininger *et al.* 1991; PLM and RF *pers. observ.*). During the breeding season, estuarine and marine feeding habitats are hardly visited. This is striking, since outside the breeding season the species is almost fully confined to seashore feeding (*e.g.* Meininger *et al.* 1993).

BREEDING SUCCESS

Although the reproductive output was not measured exactly, it looks that Mediterranean Gulls in The Netherlands and Belgium have a higher success (fledged young per pair) than Black-headed Gulls in the same colony (Table 1). Survival of Mediterranean Gull chicks during unfavourable weather (rain, cold) seems to be generally higher than in Black-headed Gulls. When mammalian predators (*e.g.* Brown Rat *Rattus norvegicus*, Polecat *Mustela putorius*) are active in a colony, they seem to ignore most Mediterranean Gull chicks. Small to half-grown Mediterranean Gull chicks are generally covered with a smelly annelid mash regurgitated by the parents. This perhaps induces potential mammalian predators to switch to a clean, downy Black-headed Gull chick.

Within mixed colonies of Black-headed and Mediterranean Gulls, consisting of settlements on different sites (*e.g.* islands in the Zwin, West-Vlaanderen), it appears that Mediterranean Gulls tend to stay on their nests when Herring Gulls *L. argentatus* or Lesser Black-backed Gulls *L. graellsii* fly over the colony in search of chicks. On the contrary, Black-headed Gulls take off immediately and fly towards the potential predator, thus leaving their chicks unattended. These observations suggest that Herring Gulls and Lesser Black-backed Gulls concentrate their predation effort on sites with a majority of Black-headed Gulls. The breeding success of Mediterranean Gulls breeding in Common Gull colonies is usually very low (*e.g.* Woutersen 1990). Until now, Mediterranean Gulls have never produced fledged young in the Wadden Sea area (B.J. Koks *pers. comm.*).

DISCUSSION

The Mediterranean Gull is clearly in the process of a successful colonisation of the Low Countries. In 1990, when the Dutch / Belgian breeding population held

Table 1. Breeding success (fledged young per pair) of Mediterranean and Black-headed Gulls in selected colonies in The Netherlands and Belgium. Numbers in parentheses indicate number of pairs present.

Tabel 1. Broedsucces (uitgevlogen jongen per paar) van Zwartkopmeeuwen en Kokmeeuwen in enkele Nederlandse en Belgische kolonies. Getallen tussen haakjes geven het aantal aanwezige paren aan.

area	year	Mediterranean Gull		Black-headed Gull	
The Netherlands <i>Nederland</i>					
Volkerakmeer, Noordplaat	1995	0.5-1	(35)	0.5-1	(896)
Volkerakmeer, Noordplaat	1996	>1	(50)	0.5-1	(1100)
Volkerakmeer, Hellegatsplaten	1995	>1	(75)	0.5-1	(1550)
Volkerakmeer, Hellegatsplaten	1996	>1	(195)	0.5-1	(2180)
Volkerakmeer, Hellegatsplaten	1997	>1	(225)	0.5-1	(2173)
Volkerakmeer, Hellegatsplaten	1998	>1	(334)	<0.5	(4048)
Volkerakmeer, Krammerse Slikken	1995	>1	(76)	0.5-1	(1263)
Kreekraksluizen NO	1995	0.5-1	(18)	>1	(650)
Kreekraksluizen NO	1996	>1	(10)	0.5-1	(750)
Kreekraksluizen NO	1997	0.5-1	(64)	0.5-1	(683)
Belgium <i>België</i>					
Zeebrugge	1995	0.5-1	(14)	?	(676)
Lillo, Hoge Maey	1996	1.6	(68)	?	(?)
Limburg	1997	1.9	(46)	?	(?)
Lillo, Solvay	1998	>1	(150)	?	(?)

just over 100 pairs, Meininger & Bekhuis (1990) predicted that "a continuing increase to several hundreds of pairs should definitely not be excluded". Considering the population growth since, the ongoing high breeding success, and the population development in other parts of Europe (e.g. Bekhuis *et al.* 1997), a breeding population of over 1000 pairs in The Netherlands and Belgium around the year 2000 seems quite possible. On the other hand, most colonies are situated in man-made areas, many of which will become unsuitable for the species in the near future.

During the coming years no new suitable islands will be built in the south-west Netherlands, but the continuous expansion of the harbour of Antwerpen, Belgium, could result in the creation of new but temporary suitable sites. Although The Netherlands has been successfully colonised during the 20th century by Lesser Black-backed Gull and Common Gull, the colonisation of a newly arrived gull has never been monitored so intensively.

Extensive counting and colour-ringing programmes will undoubtedly reveal many fascinating data on origin, movements between colonies, migration patterns, survival, site fidelity, *etc.* Such programmes started in Italy, The

Netherlands, and Belgium in 1989-90 (Boldreghini *et al.* 1992), but are now operational in many parts of the species' range (e.g. Varga *et al.* 1996; Meininger 1997). Results of colour-ringing in Belgium and The Netherlands (1468 Mediterranean Gulls colour-ringed in 1990-98) will be published elsewhere.

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SAMENVATTING

Vóór 1970 was de Zwartkopmeeuw Larus melanocephalus een zeldzame en onregelmatige broedvogel in Nederland en België. Sinds 1970 broedt de soort jaarlijks en in toenemend aantal. In 1998 broedden minimaal 410 paar in Nederland en minimaal 275 paar in België. Enkele gegevens over biotoopkeus, voedsel en broedsucces worden gepresenteerd. Gezien de populatiegroei, het voortdurende goede broedsucces en de ontwikkelingen elders in Europa, lijkt een broedpopulatie van meer dan 1000 paren rond het jaar 2000 goed mogelijk. Dit zal echter sterk afhankelijk zijn van het aanbod van geschikte broedgelegenheid.

REFERENCES

- Bekaert L. 1988. Nieuwe broedplaatsen van de Zwartkopmeeuw *Larus melanocephalus* in Oost-Vlaanderen in 1987, met een overzicht van alle broedgevallen in Vlaanderen. *Oriolus* 54: 166-169.
- Bekhuis J., Meininger P. & Rudenko A.G. 1997. Mediterranean Gull *Larus melanocephalus*. In: Hagemeijer W.J.M. & Blair M.J. (eds) *The EBCC atlas of European breeding birds: their distribution and abundance*: 324-325. T. & A.D. Poyser, London.
- Boldreghini P., Meininger P.L. & Santolini R. 1992. Preliminary results of ringing Mediterranean Gulls *Larus melanocephalus* in the Netherlands, Belgium and Italy. *Avocetta* 16: 73-74.
- Chernichko I. 1993. Breeding population and distribution of seabirds (gulls and terns) on the northern coast of the Black Sea and the Sea of Azov. In: Aguilar J.S., Monbaili X. & Paterson A.M. (eds) *Status and conservation of seabirds. Proceedings of the 2nd Mediterranean Seabird Symposium, Calviá, 21-26 March 1989*: 125-131. Sociedad Espanola de Ornitologia, BirdLife and MEDMARAVIS, Madrid.
- Cramp S. & Simmons K.E.L. (eds) 1983. *The birds of the Western Palearctic*, 3. Oxford Univ. Press, Oxford.
- Dijk A.J. van, Hustings F., Sierdsema H. & Meijer R. 1997. Kolonievogels en zeldzame broedvogels in Nederland in 1995. SOVON-monitoringrapport 1997/06. SOVON, Beek-Ubbergen.
- Dijk A.J. van, Hustings F., Sierdsema H. & Verstrael T. 1996a. SOVON Broedvogelverslag 1993. SOVON-monitoringrapport 1996/02. SOVON, Beek-Ubbergen.
- Dijk A.J. van, Hustings F., Sierdsema H. & Verstrael T. 1996b. SOVON Broedvogelverslag 1994. SOVON-monitoringrapport 1996/06. SOVON, Beek-Ubbergen.



Breeding Mediterranean Gull *Larus melanocephalus* with Black-headed Gulls *L. ridibundus*
Nestelende Zwartkopmeeuw tussen Kokmeeuwen (F.J. Maas)

- Dijk A.J. van, Hustings F. & Verstrael T. 1994. SOVON Broedvogelverslag 1992. SOVON-monitoringrapport 1994/03. SOVON, Beek-Ubbergen.
- Glutz von Blotzheim U.N. & Bauer K.M. 1982. Handbuch der Vögel Mitteleuropas, 8/1. Akademische Verlagsgesellschaft, Wiesbaden.
- Goutner V. & Isenmann P. 1993. Breeding status of the Mediterranean Gull (*Larus melanocephalus*) in the Mediterranean basin. In: Aguilar J.S., Monbailliu X. & Paterson A.M. (eds) Status and conservation of seabirds. Proceedings of the 2nd Mediterranean Seabird Symposium, Calviá, 21-26 March 1989: 59-63. Sociedad Espanola de Ornitologia, BirdLife and MEDMARAVIS, Madrid.
- Haverschmidt F. 1942. Faunistisch overzicht van de Nederlandsche broedvogels. Brill, Leiden.
- Jansen F.H. & Remeus A. 1978. Naar een definitieve vestiging van de Zwartkopmeeuw *Larus melanocephalus* in Nederland? Limosa 51: 88-106.
- Japin J. & Velden B. van der 1959. Een broedgeval van een paartje Zwartkopmeeuwen (*Larus melanocephalus*) in Nederland. Limosa 32: 183-185.
- Lippens L. 1968. Nidification probable de la Mouette mélanocéphale, *Larus melanocephalus*, au Zwin. Gerfaut 58: 163.
- Lippens L. 1972. Note sur les laridés du Zwin à Knokke-sur-Mer. Gerfaut 60: 26-40.
- Meininger P.L. 1997. Gegevens van Zwartkopmeeuwen met kleurringen gevraagd. Sula 11: 198-200.
- Meininger P.L. & Bekhuis J.F. 1990. De Zwartkopmeeuw *Larus melanocephalus* als broedvogel in Nederland en Europa. Limosa 63: 121-134.
- Meininger P.L., Berrevoets C.M., Schekkerman H., Strucker R.C.W. & Wolf P.A. 1991. Voedsel en fourageergebieden van broedende Zwartkopmeeuwen *Larus melanocephalus* in Zuidwest-Nederland. Sula 5: 138-145.
- Meininger P.L., Raevel P. & Hoogendoorn W. 1993. Occurrence of Mediterranean Gull at Le Portel in north-western France. Dutch Birding 15: 45-54.
- Meininger P.L., Berrevoets C.M. & Strucker R.C.W. 1998. Kustbroedvogels in het Deltagebied in 1997. Werkdocument RIKZ/OS-98.808X. Rijksinstituut voor Kust en Zee, Middelburg.
- Van der Vloet H. 1962. Broedpogingen van de Zwartkopmeeuw, *Larus melanocephalus* Temminck, nabij de Belgisch-Nederlandse grens. Giervalk 52: 570-575.
- Varga L., Veprik R., Gergely J., Széll A., Csihar L. & Staudinger I. 1996. [First results of ringing Mediterranean Gulls in Hungary and Vojvodina] [In Hungarian]. Túzok 1: 116-123.
- Vijverberg J. 1935. *Larus melanocephalus* (Temm.), broedvogel in Nederland. Ardea 24: 260-261.
- Woutersen K. 1990. De Zwartkopmeeuw *Larus melanocephalus* in de duinen van Schoorl (NH). Sula 4: 1-11.