

BACKGROUND

The aim of the survey is to monitor the status and changes of the Barents Sea ecosystem. The survey plan and tasks were agreed upon at the annual IMR-PINRO Meeting in March 2014. The survey plan was changed by IMR due to budget cut in June 2014, and several components of ecosystem both biological (such as shrimps, benthos, marine mammals) and environmental (floating litter) were not covered. PINRO conducted the survey as was planned at the joint meeting in March. Therefore, the shrimps, benthos, marine mammals and floating litter presented partly, only for the surveyed area, covered by PINRO.

The 11th joint Barents Sea autumn ecosystem survey (BESS) was carried out during the period from 12th August to 3rd October 2014. Research vessel tracks during the 2014 ecosystem survey are shown in Figure 1.1. Trawl, are shown in Figures 1.2 and hydrography and plankton stations are shown in Figures 1.3.

During the survey (13.08-23.08), research vessel “Johan Hjort” covered the western, central and some northern parts of the Barents Sea. “Helmer Hanssen”, initiating by “SI Arctic” project, investigated Arctic area northwest of Svalbard (Spitsbergen), and only 12 ecosystem stations were taken for “Ecosystem survey in the Barents Sea” project. Investigation area was limited in the north due to ice coverage (Figure 1.1).

Research vessels “G.O.Sars” started the survey with calibration of acoustics and control of the surveys trawls during 05-06 of September 2014 in Malangen fjord, Spilderbukta (79°25’N and 18°31’E) over a depth of 58 m. Due to high fish densities only 38kHz was calibrated, while other frequencies were checked and found. G.O. Sars covered the area along the continental slope during 06-15.09.2014. During this part in addition to ecosystem stations the following experiments were conducted: testing ruffled small mesh inside blinder, trawl geometry measurements with different rigging of standard survey trawls (“Harstad” and macro plankton), and calibration between the standard (“Harstad”) and experimental trawls. G.O.Sars covered the northern area during 15-27.09.2014, where in addition to ecosystem stations sonar investigation of capelin schools were conducted. This third part of the survey was shorted by 3 days due to ice coverage.

Russian research vessel “Vilnyus” (12.08-03.10) began the ecosystem survey from the southeastern Barents Sea and then continued to cover the REEZ from south to north up to Franz Josef Land. An area in the REEZ was closed for sailing due to military activity in the second decade of August. It led to the loss coverage along Novaya Zemlya. Moreover “Vilnyus” lost many days due to bad weather condition.

In 2014 all research vessels spent fewer days on the survey than in 2013 (129 vs 178), and the effective days at sea were less than 129 due to different reason (see above “H.Hanssen” and “Vilnus”). The surveyed area in 2014 was smaller in the Svalbard (Spitsbergen) region due to ice coverage. Adjustment water in northern Kara Sea and Arctic basin were not observed also due to reduced Russian vessel days.

This report covers most of the survey aspects but not all of them (see above). The content will be updated and available on the Internet (www.imr.no). A website dedicated to collating all information from the ecosystem survey including all the previous reports, maps, etc. is currently under preparation (http://www.imr.no/tokt/okosystemtokt_i_barentshavet/nn-no). Post-survey information which is not included in the written report may also be found at this website.

The scientists and technicians taking part in the survey onboard the research vessels are listed in Appendix 1.

Sampling manual of this survey has been developed since 2004 and published on the Ecosystem Survey homepage by specialist and experts from IMR and PINRO (http://www.imr.no/tokt/okosystemtokt_i_barentshavet/sampling_manual/nb-no). This manual includes the metrological and technical issues, describes equipments, the trawling and capture procedures by the samplings tools being used during the survey, and present the methods that are used in calculating the abundance and biomass for the biota. This manual is also in a process of being continuously updated.

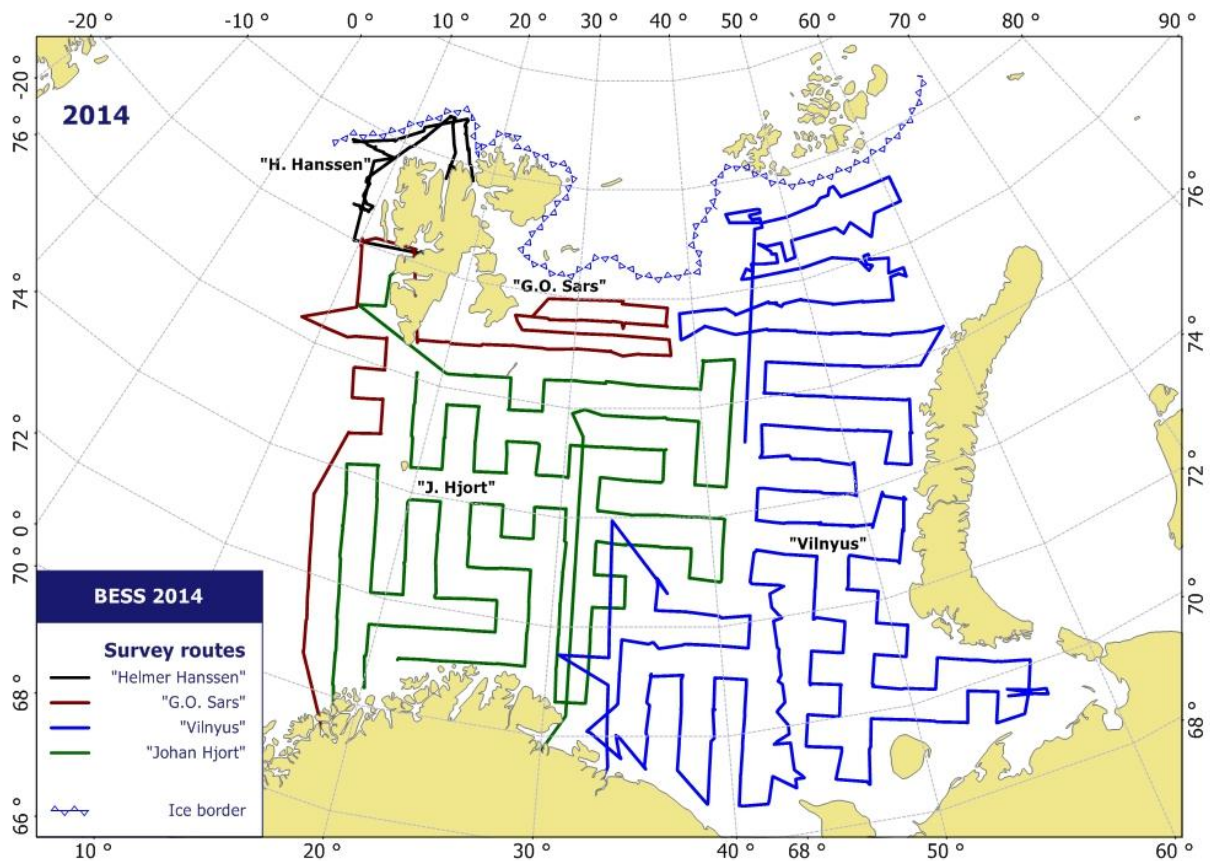


Figure 1.1 Ecosystem survey, August-October 2014. Research vessel tracks

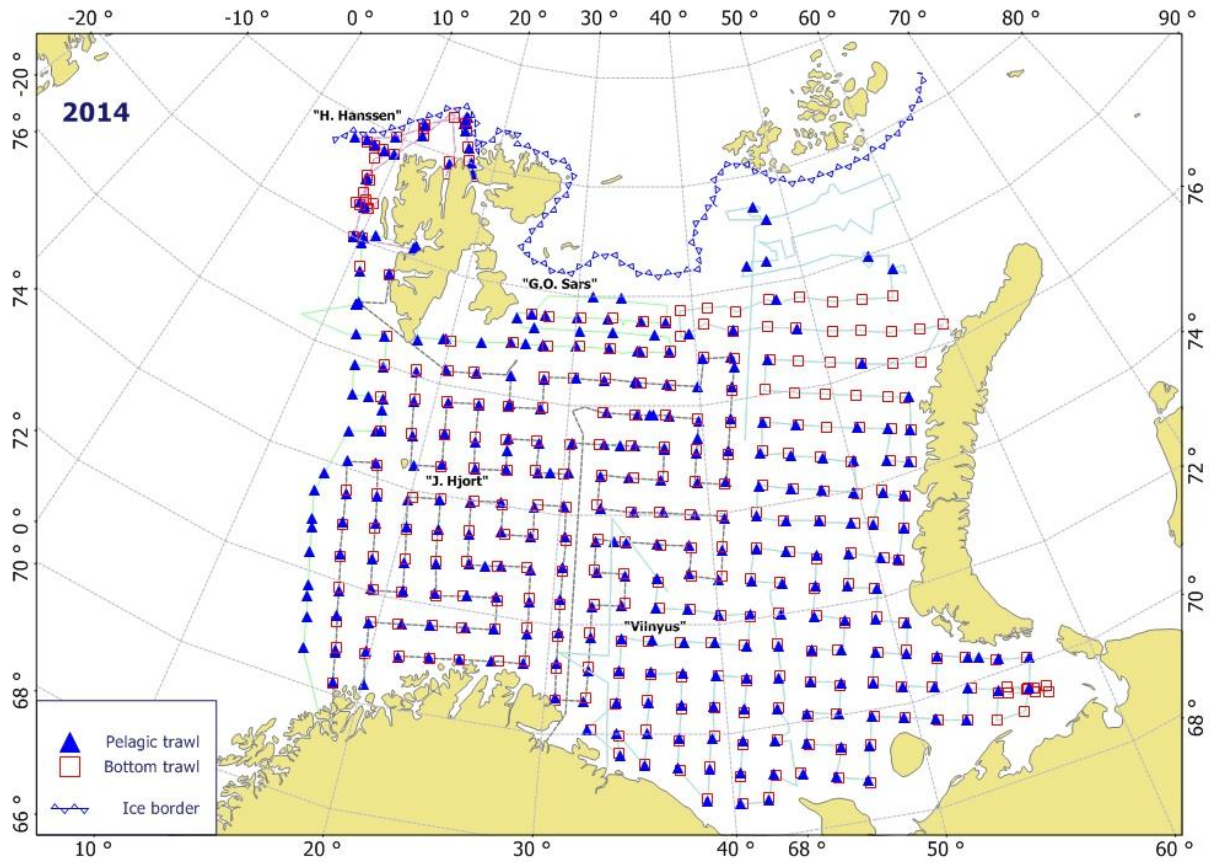


Figure 1.2 Ecosystem survey, August-October 2014. Trawl stations

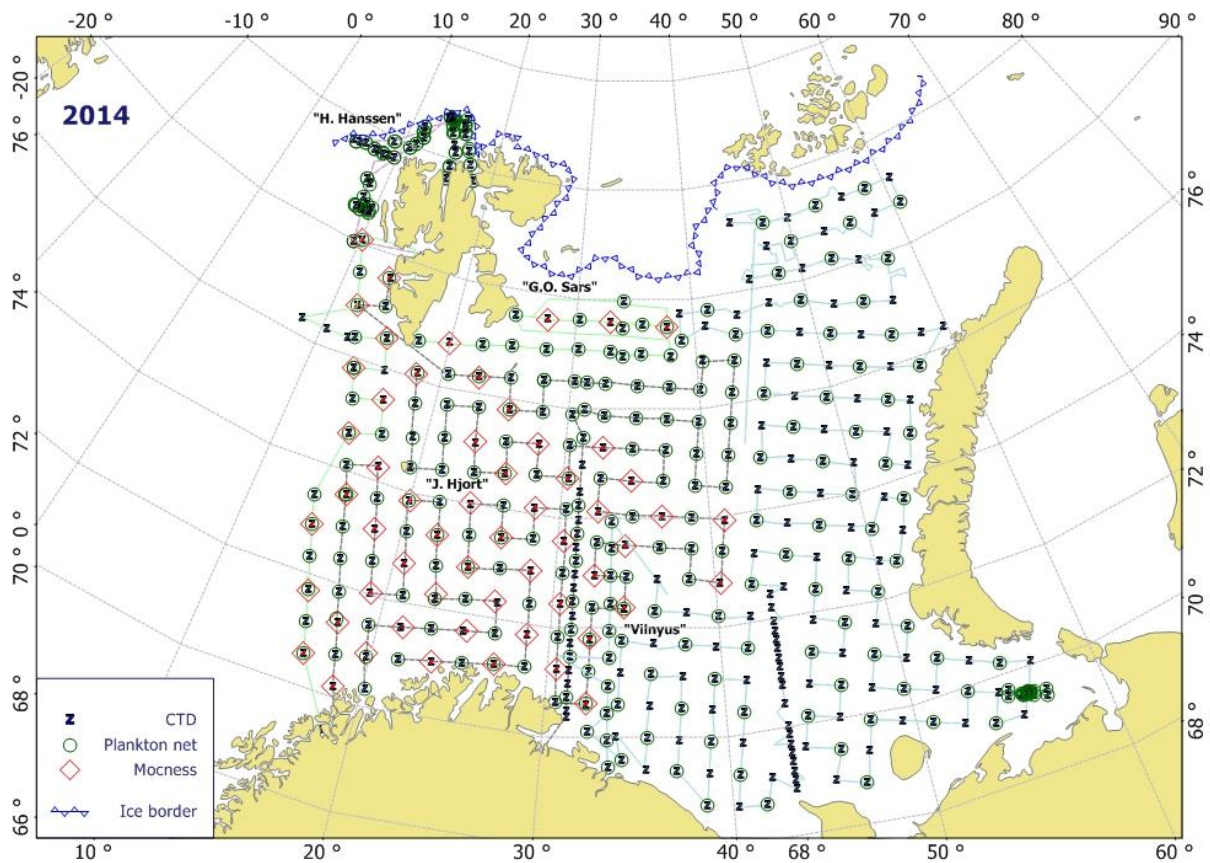


Figure 1.3 Ecosystem survey, August-October 2014. Hydrography and plankton stations