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# Current status and population dynamics of nominate subspecies of Lesser Black-backed Gull *Larus fuscus fuscus* in the White Sea

*Nuvarande status och populationsdynamik för nominatrasen av silltrut* Larus fuscus fuscus *i Vita havet*

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**Abstract**

The size of the colonies of the nominate subspecies of Lesser Black-backed Gull *Larus fuscus fuscus* was monitored annually in Onega Bay of the White Sea in 1989–2006. The total current population in the studied area is about 2100 pairs or 10% of the world population of this subspecies. During the time of monitoring the population increased more than three times, and since the 1960s it has increased more than six times. The main increase was observed in the seven biggest colonies (more than 100 pairs) where more than 60% of the White Sea population was breeding. Average long-term clutch size was 2.44, and breeding success was 1.0 fledgelings per pair. The increase in number probably results from the decrease of disturbance in the breeding area and improvement of feeding resources. The increase of the White Sea population contrasts with a strong decline of the Baltic population.

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## Introduction

Among the species of the *Larus* genus, breeding in the White Sea, the highest interest is focused on the status of the Lesser Black-backed Gull *L. f. fuscus* population due to its marginal location (easternmost part of the species' area), comparatively low numbers, and a long-term decrease within a large part of its world range. The decrease in the second half of the 20th century in Finland, Sweden and Norway was so drastic that it was necessary to list the Lesser Black-backed Gull in the Red Data Books of those states and in the Red Data Book of Fennoscandia.

In Sweden, the size of the population decreased from 17,000 to 4000–5000 pairs between the late 1970s and late 1990s (Lif et al. 2005). The decrease of the Finnish population has been registered since mid 20th century at all known colonies. In the 1970s and 1980s, growth of some colonies was registered, but in the eastern part of Gulf of Finland and in the northern part of Bothnian Bay the decrease continued (Bergman 1982). The total population breeding in Finland in the late 1970s and early 1980s was 12,000 pairs, of which 4000 nested on lakes (Koskimies 1989). According to the data of the same author in the Nordic Council of Ministers Report (TemaNord 1997), the Finnish population decreased in 1978–1994 with over 50% to 6000–7000 pairs in the mid 1990s. In 1986–2002 the coastal Lesser Black-backed Gull population in Finland was decreasing on average by 8% per year (Hario et al. 2004). According to the 2003 census data, 5300 pairs were nesting on the Finnish coast and 3100 on lakes. This increase of bird numbers in comparison to the 1990s is explained most probably by a more complete coverage of the territory during the latest census (M. Hario, personal communication). In northern Norway the Lesser Black-backed Gull population was also decreasing in the latter half of the 20th century: in Nordland and Trøndelag it decreased by 50–90% in 1970–1985 to 3500 breeding pairs (Strann & Vader 1992). The current total population in Norway is estimated at 2000–3000 pairs (Bakken et al. 2003). The Lesser Black-backed Gull population decreased also on

Ladoga (Malchevsky & Pukinsky 1983) and Onega (Zimin et al. 1993) Lakes in Russia.

In the end of the 20th century some increase of the Lesser Black-backed Gull population occurred in some areas. Thus, on Stora Karlsö and Lilla Karlsö islands in Sweden the breeding population increased 1.5 times during 7 years – from 400 pairs in 1998 to 600 pairs in 2004 (Lif et al. 2005). In Norway, on colonies in Sør-Helgeland, where the population is monitored, some increase has been registered since 1995. However, the current number is only about 15–20% of the population in 1980 (Lorentsen 2004). In the Swedish province of Gästrikland, the population has been monitored since 1971. There was decline until 1990, but then the population size grew from c. 90 pairs to c. 180 pairs in 2006 (Aspenberg 2006).

A similar situation has been registered in recent years in the Russian part of Gulf of Finland. On the Berezovye Islands the Lesser Black-backed Gull population was below 50 breeding pairs in the late 1970s (Khrabryi 1984). In 1995, a big colony of about 200 pairs (Iovchenko et al. 2002) was found in the area (Rondo Island). According to the census of 2002–2005, stable colonies were registered on ten of the Berezovye Islands with population estimated at 350–450 pairs (Publichenko in press). In addition to the Berezovye Islands, colonies were found on the Island Seskar, Fiskar Archipelago (Iovchenko et al. 2002) and on Remisaar Island (Publichenko 2000).

In summary, the world population of the Lesser Black-backed Gull nominate subspecies is below 20,000 breeding pairs with a tendency to decrease in a major part of its area. Among the factors that may have caused the decrease, the most frequently mentioned ones are competition with Herring Gull for nesting sites (Bergman 1982, Kilpi 1983) and high mortality rate of nestlings (Bergman 1982, Lif et al. 2005) due to various reasons including diseases resulting from high levels of chlorine-organic substances in the digestive apparatus (Hario et al. 2004).


Figure 1. Map showing the location of the Onega Bay.
*Karta som visar läget av Onegabukten.*

## Material and methods

Ornithological surveys in the Solovetsky Archipelago in Onega Bay (Figure 1) of the White Sea have been made since 1983 by the Solovetsky Museum, and in recent years by the Solovetsky branch of the White Sea Biological Station of the Moscow State University. Since 1987, sea bird numbers have been monitored on all islands of the Solovetsky Archipelago. Since 1989 a survey of the islands in Onega Bay outside the Solovki Islands has been carried out. By 1999, all areas of the bay are being visited.

In 2004–2006, a survey of islands near the Karelia coast between Kandalaksha and Onega Bays of the White Sea was performed. In total, 568 islands were visited in Onega Bay (129 on the Solovki Islands), and 103 islands near the Karelia coast of the White Sea. The islands of the Solovetsky Archipelago are surveyed annually. Among the other islands of the bay, the most interesting ones (including islands with Lesser Black-backed Gull colonies) are visited once in 1 to 5 years.

## Results

### *Population dynamics and distribution in the first half of the 20th century*

In the north-eastern part of the Lesser Black-backed Gull area, in the western part of the White Sea, the situation seemed to be different from the one in Scandinavia. We can only base our conclusion on the assumption that in the 1920s-1940s the species' area in that region slightly decreased, and along with the area also the population decreased (Bianki 1967). However, it is necessary to keep in mind that no reliable information is available for the Kola Peninsula and Kandalaksha Bay of the White Sea from the end of 19th to the beginning of the 20th century. Besides, the data on Lesser

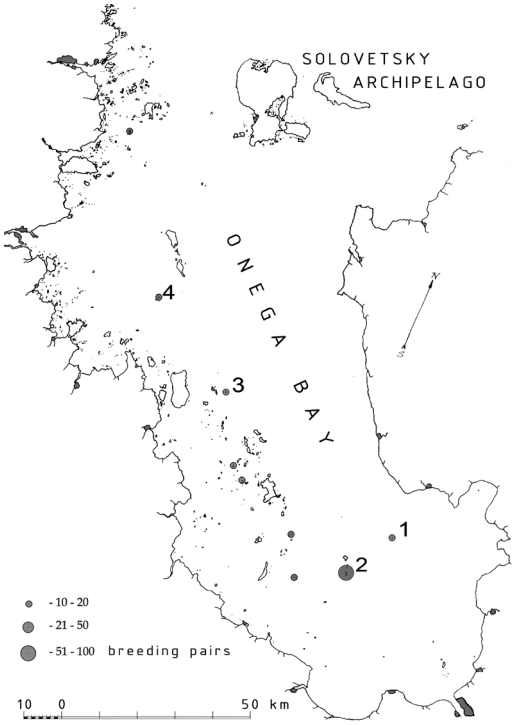


Figure 2. Distribution of Lesser Black-backed Gull colonies in 1960s (Bianki 1963) on islands:
*Fördelningen av silltrutkolonier på öar under 1960-talet (Bianki 1963):*
1. Pur-luda; 2. Tonkaya Osinka; 3. Sennaya Luda; 4. Krestovaya Salma-luda.

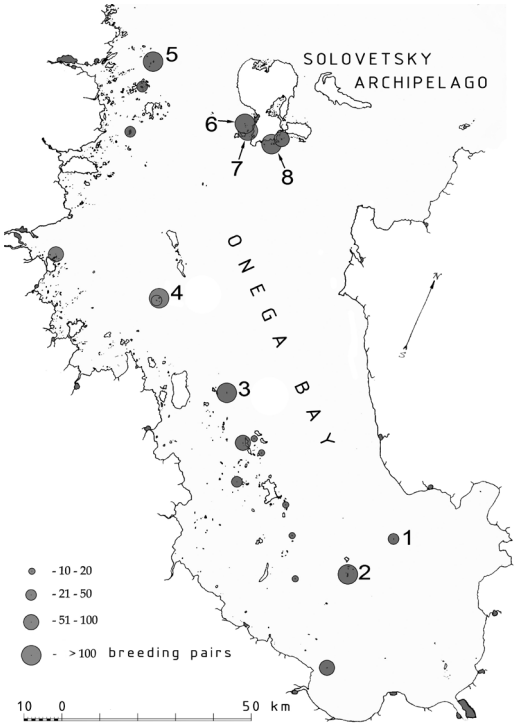


Figure 3. Modern distribution of Lesser Black-backed Gull colonies on islands:
*Nutida utbredning av silltrutkolonier på öar:*
1. Pur-luda; 2. Tonkaya Osinka; 3. Sennaya Luda; 4. Krestovaya Salma-luda; 5. Nothern Rombak; 6. N-W Sennaya Luda; 7. Parusnyi; 8. Krasivyi.

Black-backed Gull distribution in the Kola Peninsula should be taken with caution as this is also the area of the *Larus heuglini*, the species that is very similar in the exterior.

The data are as follows. Pleske (1887) and Gebel (1903) shot Lesser Black-backed Gulls and found their nests on Imandra Lake (Kola Peninsula), but it is not clear how big the population was. A few pairs are still nesting in the western part of the Kola Peninsula (Semenov-Tyan-Shansky & Gilyazov 1991).

The current situation in the Kandalaksha Bay is not clear. Gebel (1903) did not at all list Lesser Black-backed Gull among the birds of the bay, which indicates that even if the species occurred in the area, obviously it was rare. Only occasional breeding pairs were recorded in Kandalaksha Bay in the 1950s and 1960s (Bianki 1967). This should probably be considered the normal situation, not "the last of the Mohicans" of a decreasing population in the area. In the end of the 19th century Lesser Black-backed Gulls nested on the Solovetsky Islands in Onega Bay, but they were few (Tarnani 1892). It should be noted that in those years there was a big colony of Herring Gulls on the territory of the Solovetsky Monastery, and with them in the background other gulls may have been ignored.

From the end of 19th to the middle of the 20th century the Lesser Black-backed Gull population was probably steadily low, which could have been a result from the impact of residents of the coastal villages and towns, who traditionally used eggs for food. However, in those years the situation was similar for other colonial birds including Herring Gull.

Thus, in the early 1960s, when V. V. Bianki first studied nesting grounds of sea birds in the western part of the White Sea, the population of many species outside protected areas was relatively low. At this time the first reliable assessment of Lesser

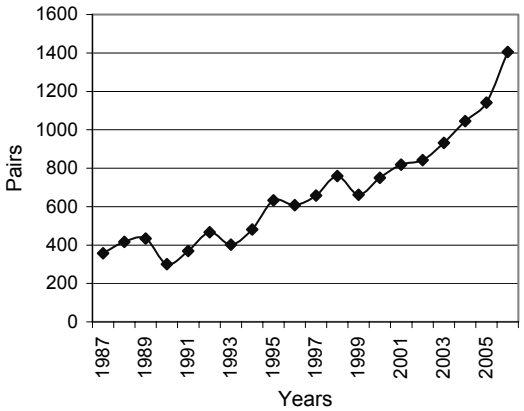


Figure 4. Lesser Black-backed Gull population dynamics on the Solovetsky Islands (breeding pairs).
*Populationsutvecklingen för silltrut på Solovetskyöarna (häckande par).*

Black-backed Gull population was made – about 300 pairs for Onega Bay (Figure 2) and about 50 pairs for western part of the White Sea area (Bianki 1963). A retrospective analysis with participation of V. V. Bianki showed that most probably that figure was an underestimate, as during the expeditions of 1960s he did not survey the islands of the Solovetsky Archipelago, where Lesser Black-backed Gull colonies (probably rather big) were known to exist at that time (Kartashev 1963).

Although somewhat uncertain, the above summary of literature data is the best starting point that can be put together for the study of Lesser Black-backed Gull population dynamics in the following years.

*Population dynamics and distribution in the end of 20th and beginning of 21st century*

Since the start of our surveys in the mid 1980s, over 300 Lesser Black-backed Gull pairs have been breeding on Solovki. The detailed surveys of islands in Onega Bay in the 1990s, when all Lesser Black-backed Gull colonies registered in 1960s were visited, showed that within 30 years the number of breeding pairs had increased nearly 3.5 times in the colonies previously surveyed by V. V. Bianki, and 6 times in total number (Figure 3). Thus, in a period when the *L. f. fuscus* population was decreasing in most of its range, the opposite process was observed in Onega Bay.

Although the total Onega Bay population increased, some colonies found by V. V. Bianki, have not changed their size during 30 years whereas other colonies have increased ten times (Table 1). The increase probably occurred in the colonies that had the most favorable nesting conditions. During the same years (since early 1960s to late 1980s), the number of Herring Gulls breeding in the bay also increased (more than 5 times on the same islands).

Regular visits of colonies on islands in Onega Bay in 1990–2000 showed that the Lesser Black-backed Gull population was more or less stable, while in the Solovetsky Archipelago, where annual monitoring was performed, a continuous population growth was observed (Figure 4). Surveys in 2004–2006 of islands in the western part of the White Sea showed that in that area the situation had not changed since the1960s.

Our census data of 1990–2000 show an average population size of about 1900 breeding pairs of Lesser Black-backed Gull in Onega Bay. Taking into account the observed population growth we may assume that the current number of breeding pairs on islands in Onega Bay is 2000–2100, of which about 50% are on the Solovetsky Archipelago. The number of pairs on islands in the western part of the White Sea is 40 to 50. This means that the islands in Onega Bay of the White Sea is the breeding area of not less than 10% of the world population of Lesser Black-backed Gull nominate subspecies.

The breeding area in the White Sea covers the whole Onega Bay, slightly expanding beyond its boundaries along the Karelia coast. The northernmost colony, the same as in the 1960s (Bianki 1963), is located on Maly Robjak Island, and the most north-eastern breeding area is Zhizhgin Island, where individual pairs breed. To the east of Onega Bay, the Lesser Black-backed Gull evidently does not breed or the available data are not reliable.

It should be noted that the Lesser Black-backed Gull inhabits only a small number of islands in comparison with other numerous species. Relatively permanent colonies were recorded on only 78 of 567 (13.8%) of the surveyed islands in Onega Bay, on 16 of 129 (12.4%) on Solovke, and on 62 of 438 (14.1%) in the rest of the territory. When summed with the islands in the western part of the White Sea, the percentage will decrease considerably. For comparison, the Herring Gull population, being 2.5 times more, inhabits about 70% of the surveyed islands.

The Lesser Black-backed Gull is the most colonial gull in the White Sea. The mean size of a breeding colony per populated island is 24.3 pairs,

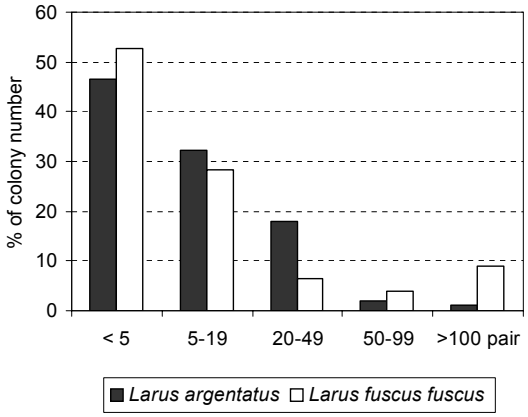


Figure 5. Share (% of total number) of Lesser Black-backed Gull and Herring Gull colonies with different numbers of breeding pairs.
*Andel (% av totalt antal) kolonier av silltrut och gråtrut med olika antal häckande par.*

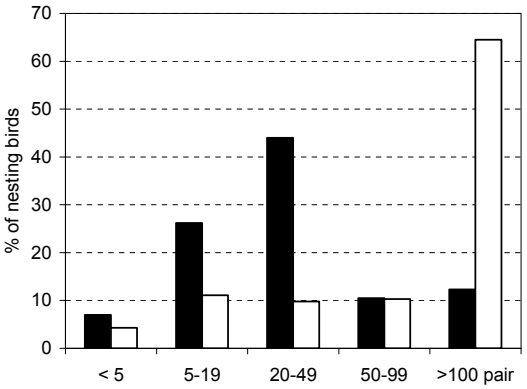


Figure 6. Share (% of total numbers) of breeding pairs of Lesser Black-backed Gull and Herring Gull in colonies of different size.
*Andel (% av totalt antal) par av silltrut som häckar i kolonier av olika storlek.*

approximately two times higher than for Herring (12.3) and Mew (13.7) Gulls. Figures 5 and 6 shows clearly that the major part (over 60%) of the White Sea Lesser Black-backed Gulls breeds in only seven big (over 100 pairs) colonies, of which three are located on Solovki (islands Parusnyi, N-W Sennaya Luda, Krasivyi), two in the southern part of the bay (Tonkaya Osinka, Sennaya Luda), one in the central part (Krestovaya Salma-Luda) and one in the Kem skerries (Northern Rombak) (Figure 3). The colony on Krasivy Island is the biggest one, on average for the last 15 years about 240 pairs, and in recent years over 300 pairs. Four other colonies have from 50 to 100 pairs, and all 11 islands host nearly 75% of the White Sea Lesser Black-backed Gull population. These colonies determine the population size in the White Sea and underestimation of any of them would significantly affect the evaluation of the total number in the region. Islands with Lesser Black-backed Gull colonies are big (in the White Sea context), over 1.5 hectares, and their vegetation is mostly tall grassland.

*Breeding conditions*

Competition with Herring Gulls for nesting grounds is mentioned first among the main factors that caused the Lesser Black-backed Gull population decrease in Scandinavia (Bergman 1982, Kilpi 1983). However, according to our observations in big colonies in Onega Bay, the competition for nesting grounds with Herring Gull is absent or minimal. Lesser Black-backed Gulls arrive in the White Sea from mid April to early May. On Solovki average arrival date was April 26 during 15 years of survey. This is 20 days later than the arrival of the Herring Gull and slightly later than of the Mew Gull. Breeding dates are also late compared with the other gulls. The first eggs are laid in the third decade of May (averaged for 18 years is on May 28), and mass nesting starts in the first decade of June (averaged date is June 7). The nests very often are located in grassland, often in small depressions. At the coast with low surf a typical nest location is on the beach under small peat cliffs in the upper supralittoral area. These sites become free of snow and dry only by end of May. Herring Gulls, that start breeding in early-mid May, occupy sites that become free of snow earlier – the beach-ridge in the zone of storm impact and local elevations. Thus, even when nesting on the same islands, these two species practically do not claim each other's nesting sites.

At many sites with Lesser Black-backed Gull colonies, the grass is tall by early July (time of mass nestlings emerging) and provides the growing nestlings with good hide from predators (including Herring Gull) and this probably improve breeding success in the area.

*Breeding success*

Average clutch size during 16 seasons was 2.44 eggs (n = 2044) with annual variation between 1.95

Table 1. Lesser Black-backed Gull number variations in some (over 10 pairs) colonies in the White Sea
*Antalsvariationer i några silltrutkolonier (med över 10 par) i Vita havet.*

| Colony names | Coordinates | | Years | | | | | |
|---|---|---|---|---|---|---|---|---|
| | N | E | 60th* | 1992-93 | 1995 | 1998-99 | 2004 | 2006 |
| Pur-luda | 64º14’ | 37º21’ | 20 | 60 | -** | 25 | - | 11 |
| Tonkaya Osinka | 64º06’ | 37º12’ | 80 | 200 | - | 300 | 300 | 300 |
| Ukhkontsy (3 isl.) | 64º09’ | 36º50’ | 11 | 27 | - | 17 | 25 | 6 |
| Morzhenets | 64º03’ | 36º56’ | 13 | 15 | - | 10 | - | 0 |
| Sennaya luda | 64º23’ | 36º12’ | 20 | 190 | - | 200 | 150 | - |
| Salma-ludy (2 isl.) | 64º32’ | 35º37’ | 17 | 100 | - | 210 | 270 | 300 |
| Beloguzikha | 64º52’ | 35º06’ | 15 | 20 | 30 | - | 13 | 5 |
| Malyi Rob’yak | 65º37’ | 34º56’ | 32 | - | - | - | 27 | 55 |

* - field data of V. V. Bianki (1963, non-published data)
** - no data

and 2.73. This value is lower than the one of birds nesting in the Baltic Sea. For Gulf of Finland clutch size is 2.89 (Hario et al. 2004), and for Baltic Sea between 2.75 and 2.91 in different years (Lif et al. 2005).

Although clutch size is higher, breeding success is lower. Both Finnish and Swedish ornithologists unambiguously mention extremely low breeding success of Lesser Black-backed Gull. Only from 0.02 to 0.2 nestlings survive to fledging (Bergman 1982, Hario et al. 2004, Lif et al. 2005), i.e. over 90% (commonly even more) of the nestlings die before they can fly. Unfortunately, we have not specifically studied breeding success of our populations. However, even our fragmentary data show that in the White Sea breeding success is considerably higher. In 2005, on N-W Sennaya Luda island, the number of breeding Lesser Black-backed Gull was estimated at 250 pairs. In late August there were about 260 young birds, i.e. breeding success was not less than one nestling per nesting pair.

## Conclusions

While within the bigger part of the Scandinavian states the population of nominate subspecies of Lesser Black-backed Gull is continuously decreasing, in the White Sea the population development has been quite different. Continuous population growth was registered by the authors in Onega Bay since the beginning of the surveys in mid 1980s, though it probably had started earlier. These opposite trends may be explained by the following factors:

1. Progressive “extinction” of the White Sea coastal villages since 1960s and therefore decrease of direct impact on the sea and waterfowl bird colonies. The tendency was most distinct in the early 1990s when low living standards and high prices for fuel resulted in sharp activity decrease of the local people on islands, including decrease of traditional egg picking.

2. Probable improvement of feeding resources for gulls both due to the decrease of the population of coastal settlements, which has resulted in decrease of catch in the White Sea, and due to transfer of a number of birds to alternative food of anthropogenic origin, first of all at landfills.

3. Relatively weak competition of Lesser Black-backed Gull with Herring Gull due to distinct differences in nesting dates and therefore territorial separation of the species’ colonies. Good protection of nestlings by tall grass where a majority of nests are located is also of importance.

Unfortunately we do not have information on the White Sea Lesser Black-backed Gull population wintering areas, as ringing using metal rings (over 500 ringed birds) has practically given no returns. Therefore it is not possible to tell whether the White Sea Lesser Black-backed Gull population has other wintering areas than the Scandinavian populations. To define wintering areas, migration routes and possible exchange of birds between different populations, it is necessary to mark birds with easily visible colour rings rather than metal rings. Although nothing is yet known about the possible effects of harmful pollutants on Lesser Black-backed Gulls, the difference in population trends in the White Sea and the Baltic Sea, may be a result of the fact that the Baltic Sea is more polluted than the White Sea.

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## References

Aspenberg, P. 2006. Silltruten i Gästrikland 1971–2006. *Fåglar i X-län* 37: 43–50. (In Swedish)

Bakken, V., Runde, O. & Tjørve, E. 2003. *Norsk ringmerkingsatlas*. Vol.1. Stavanger Museum, Stavanger. (In Norwegian with English summary)

Bergman, G. 1982. Population dynamics, colony formation and competition in Larus argentatus, fuscus and marinus in the archipelago of Finland. *Annales Zoologici Fennici* 19:143–164.

Bianki, V.V. 1963. The number and distribution of the mass seabirds in the western part of the White Sea. Pp. 161–167 in *Problemy ispolzovaniya promyslovykh resursov Belogo moray I vnutrennikh vodoemov Karelii*. Moscow-Leningrad. Vol. 1. (In Russian)

Bianki, V.V. 1967. *Kuliki, chaiki i chistikovye Kandalakshskogo zaliva*. Trudy Kand. Gos. zapovednika. Murmansk. (In Russian)

Bublichenko, Yu.N. 2000. To the avifauna of the southern coast of Gulf of Finland *Russkii ornitologicheskii zhurnal*. Ekspress-vypusk. 107:6–20. (In Russian)

Bublichenko, Yu.N. The summer avifauna of the Berezovye Islands archpelago *Prirodnaya Sreda arkhipelaga Berezovye ostrova Finskogo zaliva. Fauna nazemnykh pozvonochnykh. Ptitsy*. S-Petersburg. (in press) (In Russian)

Gebel, G.F. 1903. Data on the ornithology of Lapland and Solovetsky Islands Pp. 97–137 in *Trudy Imperatorskogo Sankt-Peterburgskogo obschestva estestvoispytatelei. Otdelenie zoologii i fiziologii*. T.33, Vol. 2. (In Russian)

Hario, M., Hirvi, J-P., Hollmén, T. & Rudbäck, E. 2004. Organochlorine concentrations in diseased vs. healthy gull chicks from the northern Baltic. *Environmental Pollution* 127:411–423.

Iovchenko, N.P., Noskov, G.A., Gaginskaya, A.R., Rymkevich, T.A. & Rezvyi, S.P. 2002. New avifaunic observation on the islands of eastern part of Gulf of Finland. Ptitsy i mlekopitayuschie Severo-Zapada Rossii (ekologo-faunisticheskie issledovaniya). *Trudy BiNII*. S-Peterburg. Vol. 48:99–120. (In Russian)

Kartashev, N.N. 1963. Quantitative characteristic of the avifauna of Solovetsky islands. *Ornitologiya*. Vol. 6:23–36. (In Russian)

Khrabryi, V.M. 1984. The birds of Berezovye Islands. Pp. 116–146 in *Materialy po faune Vyborgskogo zakaznika*. Trudy ZIN. Leningrad. (In Russian)

Kilpi, M. 1983. Population trends and selection of nest-sites in Larus argentatus and L. fuscus on the Finnish coast. *Ornis Fennica* 60:45–50.

Koskimies, P. 1989: *Distribution and Numbers of Finnish Breeding Birds*. Appendix to Suomen lintuatlas. SLY:n Lintutieto Oy. Helsinki.

Lif M., Hjernquist M., Olsson O. & Österblom H. 2005. Long-term population trends in the Lesser Black-backed Gull Larus f. fuscus at Stora Karlsö and Lilla Karlsö, and initial results on breeding success. *Ornis Svecica* 15:105–112.

Lorentsen, S.-H. 2004. *Det nasjonale overvåkingsprogrammet for sjøfugl. Resultater til og med hekkesesongen 2004*. NINA Oppdragsmelding 852. (In Norwegian with English summary)

Malchevskiy, A.S. & Pukinskiy, Yu.B. 1983. *Ptitsy Leningradskoi oblasti i sopredelnykh territorii. Nevorobinye*. T.1. Leningrad. (In Russian)

Pleske, F.D. 1887. Critical survey of the mammals and birds of the Kola Peninsula. *Zapiski Akademii Nauk*. St.-Petersburg. Vol. 56, Suppl. 1:536. (In Russian)

Semenov-Tyan-Shanski, O.I. & Gilyazov, A.S. 1991. *Ptitsy Laplandii*. Nauka, Moscow. (In Russian)

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.

Tarnani, I.K. 1892. The bird kingdom of Solovki. *Vestnik ptitsevodstva* 10:423–431; 11:455–462. (In Russian)

TemaNord 1997. *Population sizes and trends of birds in the Nordic Countries 1978–1994*. Report of Nordic Council of Ministers 614.

Zimin, V.B., Sazonov, S.V., Lapshin, N.V., Khokhlova, T.Yu., Artemev, A.V., Annenkov, V.G. & Yakovleva, M.V. 1993. *Ornitofauna Karelii*. Petrozavodsk. (In Russian)

## Sammanfattning

Studier av måsfåglar i Vita havet har fokuserats på nominatrasen av silltruten *Larus fuscus fuscus*, som här har sin östligaste utpost, en relativt liten population och en långsiktig nedgång inom en stor del av sitt utbredningsområde. Nedgången har gjort att den tagits upp i hotlistorna för de skandinaviska länderna. I Sverige har nedgången varit från 17.000 par i slutet av 1970-talet till numera 4000–5000 par. I Finland minskade silltruten från 12.000 par i början av 1980-talet till 6000–7000 par på 1990-talet. En ny räkning 2003 gav 5300 par längs Finlands kust och 3100 par i insjöarna, men denna ökning anses bero på bättre täckning. Även i norra Norge, Ladoga och Onega har beståndet gått ner. Från några få platser rapporteras om uppgång under senare år, t.ex. från Karlsöarna (50% ökning 1998–2004), Gästrikland (fördubbling 1990–2006) och Berezovyeöarna i Finska viken (50 par i slutet av 1970-talet, 350–450 par 2002–2005). Trots dessa enstaka fall av uppgång verkar utvecklingen för hela världspopulation av silltrutens nominatras *fuscus* vara negativ. Beståndet omfattar färre än 20.000 par.

Föreliggande undersökning omfattar studier av silltruten i Onegabukten av Vita havet (Figur 1). Inventeringar i Solovetskyarkipelagen startade 1983 och sedan 1987 har alla öar i arkipelagen inventerats. Öarna utanför Solovetskyarkipelagen började inventeras 1989 och sedan 1999 omfattar inven-

teringarna alla öar. Åren 2004–2006 inventerades dessutom öarna nära Karelska kusten mellan Kandalaksha och Onegabukten. Totalt ingår 671 öar i studien. Solovetskyarkipelagen inventeras årligen och övriga områden mellan varje och vart femte år.

Det är svårt att skapa en tydlig historisk bild av silltrutbeståndets utveckling i Vita havet. Den bästa sammanfattningen av de ofta osäkra litteraturuppgifterna är att beståndet alltid varit litet men stabilt. I det avseendet skulle alltså Vita havet skilja sig från Östersjön, där det skedde en kraftig nedgång under en stor del av 1900-talet. Det var först på 1960-talet som de första tillförlitliga räkningarna utfördes i Vita havet, vilket resulterade i 300 par i Onegabukten och 50 par i västra delen av havet (Figur 2). En retrospektiv analys visar emellertid att dessa inventeringar måste ha underskattat beståndet eftersom Solovetskyarkipelagen inte ingick, och där fanns kända kolonier som torde ha varit rätt stora.

Efter 1990-talets inventeringar kunde storleken av alla kolonier som hade inventerats på 1960-talet jämföras. Det visade sig att beståndet under de 30 åren hade ökat sex gånger (Figur 3), en utveckling rakt motsatt den som rapporterats från Östersjöområdet. Fastän totalbeståndet ökat i Onegabukten fanns det enstaka kolonier som förblivit stabila (Tabell 1). Under samma period som silltruten ökade skedde också en ökning av gråtrutens bestånd (mer än fem gånger på samma öar). De regelbundna inventeringarna under perioden 1990–2000 visade att beståndet var mer eller mindre stabilt i Onegabukten medan det ökade i Solovetskyarkipelagen. Inventeringarna av öarna längs västra kusten 2004–2006 visade att det inte skedd några förändringar där sedan 1960-talet.

Inventeringarna under 1990-talet visar att det häckar ungefär 1900 par silltrut i Onegabukten. Tar vi hänsyn till den ökande trenden, bör det numera finnas 2000–2100 par, varav ungefär hälften häckar på Solovetskyöarna. Det innebär att tio procent av världspopulationen av fuscus-rasen häckar i Vita havet.

Det verkar inte ha skett någon geografisk spridning sedan 1960-talet. Den nordligaste kolonin är densamma då som i dag (Maly Robak) och den längst åt nordost (Zhizhginön) omfattar bara enstaka par. Öster om Onegabukten finns inga kända förekomster.

Silltruten bor på bara ett fåtal av alla öar som inventerats. Relativt permanenta kolonier fanns på 78 av 567 (14%) av öarna i Onegabukten, 16 av 129 (12%) i Solovke och på 62 av 438 (14%) inom resten av området. Gråtruten bebor bebor 70% av öarna, men har också en 2,5 gånger så stor population.

Silltruten är den mest koloniala av måsarna i Vita havet. Medelstorleken av en koloni är 24,3 par, ungefär dubbelt så mycket som för gråtruten (12,3) och fiskmåsen (13,7). Figur 5 och 6 visar fördelningen av kolonier och antal par på olika kolonistorlek. Hela 60% av alla silltrutar häckar i sju stora kolonier med över 100 par. Den största kolonin är den på ön Krasivy i Solovetskyarkipelagen. Den har haft i genomsnitt 240 par de senaste 15 åren och har ökat till 300 par de allra senaste åren. Det är naturligtvis de få stora kolonierna som bestämmer det totala antalet silltrutar i Vita havet, och gör man felaktiga uppskattningar av antalet par i dessa, påverkas också totaluppskattningen. I Vita havet häckar silltruten på relativt stora öar (över 1,5 ha) och öarna skall ha rikligt med högt gräs.

Konkurrens med gråtrut har anförts som skäl till silltrutens nedgång i Östersjön. Våra observationer i Vita havet ger ingen antydan till sådan konkurrens. Silltruten både anländer och häckar senare än gråtruten och de lägger sina bon olika. Även när de häckar på samma ö ockuperar de inte varandras boplatser. Eftersom silltruten häckar så sent hinner gräset och örterna bli höga till början av juli, då ungarna kläcks. Den höga vegetationen ger skydd och bidrar till att skydda ungarna från predatorer.

Den genomsnittliga storleken av äggkullen var under 16 säsonger 2,44 ägg med en årlig variation mellan 1,95 och 2,73 (2044 kullar). Detta värde är lägre än i Finska viken (2,89) och Östersjön (2,75–2,91). Tyvärr har vi inte studerat häckningsframgången i Vita havet mer än under 2005. Då räknade vi antalet flygga ungar i augusti till 260 i en koloni med 250 par på ön Sennaya Luda, d.v.s. en unge per par. Detta värde är många gånger högre än de som rapporterats från Östersjön, där studier i både Finland och Sverige tyder på en dödlighet på över 90% bland ungarna.

Silltrutstudierna i Vita havet kan således sammanfattas enligt följande. Åtminstone sedan mitten av 1980-talet, troligen tidigare, har beståndet ökat nästan kontinuerligt, en utveckling som är motsatt den i Östersjön. Tänkbara förklaringar är följande. Från många småbyar längs Vita havets kust har det skett en fortlöpande utflyttning av ekonomiska skäl, något som accelererade i början av 1990-talet. Detta har medfört märkbart minskande aktiviteter på öarna, inklusive insamling av ägg. Genom att fisket minskat och därmed spillet som födokälla åt trutarna, kan de ha lagt om sitt födosök till de växande soptipparna vid de större orterna. Frånvaron av känd konkurrens med gråtrut och den sena häckningstiden som ger ungarna skydd i den höga vegetationen kan vara en ytterligare bidragande orsak.