

7. SCIENTIFIC PERSONNEL Name and address of
 scientist in charge: Kjell Rong Utne (cruise leader 04.-22. July)
 Are Salthaug (cruise leader 22. July- 08. Aug)
 Leif Nøttestad (project leader)
- Tel/telex/fax no.: As in # 3 above
 (47)90075641
- No. of scientists: 2 scientists, 4 technicians, 2 engineers
8. GEOGRAPHICAL AREA IN WHICH SHIP WILL OPERATE (with reference to latitude and longitude)
- Norwegian Sea and surrounding areas including: EEZ United Kingdom, Faroe Islands, Iceland, Greenland
- 58° N - 78° N
 24° E- 36° W
9. BRIEF DESCRIPTION OF PURPOSE OF CRUISE
- Mackerel and Ecosystem cruise with oceanography, zooplankton sampling, biological sampling of mackerel, herring, salmon and blue whiting as well as marine mammal sightings. Abundance estimation of mackerel with Mulpelt 832 pelagic trawling and abundance estimation of Norwegian spring-spawning herring and blue whiting using acoustic recordings combined with trawl sampling.
10. DATES AND NAMES OF INTENDED PORTS OF CALL
- Bergen, Norway 4. July 2019
 Tromsø, Norway 22. July 2019
 Tromsø, Norway 6. August 2019
11. ANY SPECIAL REQUIREMENTS AT PORTS OF CALL
- NO.

NOTIFICATION OF PROPOSED RESEARCH CRUISE

PART B: DETAIL

1. NAME OF RESEARCH SHIP: CRUISE NO. 2019 837
2. DATES OF CRUISE From: 04. July 2019 To: 06. August 2019
3. a) PURPOSE OF RESEARCH

The major aim is abundance estimation of Northeast Atlantic (NEA) mackerel. Secondary aim is to perform acoustic abundance estimation of blue whiting and Norwegian spring-spawning herring. A major task is also to understand the Norwegian Sea ecosystem and especially the distribution, migration, feeding and spatial

overlap of important pelagic planktivorous species (mackerel, herring and blue whiting) in relation to hydrography, zooplankton and top predators.

b) GENERAL OPERATIONAL METHODS (including full description of any fish gear, trawl type, mesh size, etc.)

During the cruise the following operations will be made:

1. Pelagic trawling 0-35 m with Mulpelt 832 pelagic trawl for mackerel, blue whiting, herring and salmon. There will be about 70 trawl stations for each of the two chartered fishing vessels during the survey based on both predetermined stations and opportunistic trawling in deeper waters for blue whiting and herring based on acoustic registrations.
 2. Conductivity-Temperature-Depth (CTD) measurements using a SBE 911+ system on a water sampler (SBE32 Carousel) rosette equipped with 12 bottles and SAIV CTD measurements. In total 50-60 CTD casts are planned in the area.
 3. WP2 net casts for zooplankton sampling. Stipulated 70 zooplankton samples from 0-200 m for each vessel.
 4. Marine mammal sightings from the bridge during daylight hours.
4. ATTACH CHART showing (on an appropriate scale) the geographical area of intended work, positions of intended stations, tracks of survey lines, positions of moored/seabed equipment, areas to be fished.

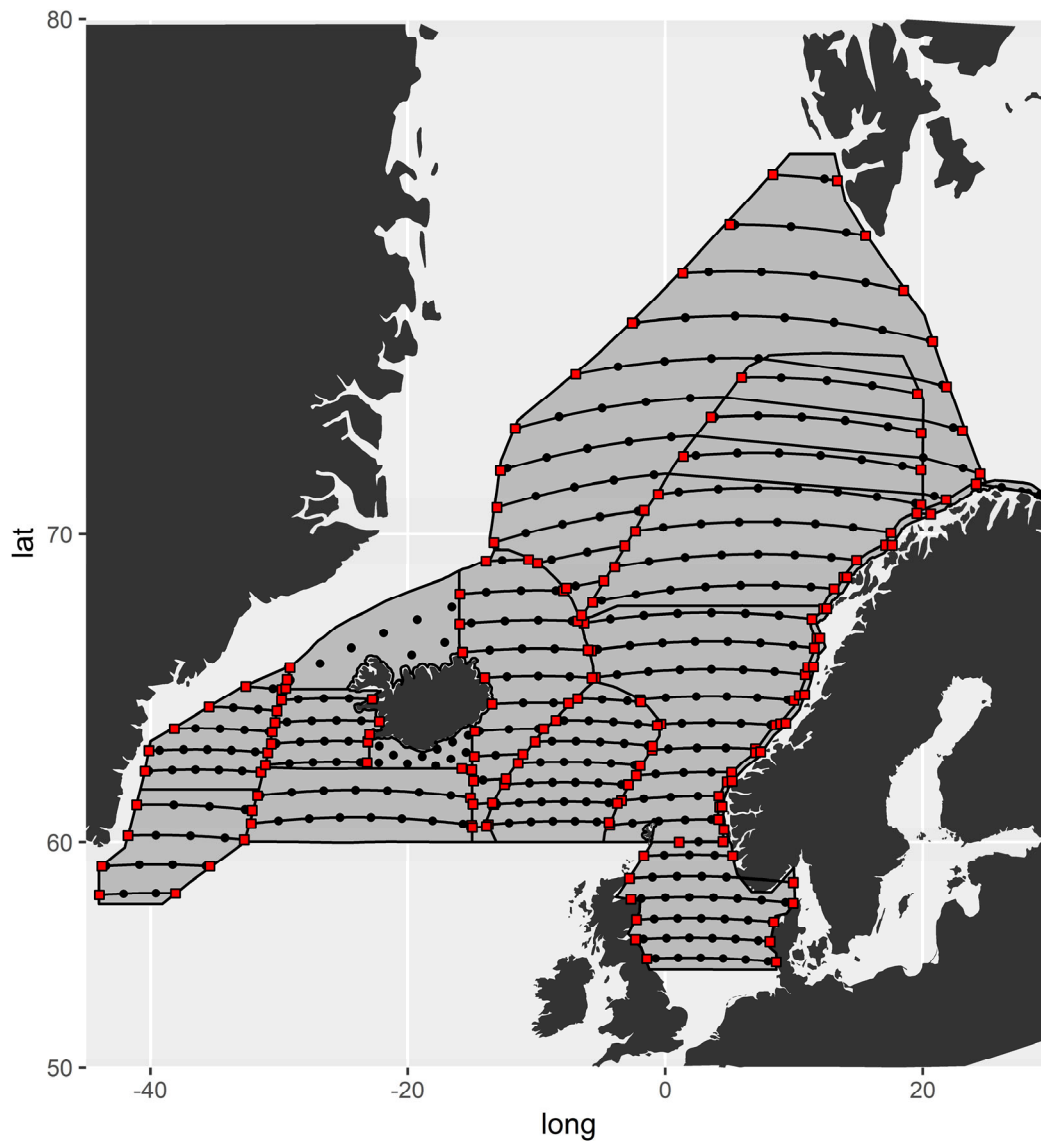


Figure 1. Preliminary surface stations (closed black circles) and transects (black lines). Norway participate with 2 vessels (Kings Bay and Vendla) for IESSNS in July-August 2019.

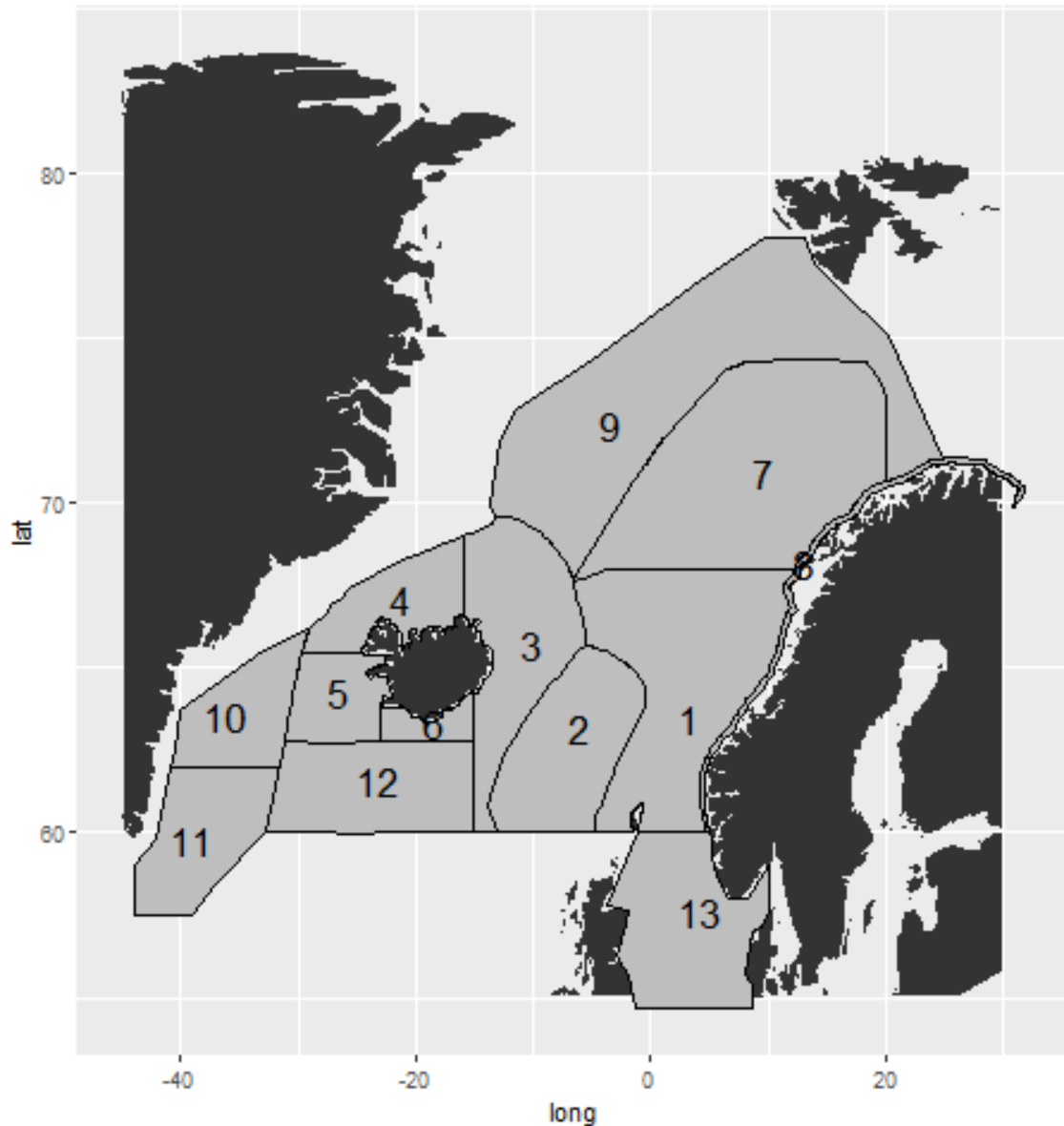


Figure 2. Predefined strata numbers and areas for IESSNS 2019.

5. a) TYPES OF SAMPLES REQUIRED (e.g., geological/water/plankton/fish/radionuclide).

At each CTD station, close to the bottom (10-15 m above the seabed) water sample will be taken to measure water salinity. This data set will be used to correct conductivity (hence inferred salinity) measured by the CTD system.

- b) METHODS OF OBTAINING SAMPLES (e.g., dredging/coring/drilling/fishing, etc. When using fishing gear, indicate fish stocks being worked, quantity of each species required, and quantity of fish to be retained on board

Fishing with pelagic trawl upon mackerel, herring, blue whiting and salmon, of which approx. 100 individuals/haul are required. Quantity of fish to be retained on board: up to 200 tonnes of mackerel, horse mackerel, herring, blue whiting and salmon due to catch needed for biological research. Other species: nil.

6. DETAILS OF MOORED EQUIPMENT

No moored equipment will be deployed during the present cruise.

<u>Dates</u>	<u>Recovery</u>	<u>Description</u>	<u>Depth</u>	<u>Latitude</u>	<u>Longitude</u>
<u>Laying</u>					

7. ANY HAZARDOUS MATERIALS (chemicals/explosives/gases/radioactives, etc.
(Use separate sheet if necessary)

- | | |
|---|-----|
| a) <u>Type and trade name</u> | NIL |
| b) <u>Chemical content</u> (and formula) | NIL |
| c) <u>IMO IMDG code</u> (reference and UN no.) | NIL |
| d) <u>Quantity and method of storage on board</u> | NIL |
| e) <u>If explosives give date(s) of detonation</u> | NIL |
| <ul style="list-style-type: none"> - Method of detonation - Position of detonation - Frequency of detonation - Depth of detonation - Size of explosive charge in kg. | |

8. DETAIL AND REFERENCE OF

- a) Any relevant previous/future cruises
- b) Any previously published research data relating to the proposed cruise
Nøttestad et al. 2016 ICES. J. Mar Sci; Nøttestad et al. 2007; 2009; 2010; 2012-2018 (IESSNS survey reports). See also ICES WGwide (2018) and WGIPS (2019) reports for previous reports and publications.

9. NAMED AND ADDRESSES OF SCIENTISTS OF THE COASTAL STATE(S) IN WHOSE WATERS THE PROPOSED CRUISE TAKES PLACE WITH WHOM PREVIOUS CONTACT HAS BEEN MADE

WGIPS and WGwide involved scientists from European countries

10. STATE

- a) Whether visits to the ship in port by scientists of the coastal state concerned will be acceptable
(Yes/No)

No port call will be made.

- b) Participation of an observer from the coastal state for any part of the cruise together with the dates and the ports for embarkation and disembarkation

No arrangements were made for an observer.

c) When research data from the intended cruise is likely to be made available to the coastal state and by what means

Basic data available in Cruise report about one month after cruise.

PART C. SCIENTIFIC EQUIPMENT

Complete the following table using a separate page for each coastal state

Coastal state: Iceland

Port call: NO.

Dates: 6. July – 2. August 2019

Indicate "YES or "NO"

<u>List scientific work by function</u> e.g. Magnetometry Gravity Diving Seismics Seabed sampling Bathymetry Trawling Echo sounding Water sampling U/W TV Moored instr. Towed instr.	Water column including sediment sampling of the seabed	Fisheries research within fishing limits	Research concerning the natural resources of the continental shelf or its physical characteristics	Distance from coast		
				Within 0-4 nm	Between 4-12 nm	Between 12-200 nm
Echo sounding	0-200m	No	No	No	No	Yes
Water sampling	0-500 m	No	No	No	No	Yes
Moored Instrument	n.a.	No	No	No	No	Yes

Date: 19.02.2019

NB. IF ANY DETAILS ARE MATERIALLY CHANGED REGARDING DATES/AREA OF OPERATION AFTER THIS FORM HAS BEEN SUBMITTED, THE COASTAL STATE AUTHORITIES MUST BE NOTIFIED IMMEDIATELY.