

Application for Consent to conduct
Marine Scientific Research

Date: _13 Sept 2017__

1. General Information

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| 1.1 Cruise name and/or number: 2017621 |
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|--------------------------------|--|
| 1.2 Sponsoring Institution(s): | |
| Name: | Institute of Marine Research |
| Address: | P.O.Box 1870 Nordnes N-5024 Bergen Norway |
| Name of Director: | Sissel Rogne |

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|---|--|
| 1.3 Scientist in charge of the Project: | |
| Name: | Tone Falkenhaus |
| Country: | Norway |
| Affiliation: | Institute of Marine Research |
| Address: | Flodevigen Research Station N-4817 His NORWAY |
| Telephone: | (47) 370 59020 |
| Fax: | (47) 370 59001 |
| Email: | tonef@imr.no |
| Website (for CV and photo): | NA |

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| 1.4 Entity(ies)/Participant(s) from coastal State involved in the planning of the project: | |
| Name: | |
| Affiliation: | |
| Address: | |
| Telephone: | |
| Fax: | |
| Email: | |
| Website (for CV and photo): | |

2. Description of Project

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| 2.1 Nature and objectives of the project: |
| <p>The aim of the cruise is to sample two standard transects for physical oceanographic parameters (CTD casts, nutrients and chlorophyll) , phyto- and zooplankton, and fishlarvae for the IMR projects "Monitoring of climate and plankton in the North Sea Skagerrak", and "Early life history dynamics of North Sea Fishes".</p> <p>Data and samples will be collected on pre-selected stations along the two standard transects « Utsira-StartPoint » between Norway and the Orkney Islands and « Hanstholm-Aberdeen » between Denmark and UK.</p> |

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| 2.2 If designated as part of a larger scale project, then provide the name of the project and the Organisation responsible for coordinating the project: |
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| 2.3 Relevant previous or future research projects: |
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The cruise has been undertaken since 2006

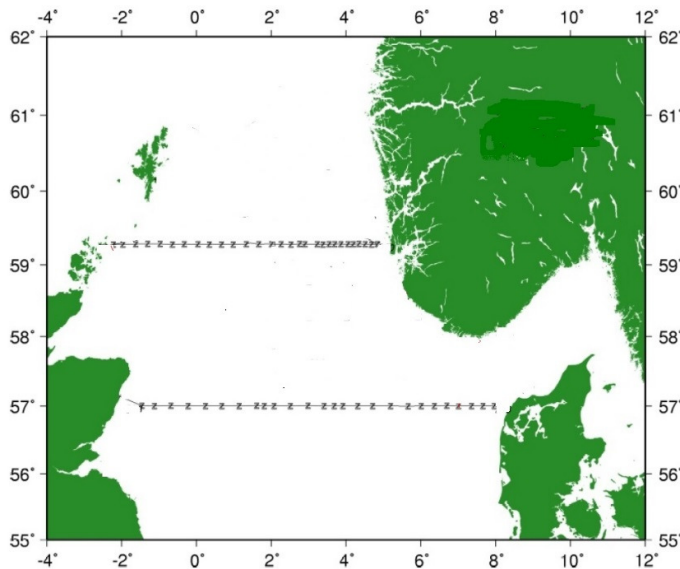
2.4 Previous publications relating to the project:

3. Geographical Areas

3.1 Indicate geographical areas in which the project is to be conducted (with reference in Latitude and longitude in decimal degrees, including coordinates of cruise/track/way points/sampling stations). Please provide coordinates in a separate excel spreadsheet.

Survey area covers: North Sea.,: 57°N - 60° N; 8.11°E – 2.3° W

3.2 Attach chart(s) at an appropriate scale (1 page, high-resolution) showing the geographical Areas of the intended work and, as far as practicable, the location and depth of sampling Stations, the tracks of survey lines, and the locations of installations and equipment.



Survey area, RV "K Bonnevie", 10.-19. November 2017

| Utsira-StartPoint(Orkney) | | | Hanstholm-Aberdeen | | |
|---------------------------|--------|--------|--------------------|--------|--------|
| Stn | N | E/W | Stn | N | E/W |
| 1 | 59.283 | 5.033 | 1 | 57.000 | 7.950 |
| 2 | 59.283 | 4.933 | 2 | 57.000 | 7.650 |
| 3 | 59.283 | 4.833 | 3 | 57.000 | 7.350 |
| 4 | 59.283 | 4.667 | 4 | 57.000 | 7.000 |
| 5 | 59.283 | 4.500 | 5 | 57.000 | 6.683 |
| 6 | 59.283 | 4.333 | 6 | 57.000 | 6.350 |
| 7 | 59.283 | 4.183 | 7 | 57.000 | 6.000 |
| 8 | 59.283 | 4.033 | 8 | 57.000 | 5.667 |
| 9 | 59.283 | 3.850 | 9 | 57.000 | 5.183 |
| 10 | 59.283 | 3.683 | 10 | 57.000 | 4.700 |
| 11 | 59.283 | 3.533 | 11 | 57.000 | 4.300 |
| 12 | 59.283 | 3.367 | 12 | 57.000 | 3.900 |
| 13 | 59.283 | 3.217 | 13 | 57.000 | 3.667 |
| 14 | 59.283 | 3.067 | 14 | 57.000 | 3.400 |
| 15 | 59.283 | 2.900 | 15 | 57.000 | 2.967 |
| 16 | 59.283 | 2.750 | 16 | 57.000 | 2.500 |
| 17 | 59.283 | 2.517 | 17 | 57.000 | 2.067 |
| 18 | 59.283 | 2.250 | 18 | 57.000 | 1.800 |
| 19 | 59.283 | 2.000 | 19 | 57.000 | 1.600 |
| 20 | 59.283 | 1.650 | 20 | 57.000 | 1.133 |
| 21 | 59.283 | 1.317 | 21 | 57.000 | 0.667 |
| 22 | 59.283 | 1.000 | 22 | 57.000 | 0.233 |
| 23 | 59.283 | 0.667 | 23 | 57.000 | -0.233 |
| 24 | 59.283 | 0.333 | 24 | 57.000 | -0.700 |
| 25 | 59.283 | 0.000 | 25 | 57.000 | -1.133 |
| 26 | 59.283 | -0.333 | 26 | 57.000 | -1.467 |
| 27 | 59.283 | -0.650 | | | |
| 28 | 59.283 | -0.983 | | | |
| 29 | 59.283 | -1.317 | | | |
| 30 | 59.283 | -1.633 | | | |
| 31 | 59.283 | -1.933 | | | |
| 32 | 59.283 | -2.233 | | | |

4. Methods and means to be used

| 4.1 Particulars of vessel: | |
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| Name: | RV "Kristine Bonnevie" |
| Type/Class: | Research/ trawler |
| Nationality (Flag State): | Norway |
| Identification Number (IMO/Lloyds No.): | 9062934 |
| Owner: | Institute of Marine Research |
| Operator: | Institute of Marine Research |
| Overall length (meters): | 56,75m |
| Maximum draught: | 7,9m |
| Displacement/Gross Tonnage: | 1444 BT |
| Propulsion: | Diesel |
| Cruising & maximum speed: | 10 knots and 13 knots |
| Call sign: | LGWS |
| INMARSAT number and method and capability of communication (including emergency frequencies): | +47 55 90 64 20 Iridium: 00 881 631 413 517 GSM: +47 99 54 85 48 425852311@inmc.eik.com |
| Name of Master: | Kjell Ove Sandøy |
| Number of Crew: | 14 |
| Number of Scientists on board: | 4 |

| 4.2 Particulars of Aircraft: | |
|---|--|
| Name: | |
| Make/Model: | |
| Nationality (flag State): | |
| Website for diagram & Specifications: | |
| Owner: | |
| Operator: | |
| Overall Length (meters): | |
| Propulsion: | |
| Cruising & Maximum speed: | |
| Registration No.: | |
| Call Sign: | |
| Method and capability of communication (including emergency frequencies): | |
| Name of Pilot: | |
| Number of crew: | |
| Number of scientists on board: | |
| Details of sensor packages: | |
| Other relevant information: | |

| 4.3 Particulars of Autonomous Underwater Vehicle (AUV): | |
|---|--|
| Name: | |
| Manufacturer and make/model: | |
| Nationality (Flag State): | |
| Website for diagram & Specifications: | |
| Owner: | |
| Operator: | |
| Overall length (meters): | |
| Displacement/Gross tonnage: | |
| Cruising & Maximum speed: | |
| Range/Endurance: | |
| Method and capability of communication (including emergency frequencies): | |
| Details of sensor packages: | |
| Other relevant information: | |

4.4 other craft in the project, including its use:

4.5 Particulars of methods and full description of scientific instruments to be used (for fishing gear specify type and dimension)

| Types of samples and Measurements: | Methods to be used: | Instruments to be used: |
|------------------------------------|-------------------------|-------------------------|
| Hydrography, nutrients, Chla | Vertical hauls | CTD with water bottles |
| Plankton | Vertical /oblique hauls | Plankton nets, Moccus |
| Fish larvae | Oblique hauls | Multinet, MIK trawl |

4.6 Indicate nature and quantity of substances to be released into the marine environment:
NONE

4.7 Indicate whether drilling will be carried out. If yes, please specify:
NA

4.8 Indicate whether explosives will be used. If yes, please specify type and trade name, Chemical content, depth of trade class and stowage, size, depth of detonation, frequency of Detonation, and position in latitude and longitude:
NA

5. Installations and Equipment

Details of installations and equipment (including dates of laying, servicing, method and Anticipated timeframe for recover, as far as possible exact locations and depth, and Measurements):
NA

6. Dates

6.1 Expected dates of first entry into and final departure from the research area by the research vessel and/or other platforms:
Within the period 25 November-4 December. Timing and location of where the vessel will be is highly weather dependent and therefore impossible to predict.

6.2 Indicate if multiple entries are expected:
Unknown. The survey depends on the weather. Ideally, the vessel would survey all of the nation's waters without re-entry.

7. Port Calls

7.1 Dates and Names of intended ports of call:
Sometime within the period 10.-19. November. Lerwick, Aberdeen or Kirkwall (tentative).

7.2 Any special logistical requirements at ports of call:
NONE

7.3 Name/Address/Telephone of shipping agent (if available):
NA

8. Participation of the representative of the coastal State

8.1 Modalities of the participation of the representative of the coastal State in the research Project:
NA

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8.2 Proposed dates and ports for embarkation/disembarkation:

NA

9. Access to Data, Samples and Research Results

9.1 Expected dates of submission to coastal State of preliminary report, which should include The expected dates of submission of the data and research results:

Report within 6 months, if required

9.2 Anticipated dates of submission to the coastal State of the final report:

Report within 6 months.

9.3 Proposed means for access by coastal State to data (including format) and samples:

NA

9.4 Proposed means to provide coastal State with assessment of data, samples and Research results:

NA

9.5 Proposed means to provide assistance in assessment or interpretation of data, samples And research results:

NA

9.6 Proposed means of making results internationally available:

Data on hydrography and plankton stored and reported to ICES

10. Other permits Submitted

10.1 Indicate other types of coastal state permits anticipated for this research (received or Pending):

NA

11. List of Supporting Documentation

11.1 List of attachments, such as additional forms required by the coastal State, etc.:

NA

Signature:



Dr Tone Falkenhaus
Institute of Marine Research, Flødevigen
N-4817 His, Norway
Phone: +47 975 21662
Email: tonef@imr.no