

12 MARINE MAMMALS AND SEA BIRDS

12.1 Marine mammals

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In total, 2119 individuals of 9 species of marine mammals were observed and 77 individuals were not identified during the survey in August-October 2018. The distributions of observations are given by numbers in Table 12.1.1 and locations in Figs 12.1.1-12.1.2.

For technical reasons, some eastern and southeastern areas of the Barents Sea were not covered by this research.

As in previous years, the white-beaked dolphin (*Lagenorhynchus albirostris*) was the most abundant species with more than 70% of all registrations. This species was widely distributed in the survey area. Compared to 2017, there was also an increase in the numbers of registered white-beaked dolphins. The largest groups of white-beaked dolphins occasionally include up to 30-35 individuals. The highest densities of this species apparently overlap with the distributions of capelin, codfishes, herring and polar cod in the survey area.

Table 12.1.1. Numbers of marine mammal individuals observed from the R/V “Johan Hjort”, “G.O. Sars”, “H. Hansen” and “Vilnyus” during the ecosystem survey in 2018.

Name of species	Total	%
Fin whale	105	4.8
Humpback whale	202	9.2
Minke whale	183	8.3
Blue whale	1	0.05
Unidentified whale	33	1.5
White-beaked dolphin	1600	72.9
Harbour porpoise	13	0.6
Killer whale	2	0.1
Sperm whale	12	0.5
Unidentified dolphin	38	1.7
Unid. small cetacean	4	0.2
Ringed seal	1	0.05
Unidentified seal	2	0.1
Total sum	2196	100

Although in modest numbers, the toothed whales were represented by sperm whales (*Physeter macrocephalus*), harbour porpoises (*Phocoena phocoena*), and killer whales (*Orcinus orca*) besides the numerous white-beaked dolphins. The sperm whales were observed at deeper waters along the continental slope and other parts of the research area westward of 27° E. The harbor porpoise and killer whale sightings were mainly made in the southern parts of the research area.

The baleen whale species minke (*Balaenoptera acutorostrata*), humpback (*Megaptera novaeangliae*) and fin (*Balaenoptera physalus*) whale were quite abundant as 22 % of the total animals registered belonged to these species. Their main concentrations were found east of Svalbard. There were fewer observations of minke whales in 2018 than in 2017, and although they are widely distributed over all the survey area, their highest concentrations were in the northern

areas with spatial overlap with capelin and polar cod aggregations.

The humpback whales were as usual recorded mainly in the waters to the east of the Svalbard Archipelago and in the area the Great Bank. In 2018, more humpback whales were observed than in the previous year, however, the sizes of the groups of these whales were in general smaller and no more than 5 individuals. The humpback whales were recorded in areas with aggregations of capelin, often with fin and minke whales in the same areas. In 2018, fewer fin whales were observed during the survey as compared to 2017.

As previous years, blue whales (*Balaenoptera musculus*) were not observed north of Svalbard. Only one blue whale was registered west of Svalbard.

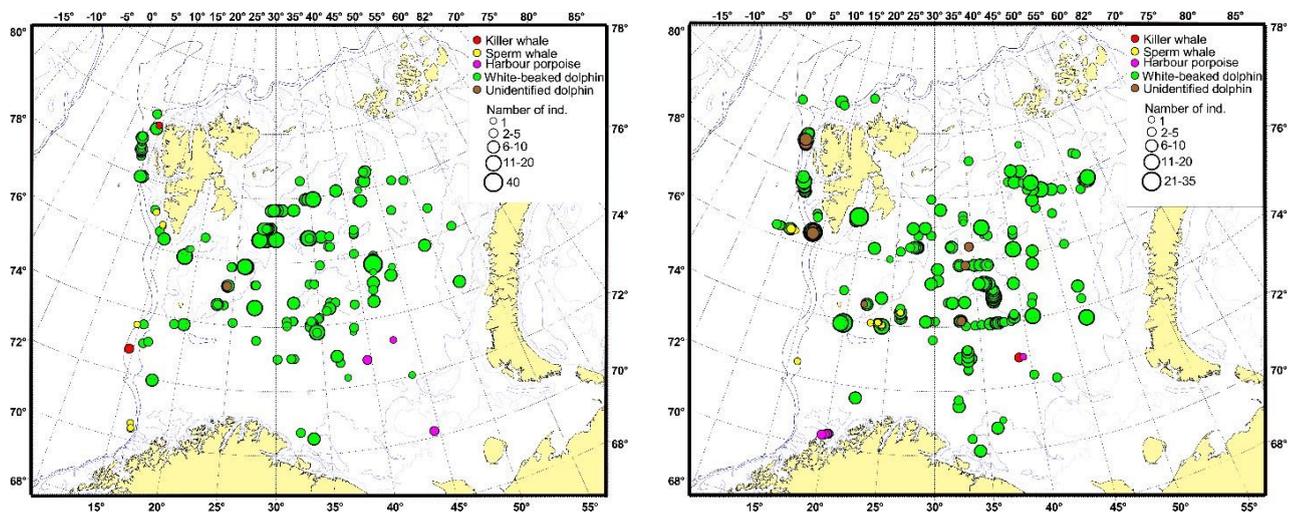


Figure 12.1.1. Distribution of toothed whales in August-October: 2017 (left), 2018 (right)

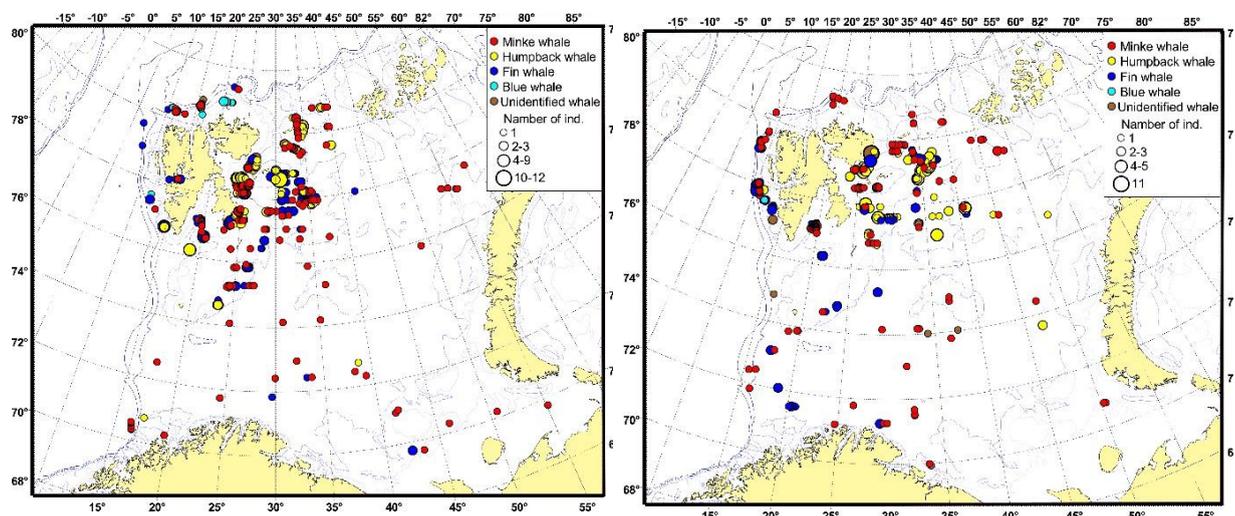


Figure 12.1.2. Distribution of baleen whales in August-October: 2017 (left), 2018 (right)

In 2018, the only pinnipeds observed was ringed seal (*Phoca hispida*). Harp seal (*Pagophilus groenlandicus*), bearded seal (*Erignathus barbatus*), walrus (*Odobenus rosmarus*) and polar bears (*Ursus maritimus*) were not observed during the survey, most likely due to lack of ice in the survey area.

12.2 Seabird observations

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Seabird observations were carried out by standardized strip transect methodology. Birds were counted from the vessel's bridge while the ship was steaming at a constant speed of ca. 10 knots. All birds seen within an arc of 300 m from directly ahead to 90° to one side of the ship were counted. Counts were done only during daylight and when visibility allowed a complete overview of the transect. On the vessels *Helmer Hansen*, *GO Sars* and *Johan Hjort*, birds following the ship i.e. "ship-followers", were counted as point observations within the sector every ten minutes. Ship-followers included the most common gull species and Northern fulmar. On *Vilnius*, ship-followers were counted continuously along the transects, and by a point observation at the start of each transect. The ship-followers are attracted to the ship from surrounding areas and individual birds are likely to be counted several times. The numbers of ship-followers are therefore probably grossly over-estimated.

Total transect length covered by the Norwegian research vessels; *Helmer Hansen*, *GO Sars* and *Johan Hjort*, was 7230 km. Total transect length covered by the Russian research vessel; *Vilnius*, was 3963 km. A total of 61 730 birds belonging to 39 different species were counted. The highest density of seabirds was found north of the polar front. These areas were dominated by Brünnich's guillemots (*Uria lomvia*), little auk (*Alle alle*), kittiwake (*Rissa tridactyla*) and Northern fulmar (*Fulmarus glacialis*) (Figs. 12.2.1, 12.2.2).

Broadly, the distribution of the different species was similar to the distribution in the 2017 survey. Alcids were observed throughout the study area but the abundance and species distribution varied geographically. Little auks were found north of Spitsbergen, Brünnich's guillemots were found in the north, Atlantic puffins (*Fratercula arctica*) were found in the southwest and common guillemots (*Uria aalge*) were found in the south. Among the ship-followers, black-backed gulls (*Larus marinus*) and herring gull (*Larus argentatus*) were found in the south, close to the coast. Glaucous gull (*Larus hyperboreus*) was found around Spitsbergen and in the southeastern area. Kittiwakes and Northern fulmars were found throughout the study area, but with highest density of kittiwakes in the eastern and northern areas and highest density of Northern fulmars in the northwest.

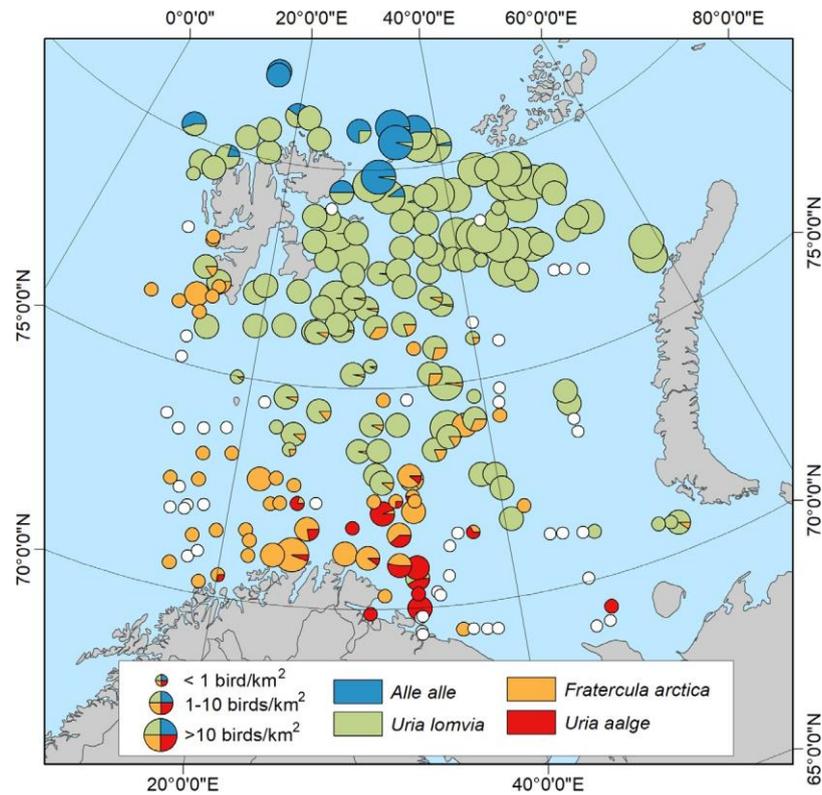


Figure 12.2.1 Density of auk species along seabird transects in 2018. White circles show zero density.

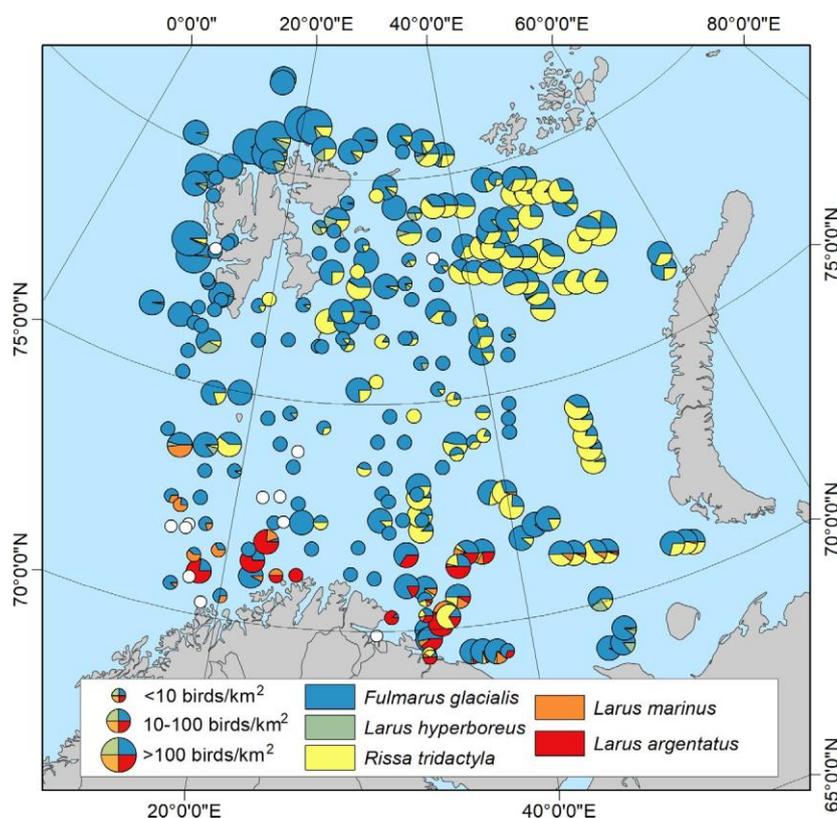


Figure 12.2.2. Density of the most common gull species and Northern fulmar along seabird transects in 2018. White circles show zero density. Note that because these species are attracted to and tend to follow the ship, densities might be grossly over-estimated.