

Appendix 1: Executive summary from IESSNS survey report 2024 as presented in WGINOR report (ICES, 2024).

Reference

ICES. 2024. Working Group on Widely Distributed Stocks (WGWIDE). ICES Scientific Reports. 6:81. 913 pp. <https://doi.org/10.17895/ices.pub.26993227>

The International Ecosystem Summer Survey in the Nordic Seas (IESSNS) was performed within approximately 5 weeks from June 28th to August 2nd in 2024 using five vessels from Norway (2), Iceland (1), Faroe Islands (1) and Denmark (1). The main objective is to provide annual age-segregated abundance index with start in 2010, with an uncertainty estimate, for northeast Atlantic mackerel (*Scomber scombrus*) using a standardised pelagic swept area trawl method. Another aim is to construct abundance indices for blue whiting (*Micromesistius poutassou*) and for Norwegian spring-spawning herring (NSSH) (*Clupea harengus*). This is obtained by utilizing standardized acoustic methods to estimate their abundance in combination with biological trawling on acoustic registrations. The time series for blue whiting and NSSH now consists of nine years (2016-2024).

The total swept-area mackerel index in 2024 was 2.5 million tonnes in biomass and 5.6 billion in numbers, a decrease of 42% for biomass and 48% for abundance compared to 2023. In 2024, most abundant year-classes were from 2020 (age 4) and 2019 (age 5), respectively. The internal consistency between cohorts improved overall compared to last year and ranged from good to strong for all ages. Mackerel of age 1, 2 and to some extent age 3 are not completely recruited to the survey, because the main nursery area was further south than the surveyed area. All the surveyed mackerel were in the Norwegian Sea. However, compared with previous years, the mackerel appears to have retracted to the central and southern Norwegian Sea in 2024: i) the western border retracted from west coast of Iceland to the East coast of Iceland (from 25° to 10° W); ii) the northern boundary of mackerel retracted from latitude 78 °N in 2023 to latitude 72 °N in 2024.

Norwegian spring-spawning herring (NSSH) was predominantly recorded in the northern Norwegian Sea and in the Jan Mayen zone. The total biomass index of Norwegian spring-spawning herring measured during IESSNS 2024 was 3.78 million tonnes, 24% lower than in 2023. A reduction of 11% was recorded in the abundance of adult fish age 4+. The 2016 year-class (8-year-olds) dominated in the stock and contributed 56% to the total biomass. Other year classes are much weaker with less than 10% compared to the 2016-year class. The zero-boundary of the distribution of the mature part of NSSH was reached in all directions, except for the northwestern area between Jan Mayen and Greenland. The herring was mainly observed in the upper surface layer as relatively small schools.

Blue whiting was distributed in parts of the survey area dominated by warm Atlantic waters and had a continuous distribution from the southern boundary of the survey area (60° N) to Bear Island (74.30° N). The total biomass index of blue whiting was very similar in 2024 (1.96 mill ton) compared to 2023 (1.98 million ton). Estimated stock abundance (ages 1+) was 17.7 billion in 2024 compared to 20.8 billion in 2023 (15% decrease). Ages 4 and 3 respectively, dominated the estimate in 2024 as they contributed to 26% and 21% (abundance) and 36% and 27% (biomass), respectively. Interestingly, 0-group contributed with 24% in abundance in 2024.

Other fish species were also monitored such as lumpfish (*Cyclopterus lumpus*), capelin (*Mallotus villosus*), polar cod (*Boreogadus saida*), and Atlantic salmon (*Salmo salar*). Results from a separate coverage of capelin in the Jan Mayen zone is available in Appendix 4.

Satellite measurements of sea surface temperature (SST) in the central areas in the Northeast Atlantic in July 2024 were slightly warmer than the long-term average for July 1990-2009. The northern regions of the Nordic Seas were slightly warmer than the average, while the East Greenland Current was cooler than the long-term average. The SST in the Irminger Sea was similar to the long-term average, and slightly colder in the Iceland Basin. Overall, the temperatures were cooler in 2024 compared to 2023 and more similar to the long-term average.

The zooplankton biomass varied between areas with a patchy distribution throughout the area, with high concentration north of Iceland and north of Faroes Island. In the Norwegian Sea areas, vast regions had biomass values below 10 g/m², with an average value around 7 g/m², which is lower than last year.

Systematic observations of marine mammals using two separate platforms were conducted onboard M/V “Eros” from Norway, R/V “Jákup Sverri” from Faroe Islands and R/V “Arni Fridriksson” from Iceland, during IESSNS 2024 as part of the North Atlantic Sighting Survey.