

# FIRST TWO RECORDS OF EUROPEAN-BANDED LESSER BLACK-BACKED GULLS *LARUS FUSCUS* IN AMERICA

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*Received 30 January 2011, accepted 8 April 2011*

The Lesser Black-backed Gull *Larus fuscus* has increased in number and distribution over its world range during the 20th century (Snow & Perrins 1998, Calladine 2004). The taxonomy of this species has been a subject of several recent taxonomic studies, and three to six subspecies are commonly recognized (Liebers & Helbig 2002, Malling Olsen & Larsson 2004, Sangster *et al.* 2007). Three subspecies live in Europe: (1) the black-mantled nominate race *L. f. fuscus*, breeding in the Baltic region and northern Norway; (2) the grey-mantled race *L. f. graellsii*, breeding mainly in western Europe from Iceland south to Iberia; and (3) an intermediate race *L. f. intermedius*, breeding between southern Scandinavia and the Netherlands as well as in Northern Norway for the past two decades (Cramp & Simmons 1983, Strann & Vader 1992, Bustnes *et al.* 2006). Since 2000, Lesser Black-backed Gulls of the race *graellsii* have increased in numbers and expanded their breeding distribution to southwest Greenland. In 2003 the Greenlandic population was estimated to be at least 700 pairs but might be considerably larger (Boertmann 2008). While *graellsii* has increased dramatically, *fuscus* has declined continuously since the 1950s and is now on the Red List of endangered species in the countries where it breeds (Strann & Vader 1992, Hario *et al.* 2004).

Lesser Black-backed Gulls differ from other large European gulls in their long-distance migration. The wintering grounds of *graellsii* and *intermedius* overlap in southwestern Europe and northwestern and western Africa, while *fuscus* winters mainly in mid- and eastern Africa (Cramp & Simmons 1983, Kilpi & Saurola 1984). Furthermore, in addition to their traditional wintering grounds, Icelandic and Faeroes birds have been claimed to migrate to North America (Malling Olsen & Larsson 2004), but no data have yet confirmed this.

The first sight record of a Lesser Black-backed Gull in America was on 9 September 1934 in New Jersey, US (Edwards 1935). During the 20th century, Lesser Black-backed Gulls were seen regularly on the east coast of North America (Post & Lewis 1995, Malling Olsen & Larsson 2004), with numbers increasing between 1995 and 2010. They were particularly found in Pennsylvania, the location of an average 33% of all Lesser Black-backed Gulls found during annual winter counts 1996–2006. Significant numbers were also reported in Florida, New Jersey, Virginia and North Carolina (Rutt 2009). The origins of these birds are unknown, but they are unlikely to

have originated from North America as the only breeding records that involve Lesser Black-backed Gulls (in both cases paired with American Herring Gulls *Larus argentatus smithsonianus*) are from Juneau, Alaska, in 1993 (van Vliet *et al.* 1993) and at Appledore Island, Maine, in 2007–2009 (Ellis *et al.* 2008, Ellis 2009). It therefore seems likely that these birds came from Europe or from recently colonized Greenland, although there may be undiscovered colonies in North America. Here we describe the only records of Lesser Black-backed Gulls in America that had been banded in Europe, through banding programs in Iceland and the Netherlands. We briefly discuss possible reasons for the low number of resightings in America. Furthermore, we speculate about the origin of wintering birds in North America by looking at known migration habits of this species and population trends in different European countries in relation to changes in numbers of wintering birds.

From 1990 to 2008 Lesser Black-backed Gulls were color-banded by our teams: 1 100 in Iceland and 20 000 in the Netherlands. These color-bands had engraved digits that enable birdwatchers to read the bands from a distance with binoculars. Data on the number of wintering Lesser Black-backed Gulls in America were obtained from the Christmas Bird Counts (CBCs) on the Audubon website (birds.audubon.org/historical-results). The information on population trends in Iceland was based on estimates of the largest Lesser Black-backed Gull colony in the country, believed to hold roughly 80–90% of the Icelandic population (G. T. Hallgrímsson & P. Hersteinsson, unpublished). UK population data were from surveys covering coastal colonies (Calladine 2004), and data from the Netherlands were based on the whole breeding population in the country (Spaans 1998, Van Dijk *et al.* 2003, Van Dijk *et al.* 2008). The banding efforts in Iceland and the Netherlands resulted in two resightings in America. An unfledged chick banded at Gardaholt, southwestern Iceland (N64°05', W21°59') on 29 July 2002 was seen and photographed at Rio Grande de Arecibo, Puerto Rico (N18°29', W66°44') on 16 and 20 November 2002. Another juvenile banded at the Port of Rotterdam, the Netherlands (N51°57', E04°06') on 13 July 1990 was resighted at Cold Spring Harbor, Long Island, New York (N40°51', W73°26') on 7 October 1997.

Sightings of Lesser Black-backed Gulls in North America increased rapidly between 1990 and 2005, according to data from the CBCs (Fig. 1). These birds have been considered to be of the *graellsii*

subspecies, and all specimens have been identified as such (Post & Lewis 1995, Malling Olsen & Larsson 2004). The breeding populations of *graellsii* in Iceland, UK and the Netherlands also increased after 1970, the former from 1 250 pairs in 1974 to 40 204 pairs in 2004 (5.4% increase per annum 1991–2004). In the UK, the breeding population increased from 50 035 pairs in 1970 to 91 323 pairs in 2000 (average increase 3% per annum 1987–2000) and, in the Netherlands, from 50 000 in 1996 to 92 000 in 2006 (7.3% increase per annum 1996–2006).

The Lesser Black-backed Gull has been the subject of many color-banding studies, with 91 such programs registered in Europe in 2011 (Raes 2011). The two resightings presented here confirm that at least some Lesser Black-backed Gulls seen in America originate in Iceland and the Netherlands. With only two recoveries, it is impossible to estimate how much each population contributes to the American wintering population, but the much lower number of color-banded birds in Iceland suggests that this source population may contribute more individuals. Although the bulk of winter sightings are from the east coast of North America, sightings have increased, albeit in much lower numbers, farther south, particularly on the northeast coast of South America and in Trinidad (Hayes *et al.* 2002). In these areas, younger birds are seen more frequently than in North America (Hayes *et al.* 2002, Rutt 2009). This fits well with the two resightings of the European-banded Lesser Black-backed Gulls presented here.

From 1990 to 1997 roughly 40 000 birds were banded in the UK (Rock 2002), and 10 557 were individually color-banded in a single project between 1997 and 2007 (Marques *et al.* 2010), but not one of these birds has been seen in America. This and the slower population growth rate in the UK compared to Iceland and the Netherlands might indicate that UK birds are less likely to contribute to the American wintering population. The rapid increase of breeding Lesser Black-backed Gulls in Greenland, however, corresponds well with the increase in America. Unfortunately, no birds have been color-banded in Greenland, at least not prior to 2001 (Lyngs 2003). If the majority of the Greenlandic population winters in North America, the contribution from other populations may be negligible.

The migration routes of the various subspecies of Lesser Black-backed Gulls are mainly in a north-south direction (Malling Olsen and Larsson 2004). Given that Iceland and Greenland are the westernmost extensive breeding sites, their populations might be more likely to contribute to the American wintering population than the UK and Netherlands populations.

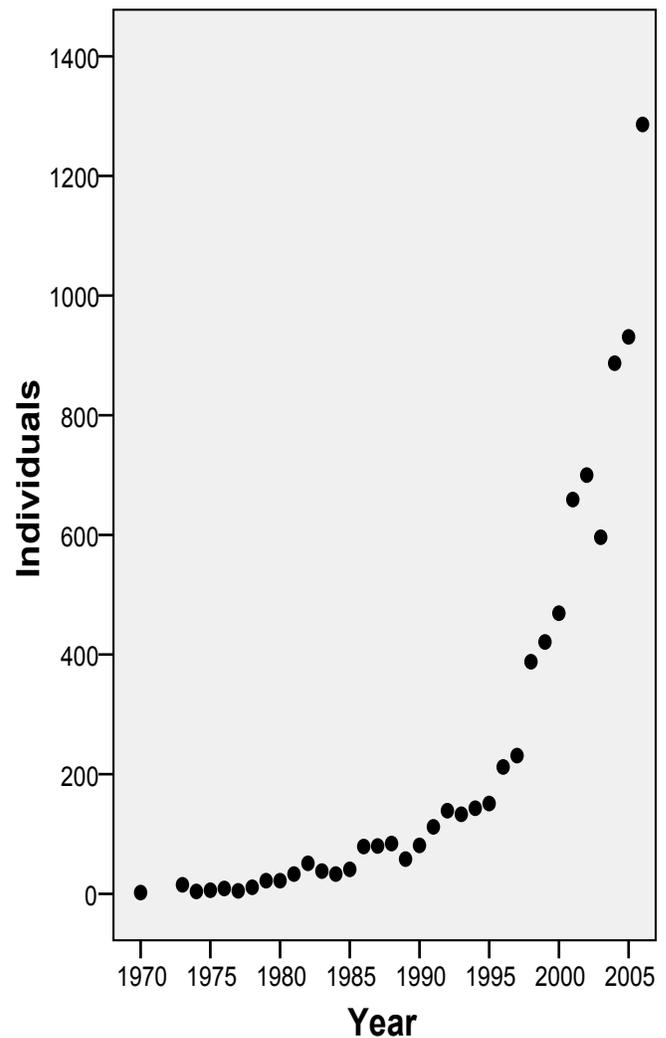
It is striking that the extensive banding of Lesser Black-backed Gulls in Europe over the last two decades (and with 91 registered programs up to date) has resulted in only two American resightings. This suggests that these eastern populations of *graellsii* probably do not contribute much to the wintering population in America. Focus should therefore be narrowed to the westernmost breeding sites in Iceland (where there is a large population but relatively few birds banded) and Greenland (where the population is increasing but not banded). Color-banding (and/or geolocation studies with loggers or satellite-telemetry) of wintering birds in America and of birds breeding in Iceland and Greenland are thus recommended to solve the question of the origin of Lesser Black-backed Gulls wintering in America.

## ACKNOWLEDGEMENTS

We are grateful to Peter de Knijff and Sergio A. Colón López for reporting their sightings of color-banded gulls in America and to Kees Camphuysen for compiling references on the population trends in the Netherlands. We also thank two anonymous reviewers who improved the manuscript.

## REFERENCES

- BOERTMANN, D. 2008. The Lesser Black-backed Gull, *Larus fuscus*, in Greenland. *Arctic* 61: 129-133.
- BUSTNES, J.O., HELBERG, M., STRANN, K.B. & SKAARE, J.U. 2006. Environmental pollutants in endangered vs. increasing subspecies of lesser black-backed gulls along the Norwegian Coast. *Environmental Pollution* 144: 893-901.
- CALLADINE, J. 2004. Lesser Black-backed Gull *Larus fuscus*. In: Mitchell, P. I., Newton S. F., Ratcliffe N. & Dunn T. E. (Eds). Seabird populations of Britain and Ireland. London: T & AD Poyser. pp. 242-261.
- CRAMP, S. & SIMMONS, K.E.L. 1983. The birds of the western Palearctic, vol. 3. Oxford: Oxford University Press.



**Fig. 1.** Numbers of Lesser Black-backed Gulls *Larus fuscus* wintering in North America, based on Christmas Bird Counts (CBC) on the Audubon website (birds.audubon.org/historical-results).

- EDWARDS, J.L. 1935. The Lesser Black-backed Gull in New Jersey. *Auk* 52: 85.
- ELLIS, J. 2009. Lesser Black-backed Gulls (*Larus fuscus*) breeding on the east coast of USA. <http://sites.google.com/site/appledorelbbg/>, accessed 20 November 2009.
- ELLIS, J.C., STODDARD, M.C. & CLARK, L.W. 2008. Breeding by a Lesser Black-backed Gull (*Larus fuscus*) on the Atlantic coast of North America. *North American Birds* 61: 546-548.
- HARIO, M., HIRVI, J.P., HOLLMEN, T. & RUDBÄCK, E. 2004. Organochlorine concentrations in diseased vs. healthy gull chick from the northern Baltic. *Environmental Pollution* 127: 411-423.
- HAYS, F.E., WHITE G.L., KENEFIC, M. & KILPATRICK, H. 2002. Status of the Lesser Black-backed Gull *Larus (fuscus) graellsii* in Trinidad and Tobago. *Atlantic Seabirds* 4: 91-100.
- KILPI, M. & SAUROLA, P. 1984. Migration and wintering strategies of juvenile and adult *Larus marinus*, *L. argentatus* and *L. fuscus* from Finland. *Ornis Fennica* 61: 1-8.
- LIEBERS, D. & HELBIG, A.J. 2002. Phylogeography and colonization history of Lesser Black-backed Gulls (*Larus fuscus*) as revealed by mtDNA sequences. *Journal of Evolutionary Biology* 15: 1021-1033.
- LYNGS, P. 2003. Migration and winter ranges of birds in Greenland: An analyses of ringing recoveries. *Dansk Ornitologisk Forenings Tidsskrift (DOFT)* 97 (1), 167 pp.
- MALLING OLSEN, K. & LARSSON, H. 2004. Gulls of Europe, Asia and North America. London: Christopher Helm.
- MARQUES, P.A.M., SOWTER, D. & JORGE, P.E. 2010. Gulls can change their migratory behavior during lifetime. *Oikos* 119: 946-951.
- POST, P.W. & LEWIS, R.H. 1995. The Lesser Black-backed Gull in the Americas: occurrence and subspecific identity. Part I: taxonomy, distribution, and migration. *Birding* 22: 283-289.
- RAES, D. 2011. European colour-ring birding. <http://www.cr-birding.be/>, accessed 30 January 2011.
- ROCK, P. 2002. Lesser Black-backed Gull. In: Wernham, C. V., Toms, M. P., Marchant, J. H., Clark, J. A., Siriwardena, G. M. & Baillie, S. R. (Eds). *The migration atlas: movements of the birds of Britain and Ireland*. London: T & AD Poyser. pp. 365-368.
- RUTT, C. 2009. Status and distribution of Lesser Black-backed Gull (*Larus fuscus*) in Pennsylvania. *Pennsylvania Birds* 23: 143-147.
- SANGSTER, G., COLLINSON, J.M., KNOX, A.G., PARKIN, D.T. & SVENSSON, L. 2007. Taxonomic recommendations for British birds. *Ibis* 149: 853-857.
- SNOW, D. & PERRINS, C.M. 1998. *The birds of the western Palearctic*. Oxford: Oxford University Press.
- SPAANS, A.L. 1998. Breeding Lesser Black-backed Gulls *Larus graellsii* in The Netherlands during the 20th century. *Sula* 12: 173-182.
- STRANN, K.-B. & VADER, W. 1992. The nominate Lesser Black-backed Gull *Larus fuscus fuscus*, a gull with a tern-like feeding biology, and its recent decrease in northern Norway. *Ardea* 80: 133-142.
- VAN DIJK, A.J., BOELE, A., HUSTINGS, F., KOFFIJBERG, K. & PLATE, C.L. 2008. Broedvogels in Nederland in 2006. Beek: SOVON-monitoringrapport 2008/01.
- VAN DIJK, A.J., HUSTINGS, F., KOFFIJBERG, K., VAN DER WEIDE, M., ZOETEBIER, D. & PLATE, C.L. 2003. Kolonievogels en zeldzame broedvogels in Nederland in 2002. Beek: SOVON-monitoringrapport 2003/02.
- VAN VLIET, G.B., MARSHALL, D., CRAIG, D. & EGOLF, J. 1993. First record of nesting activity by a Lesser Black-backed Gull (*Larus fuscus*) in North America. *Bulletin of the Pacific Seabirds Group* 20: 21.

