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**A short preliminary report on the Research Survey A8-2016 on R/V Arni Friðriksson, TFNA (Iceland)**

# The Icelandic part of the International Ecosystem Summer Survey in Nordic Seas (IESSNS), 1-31 July 2016

***Part of the joint Northeast Atlantic Pelagic Ecosystem Surveys in 2016 (see ICES WGIPS report, January 2017)***

**By**
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HAFRANNSÓKNASTOFNUN
Rannsókna- og ráðgjafarstofnun hafs og vatna

Vessel: R/V Arni Fridriksson, TFNA (Iceland)
Captain: Heimir Örn Hafsteinsson (first part) and Guðmundur Bjarnason (latter part)
Cruise leaders: Guðmundur J. Óskarsson (first part) and Sigurður Þ. Jónsson (latter part)

The survey is a part of an annual international survey, International Ecosystem Summer Survey in Nordic Seas (IESSNS), governed by the ICES Working Group of International Pelagic Surveys (WGIPS). The main objectives are to explore: (1) through standardized surface trawling and acoustical measurements, the distribution and quantity of mackerel, Norwegian spring-spawning herring, blue whiting and other pelagic fish stocks; and (2) hydrographical- and zooplankton communities' conditions. RV Árni Friðriksson departed from Reykjavik on the 1 July. The survey followed a stratified sampling procedure (Figure 1) where location of transects and sampling stations was predefined. The first transect and station undertaken was northwest of Iceland and then the survey continued clock wise around Iceland. From the southernmost transect in west Iceland, on 27$^{th}$ July, the vessel entered into Greenlandic waters for a special 3.5 days research program run by the Greenland Institute of Natural Resources. The vessel was back in Reykjavik on the 31 July.

The main results show that mackerel was as in previous summers widely distributed in Icelandic and adjacent waters. Mackerel was caught in 67% of the total 82 standardized surface trawl hauls in the survey area. The highest density of mackerel in the survey area was west of Iceland. The distribution of mackerel had an overlap with Norwegian-spring spawning herring east and northeast of Iceland, and with Icelandic summer-spawning herring south and west of Iceland. The zero line of mackerel distribution was considered to have been reached in all directions in Icelandic waters, where strata covered by other vessels continued towards west and east from the area covered by RV Árni Friðriksson.
The preliminary estimate of the abundance index for mackerel in Icelandic waters was at similar levels as in the year before. The Norwegian spring-spawning herring was widely distributed southeast, east and north of Iceland. The highest density as represented both by the acoustic and trawl catches was east of Iceland and in a belt north of Iceland. Blue whiting was registered in most of the survey area, including in the International waters east of Iceland, on and near the Iceland-Faroese ridge, and south and west of Iceland.
The upper layer (< 20 m depth) was ~1°C warmer in 2016 compared to 2015 more or less throughout the surveyed area, or similar to 2014.

Further details about the survey can be found in: Nøttestad, L., Anthonypillai, V., Tangen, Ø., Utne, K.R., Óskarsson, G.J., Jónsson S., Homrum, E., Smith, L., Jacobsen, J.A. and Jansen, T. 2015. Cruise report from the International Ecosystem Summer Survey in the Nordic Seas (IESSNS) with M/V "Brennholm", M/V "Eros", M/V "Christian í Grótinum" and R/V "Árni Friðriksson", 1 July - 10 August 2015. Working Document to ICES Working Group on Widely Distributed Stocks (WGWIDE), AZTI-Tecnalia, Pasaia, Spain, 25 – 31 August 2015. 47 pp.

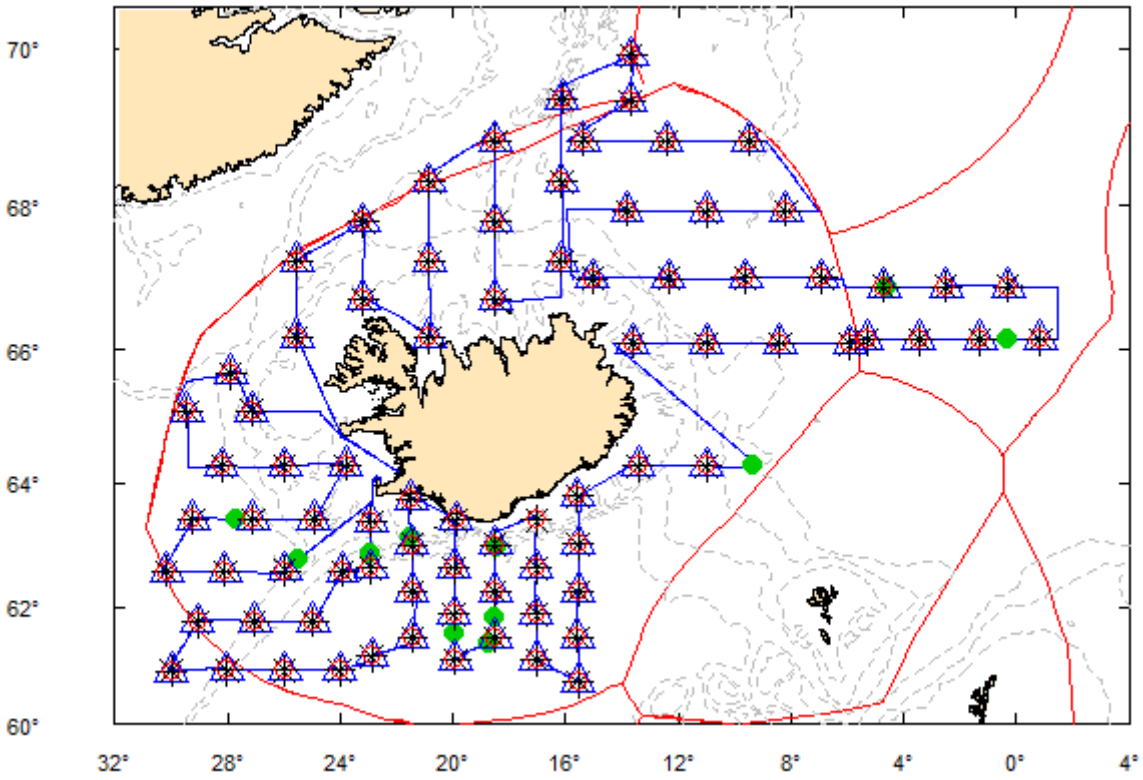


Figure 1. Location of the standardized surface trawl hauls (red circles), CTD stations (black stars), WP-2 stations (blue triangles) and deep trawl hauls for blue whiting (filled green dots) along the survey tracks in the International Ecosystem summer survey in Nordic Seas (IESSNS) in July 2016 on RV Árni Friðriksson.