Application for Consent to conduct
Marine Scientific Research

Date: _19.10.2015_____

1. General Information

| 1.1 Cruise name and/or number: 2016101 |
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| |

| 1.2 Sponsoring Institution(s): | |
|---|---|
| Name: | Institute of Marine Research |
| Address: | P.O.Box 1870 Nordnes<br>N-5024 Bergen Norway |
| Name of Director: | Tore Nepstad |

| 1.3 Scientist in charge of the Project: | |
|---|---|
| Name: | Jennifer Devine |
| Country: | Norway |
| Affiliation: | Institute of Marine Research |
| Address: | P.O.Box 1870 Nordnes<br>N-5024 Bergen Norway |
| Telephone: | +47 90259201 |
| Fax: | +47 55238500 |
| Email: | jennifer.devine@imr.no |
| Website (for CV and photo): | NA |

| 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

| 2.1 Nature and objectives of the project: |
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| IBTS, International Bottom Trawl Survey, coordinated by the ICES International Bottom Trawl Survey Working Group (IBTSWG). IBTS now targets the following commercial finfish species: herring, cod, haddock, whiting, saithe, Norway pout, mackerel, sprat. The main objective of the IBTS is to provide recruitment indices of these commercial fish species. Plankton nets (MIK) are used to get an early indication of the potential amount of young herring and other larvae. Parallel to trawling, hydrographic data (salinity, temperature) are collected. Survey also includes sampling gadoid larvae and eggs and a hydrographical transect from Utsira W to Start Point.<br><br>Survey dates: 12.01 –12.02.2016 |

| 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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| International bottom trawl survey (IBTS), organized by the IBTSWG (ICES) |

| 2.3 Relevant previous or future research projects: |
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| The cruise has been undertaken since middle of the 1950's. |

| 2.4 Previous publications relating to the project: |
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| |

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. |
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| Survey area covers: 56°N - 62° N, 08°E - 02° W<br>Utsira W – Start Point hydrographic transect (straight line along 59.283333) |

| 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. |
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| See Fig. 1 for map of IBTS survey area with Norway's obligatory sampling rectangles.<br>Norway will not sample within 12 n. mi. of the UK.<br>Attached: csv file with potential bottom trawl stations, excel spreadsheet with hydrographic transect stations |

4. Methods and means to be used

| 4.1 Particulars of vessel: | |
|---|---|
| Name: | G.O. Sars |
| Type/Class: | Research vessel |
| Nationality (Flag State): | Norwegian |
| Identification Number (IMO/Lloyds No.): | 9260316 |
| Owner: | Institute of Marine Research/University of Bergen |
| Operator: | Institute of Marine Research |
| Overall length (meters): | 77.5 |
| Maximum draught: | 7.3 |
| Displacement/Gross Tonnage: | 4067 tons |
| Propulsion: | DC-Electric |
| Cruising & maximum speed: | 11-13 knots, 17 knots |
| Call sign: | LMEL |
| INMARSAT number and method and capability of communication (including emergency frequencies): | Telephone: +47 55906440<br>Telefax:: +47 55906441<br>E-mail: GOSars@IMR.no |
| Name of Master: | John Hugo Johnsen / Preben Vindenes |
| Number of Crew: | 15 |
| Number of Scientists on board: | 9 |

| 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: |
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| 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: |
| Fish | Bottom trawl | GOV trawl |
| Fish larvae, eggs | Midwater trawl | MIK trawl |
| Plankton, water, algae | Midwater trawl, water collection | WP2, CTD, MOCNESS, optical counter, WP3 |

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

| 4.7 Indicate whether drilling will be carried out. If yes, please specify: |
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| 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): |
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| 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: |
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| Entry into and departure from the research area within the period 14.01 – 09.02.2016.<br>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: |
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| Within the period Feb. 6-8th, 2016, into Lerwick, Shetland or Kirkwall, Orkney. Would like option to enter outside this period if weather is poor/dangerous and if vessel needs safe harbour. |
| 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: |
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| NA |

| 8.2 Proposed dates and ports for embarkation/disembarkation: |
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| 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: |
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| Report within 6 months, if required |

| 9.2 Anticipated dates of submission to the coastal State of the final report: |
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| Report within 6 months. |

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

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

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

| 9.6 Proposed means of making results internationally available: |
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| All data stored and reported to ICES within 3 months. |

10. Other permits Submitted

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

11. List of Supporting Documentation

| 11.1 List of attachments, such as additional forms required by the coastal State, etc.: |
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| Figure of survey area.<br>Attched csv file contains all trawl positions taken by Norway in previous years, of which, Norway will choose one per statistical rectangle (StatRec).<br>Attached excel spreadsheet detailing positions of station along the hydrographic transect. |

Signature:

Contact information of the focal point:

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Country: Norway
Affiliation: Institute of Marine Research
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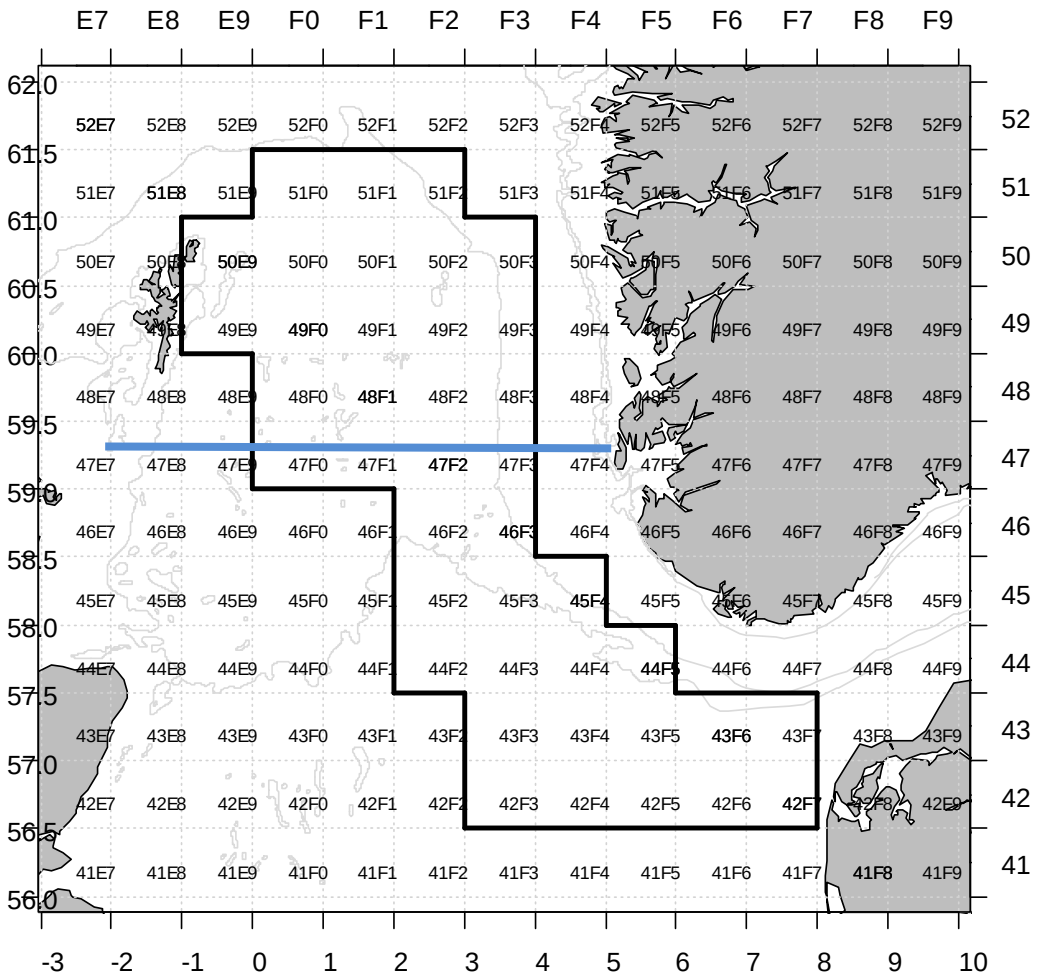
Figure 1. “G.O. Sars” will work rectangles within the shaded region (outlined in black). Hydrographic transect location is indicated in blue.