

1 BACKGROUND

Text by G.O. Johansen and D. Prozorkevich

The aim of the joint Norwegian/Russian ecosystem survey in the Barents Sea and adjacent waters, August-October (BESS) is to monitor the status of abiotic and biotic factors and changes of these in the Barents Sea ecosystem. The survey has since 2004 been conducted annually in the autumn, as a collaboration between the Institute of Marine Research (IMR) in Norway and the Knipovich Polar Research Institute of Marine Fisheries and Oceanography (PINRO) in Russia.

The general survey plan and tasks are agreed upon at the annual IMR-PINRO Meeting in March. Ship routes and other technical details are agreed on by correspondence between the survey coordinators.

BESS covers the entire, ice-free area of the Barents Sea and usually progresses from south to north. Ecosystem stations are distributed in a 35×35 nautical mile regular grid, and the ship tracks follow this design. Exceptions are the area around Svalbard (Spitsbergen), some additional bottom trawl hauls for demersal fish survey index estimation, and additional acoustic transects for the capelin stock size estimation. The general survey design can be seen in figure 2.1. Deviations from the general design are described in chapter 2 of this report.

The 16-th joint Barents Sea autumn ecosystem survey (BESS) was carried out during the period from 13-th August to 04-th October 2018 by the Norwegian research vessels: “*G.O. Sars*”, “*Johan Hjort*”, and “*Helmer Hanssen*”, and the Russian vessel “*Vilnyus*”. Survey coordinators in 2018 was Dmitry Prozorkevich (PINRO) and Geir Odd Johansen (IMR). Two Russian experts participated in the Norwegian vessels in 2018. The scientists, technicians and guests taking part in the survey onboard the research vessels are listed in Table 1 below. We would like to express our sincere gratitude to all the crew and scientific personnel onboard RVs “*Vilnyus*”, “*G.O. Sars*”, “*Johan Hjort*” and “*Helmer Hanssen*” for their dedicated work, as well as all the people involved in planning and reporting of BESS 2018.

Photos and video documentation of the survey routines was taken at Norwegian vessels to start building up a freely available collection of documentation of the methods used at BESS.

This report is a summary of the observations and status assessments based on the survey data. Further interpretation on drives, trends and consequences will be reported by ICES WGIBAR and other ICES working group reports.

Table 1. Vessels and participants in the Barents Sea Ecosystem Survey 2018.

Research vessel	Participants
"Vilnyus" (13.08–03.10)	Krivosheya P.V. (Cruise leader), Amelkin A.V., Gubanishchev M.A., Harlin S.N., Klepikovskiy R.N., Nosov M.A., Nosova T.B., Pankova N.V., Uzbekova O.R., Kalashnikova M.U., Zhurbyk T.V., Kanischev A.A., Alexandrov D.I.
"G.O. Sars" (07.09–30.09)	<p><u>Part 1 (07.09-18.09)</u> Sigbjørn Mehl (Cruise leader), Olga Zimina, Anne Kari Sveistrup, Malin Lie Gulbrandsen, Anthony Mayer, Terje Haugland, Stine Karlson, Frøydis Tousgaard Rist Bogetveit, Alina Rey, Gaston Ezequiel Aguirre, Hilde Elise Heldal, Anders Fuglevik, Atle Børje Rolland, Irene Huse, Erlend Langhelle, Marita Larsen, Yasmin Hunt, Egil Frøyen, Holly Ann Perryman, Erlend Astad Lorentzen, Trevor Charlton, Tatiana Prokhorova.</p> <p><u>Part 2 (19.9-29.9)</u> Elena Eriksen (Cruise leader), Trevor Charlton, Tatiana Prokhorova, Louise Kiel Jensen, Berengere Husson, Atle Børje Rolland, Irene Huse, Erlend Langhelle, Marita Larsen, Yasmin Hunt, Egil Frøyen, Felicia Keulder-Stenevik, Lyubov Zakharova, Frederike Böhm, Martin Dahl, Inger Henriksen, Monica Martinussen, Marita Helgesen, Anders Fuglevik, Hilde Elise Heldal, Henry David Seal.</p>
"Johan Hjort" 22.08-04.10)	<p><u>Part 1 (22.08-11.09)</u> Jane Aanestad Godiksen (Cruise leader), Robert André Johansen, Eirik Odland, Jarle Vedholm, Hildegunn Mjanger, Helene Sørensen, Trude Hauge Thangstad, Thomas Sivertsen, Fredrik Eugen Otterlei Madsen, Reidar Johannesen, Jaime Alvarez, Anne Liv Johnsen, Julio Ericas, Jan Henrik Simonsen, Guri Nesje, Grethe Tveit, Natalia Zhuravliova, George McCallum, Jon Ford.</p> <p><u>Part 2 (13.09-04/10)</u> Georg Skaret (Cruise leader), Natalia Zhuravliova, George McCallum, Andrey Voronkov, Arne Storaker, Janicke Skadal, Anja Helene Alvestad, Trude Hauge Thangstad, Frode Holen, Ove Misje Aakre, Bjarte Kvinge, Benjamin Marum, Jaime Alvarez, Justine Diaz, Eilert Hermansen, Jon Rønning, Hilde Arnesen, Jon Ford.</p>
"Helmer Hanssen" (14.09-02.10)	Randi Ingvaldsen (Cruise leader), Natalia Strelkova, Heidi Gabrielsen, Grethe Hillersøy, Gunnar Langhelle, Else Holm, Gro van der Meeren, Gunnar Rikardsen, Arne Liaklev, Jarle Kristiansen, Sindre Nygård Larsen, Jostein Røttingen, Espen Bagøien, Jane Strømstad Møgster, Eirik Grønningsæter, Julie Brekkås, Edvin Fuglebakk.