

10. DATES AND NAMES OF INTEND PORTS OF CALL: *Aberdeen:*
29-06-2019 - 30-06-2019
Aberdeen:
06-07-2019 - 07-07-2019
Newcastle or Sunderland:
13-07-2019 - 14-07-2019

11. ANY SPECIAL REQUIREMENTS AT PORTS OF CALL: *None*

NOTIFICATION OF PROPOSED RESEARCH CRUISE

PART B : GENERAL

1. NAME OF RESEARCH SHIP: *TRIDENS* CRUISE NO: *wk. 26-29/19*
2. DATES OF CRUISE FROM *24-06-2019* TO *19-7-2019*
3. a) PURPOSE OF RESEARCH *To carry out an hydro acoustic survey monitoring the pelagic ecosystem and estimating the abundance of herring and sprat in the North Sea, in co-operation with the institutes of Norway, Scotland, Denmark and Germany. Calibration of the echosounder in a sheltered area, preferably in Scapa Flow, Orkneys 58°56'71 N - 003°00'57 W, Loch Eriboll 58°30N - 4°41W, or Stavanger fjord 59°05N - 005°36.*
- b) GENERAL OPERATIONAL METHODS (including full description of any fishing geartrawl type, mesh size etc:)
A pelagic trawl (2000 meshes), fitted out with an inner codend of 20 mm meshes, will be used for identifying the traces.
- For the calibration the ship has to be anchored in a sheltered location, and all the EK80 echosounder transducers (18,38,70,120,200,333 kHz) and ME70 multibeam echosounder (operating from 70-120 kHz) will be calibrated with the aid of small copper spheres that are lowered below the keel of the ship. For the calibration the drop keel housing the echosounder transducers will be lowered ~3 meters below the ship keel. The entire operation will take approximately 16 hours. A CTD profile will be taken at the calibration site. No fishing will be conducted, and no other electronic instruments other than the acoustic system and the CTD will be operated.*
4. ATTACH CHART showing (on an appropriate scale) the geographical area of the intended work, positions of intended stations, tracks of survey lines, positions of moored/seabed equipment, areas to be fished: *Chart included.*
5. a) TYPES OF SAMPLES REQUIRED eg Geological/Water/Plankton/Fish/Radionuclide:
Samples of pelagic fishes for biological research will be retained on board. CTD profiles.
- b) METHODS OF OBTAINING SAMPLES (eg dredging/coring/drilling/fishing etc)
(When using fishing gear indicate fish stocks being worked, quantity of each species require, quantity of fish to be retained on board)
- Samples of pelagic fishes will be collected by fishing
CTD profiles will be taken by lowering a CTD probe as deep as 5 m above the bottom.*

6. DETAILS OF MOORED EQUIPMENT: *none*

DATES

<u>Laying</u>	<u>Recovery</u>	<u>Description</u>	<u>Depth</u>	<u>Latitude</u>	<u>Longitude</u>
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7. ANY HAZERDOUS MATERIAL: (Chemicals/Explosives/Gases/Raioactive etc)

(Use separate sheet if necessary) *none*

a) TYPE AND TRADE NAME

b) CHEMICAL CONTENT (& Formula)

c) IMO IMDG CODE Reference & UN Number

d) QUANTITY & METHOD OF STOWAGE ON BOARD

e) IF EXPLOSIVES give date(s) of detonation

- Method of detonation

- Position of detonation

- Frequency of detonation

- Depth of detonation

- Size of explosive charge in Kgs

8. DETAIL & REFERENCE OF:

a) ANY RELEVANT PREVIOUS/FUTURE CRUISES:

From 24-06-96 to 19-07-96: North Sea hydro acoustic survey
From 16-06-97 to 18-07-97: North Sea hydro acoustic survey
From 22-06-98 to 17-07-98: North Sea hydro acoustic survey
From 21-06-99 to 16-07-99: North Sea hydro acoustic survey
From 19-06-00 to 14-07-00: North Sea hydro acoustic survey
From 25-06-01 to 20-07-01: North Sea hydro acoustic survey
From 24-06-02 to 19-07-02: North Sea hydro acoustic survey
From 28-06-04 to 21-07-04: North Sea hydro acoustic survey
From 27-06-05 to 22-07-05: North Sea hydro acoustic survey
From 26-06-06 to 21-07-06: North Sea hydro acoustic survey
From 25-06-07 to 20-07-07: North Sea hydro acoustic survey
From 23-06-08 to 17-07-08: North Sea hydro acoustic survey
From 29-06-09 to 24-07-09: North Sea hydro acoustic survey
From 23-06-10 to 28-07-10: North Sea hydro acoustic survey
From 27-06-11 to 22-07-11: North Sea hydro acoustic survey
From 25-06-12 to 20-07-12: North Sea hydro acoustic survey
From 24-06-13 to 19-07-13: North Sea hydro acoustic survey
From 23-06-14 to 18-07-14: North Sea hydro acoustic survey
From 22-06-15 to 17-07-15: North Sea hydro acoustic survey
From 27-06-16 to 22-07-16: North Sea hydro acoustic survey
From 26-06-17 to 21-07-17: North Sea hydro acoustic survey
From 25-06-18 to 20-07-18: North Sea hydro acoustic survey

b) ANY PREVIOUSLY PUBLISHED RESEARCH DATA RELATING TO THE PROPOSED CRUISE:

See reports of ICES expert group PGHERS (till 2008)
PGIPS (2009)
WGIPS (2010 onwards)

<http://ices.dk/community/groups/Pages/WGIPS.aspx>

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

Reidar Toresen, Inst. of Mar. Res., PO Box 1870 Nordnes, N-5024 Bergen, Norway

Susan Lusseau, FRS Mar. Lab., PO Box 101, Victoria Road, AB11 9DB Aberdeen, Scotland

Jens Ulleweit, Institut für Seefischerei (ISH) Bundesforschungsanstalt für Fischerei, Palmallee 9, D-22767 Hamburg, Germany

Karl-Johan Staehr, Danish Institute for Fisheries Research (DTU Aqua - former DIFRES), North Sea Centre, P.O.Box 101, DK-9850 Hirtshals, Denmark

10. STATE:

- a) WHETHER VISITS TO THE SHIP IN PORT BY SCIENTISTS OF THE COASTAL STATE CONCERNED WILL BE ACCEPTABLE

YES

- b) PARTICIPATION OF AN OBSERVER FROM THE COASTAL STATE FOR ANY PART OF THE CRUISE TOGETHER WITH THE DATES AND THE PORTS FOR EMBARKATION/DISEMBARKATION

- c) WHEN RESEARCH DATA FROM THE INTENDED CRUISE IS LIKELY TO BE MADE AVAILABLE TO THE COASTAL STATE AND BY WHAT MEANS

*Survey report as annex in the ICES expert group report:
<http://www.ices.dk/workinggroups/ViewWorkingGroup.aspx?ID=429>*

PART C: SCIENTIFIC EQUIPMENT

COASTAL STATE *United Kingdom/
Scotland /*

COMPLETE THE FOLLOWING TABLE -
SEPERATE PAGE FOR EACH COASTAL STATE

PORT CALL *Aberdeen & Newcastle or Sunderland*

DATES 24 June/19 July 2019

INDICATE "YES" OR "NO"

<u>LIST SCIENTIFIC WORK BY FUNCTION</u>				<u>DISTANCE FROM COAST</u>			
				<u>WITHIN 3-6 NMS</u>	<u>WITHIN 12 NMS</u>	<u>(CONTINENTAL SHELF WORK ONLY) BETWEEN 12-200 NM</u>	<u>BEYOND 200 NMS but with continen tal marg</u>
eg: MAGNETOMETRY : GRAVITY DIVING : SEISMICS : BATHYMETRY SEABED SAMPLING TRAWLING ECHO SOUNDING : WATER SAMPLING U/W T.V. : MOORED INSTRUMENTS : TOWED INSTRUMENTS	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				
	<i>YES</i>	<i>YES</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>	<i>YES</i>	<i>YES</i>

L. Cornelissen
(On behalf to the Principal Scientist)

Dated *21 November 2018*

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

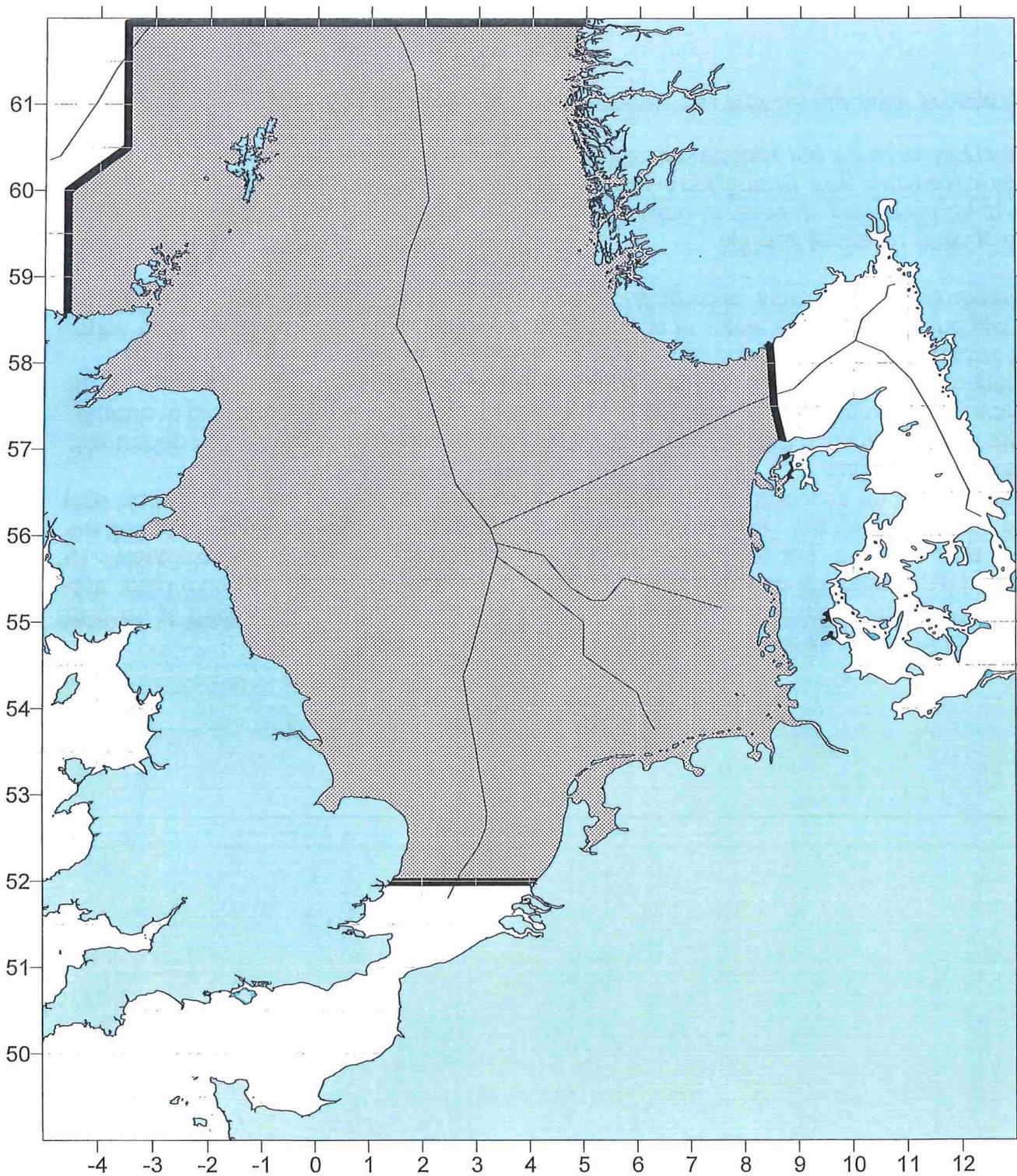
Calibration of SIMRAD EK and ME echosounders on board RV "Tridens"

In June/July 2018 the RV Tridens will participate in the annual international herring acoustic survey in the North Sea. During this survey, the transducers of the SIMRAD EK80 and ME70 have to be calibrated, in order to make sure that the results of Tridens are comparable to those of other research vessels.

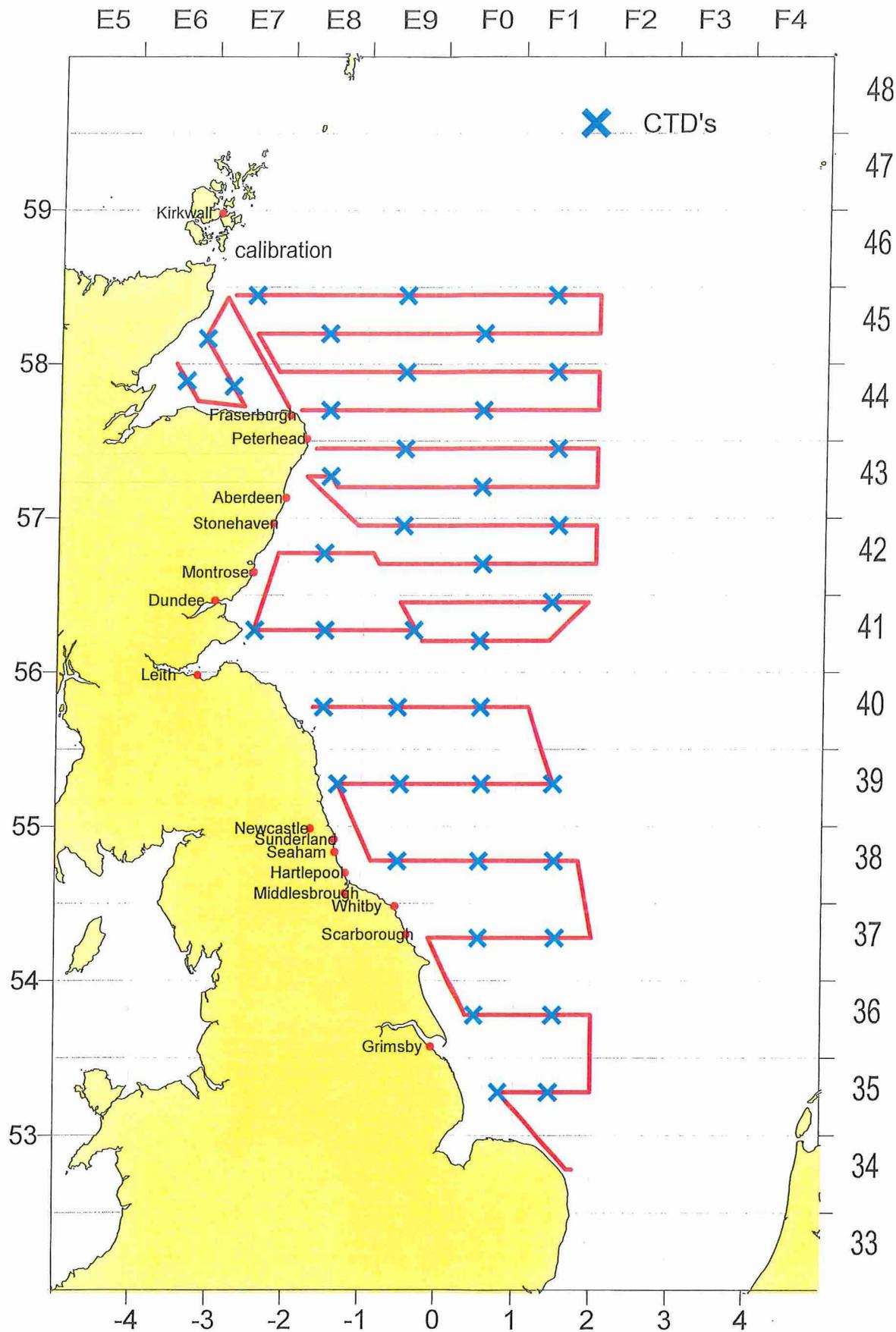
Calibration of this equipment, according to the manufacturer, has to take place in a sheltered area without currents, with water of about the same temperature and salinity as the water in the survey area, and a minimum depth of about 25 meters.

The calibration of the Tridens acoustic system is scheduled in week 26 (25 - 30 June 2018) in Scapa Flow, Scotland, UK. However, the procedure may have to be conducted at another site (for example in Loch Eriboll, Scotland, UK) or another time during the survey depending on weather conditions.

The ship has to be anchored in a sheltered location, and the transducers in the drop keel will be calibrated with the aid of small tungsten carbide spheres that are lowered below the drop keel of the ship. For the calibration The entire operation will take approximately 16 hours. A CTD profile will be taken at the calibration site. No fishing will be conducted, and no other electronic instruments than the echosounders transducers (operating at several frequencies between 18 and 333 kHz) and the CTD will be operated.



International North Sea acoustic survey for herring, TRIDENS 25 June - 20 July 2018
The outer border of the survey area is indicated in black. The more limited planned transects for the Dutch vessel Tridens are shown in the next figure. Within the international coordinated survey, vessels may take over areas other vessels during the survey.



Approximate positions of hydro acoustical transects and hydrographical (CTD) stations.

