

**APPLICATION FOR THE CONSENT TO CONDUCT MARINE SCIENTIFIC
RESEARCH IN AREAS UNDER NATIONAL JURISDICTION OF THE UNITED
KINGDOM**

Date: 17th February 2011

1. General information

1.1 Cruise name and/or number: Irish Sea *Nephrops* UWTV CV11005

1.2 Sponsoring institution:

Name: Marine Institute
Address: Rinville
Oranmore
Co. Galway
Ireland

Name of Chief Executive: Dr. Peter Heffernan

1.3 Scientist in charge of the project:

Name: Dr. Colm Lordan
Address: Marine Institute
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Ireland

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1.4 Scientist(s) from UNITED KINGDOM involved in the planning of the project

Name(s): Dr. Pieter-Jan Schön
Address: Aquatic Systems Branch,
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Newforge Lane,
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1.5 Submitting officer: Bernadette Ní Chonghaile

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Rinville
Oranmore
Galway

Country: Ireland

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2. Description of project (Attach additional pages as necessary)

Since 2003 the Marine Institute have carried UWTV surveys of the Irish Sea *Nephrops* grounds in co-operation with the Department of Agriculture and Rural Development Northern Ireland. The results of the 2003 to 2010 surveys were used to describe the abundance, distribution and estimate the biomass of *Nephrops* in the Western Irish Sea.

2.1 Nature of objectives of the project:

Specific Objectives:

1. Technology and protocol transfer between Marine Institute (Ireland) and Agri-Food and Biosciences Institute, Northern Ireland (AFBI).
2. To develop a fishery independent survey to produce a relative index for the *Nephrops* stock.
3. To develop a fishery independent survey to a biomass estimate for the *Nephrops* stock.
4. To map the Irish Sea *Nephrops* grounds.
5. To gather data on the abundance, distribution and patchiness of *Nephrops* burrows in the Irish Sea.
6. To collect secondary data on the seabed in the Irish Sea using benthic grabs and multibeam.
7. To satisfy the requirements of the Irish National programme under the 'Data collection regulation' EC Regulation 1543/2000.

2.2 Relevant previous or future research cruises:

The first four systematic UWTV surveys of the Western Irish Sea *Nephrops* grounds were completed during August/September 2003 to 2006. These surveys were carried out using the RV Celtic Voyager and Lough Foyle (2003 to 2004) and in 2005 the RV. Corystes replaced the RV Lough Foyle. The survey involving scientists, equipment and protocols from both AFBI previously DARDNI -(UK) and MI (Ireland) is partly funded by the EC as part of the UK and Irish National programmes under the 'Data collection regulation' EC Regulation 199/2008 and will probably be continued in future years.

2.3 Previously published research data relating to the project::

Lordan, C., Doyle, J and Briggs R. 2010. FU 15 2009 Survey Validation Update. Working Document to the ICES Working Group on the assessment of Celtic Seas Ecoregion. ICES CM 2010/ACOM:10.

3. Methods and means to be used

3.1 Particulars of vessel

Name: R.V. Celtic Voyager

Nationality: Irish
Owner: Marine Institute

Overall length: 31.5m

Maximum draught: 4m

Net tonnage: 340T

Propulsion: Wärtsilä UD25M5 (626 kW),

Cruising speed: 8kn

Call sign: EIQN

Method and capability of communication – GMDSS A class, E-mail. Mini M SAT C and GSM

Name of master: Philip Baugh/Colin McBrearty

Number of crew:

Number of scientists on board: Six

3.2 Aircraft or other craft to be used in the project: N/A

3.3 Particulars of methods and scientific instruments

Types of samples and data	Methods to be used	Instruments to be used
UWTV footage	Rapid visual counts	Sledge mounted camera
Sediment samples	Grab sampling	Day grab
Nephrops Catches	Beam Trawling	4 metre Beam Trawl
Seabed mapping	Olex and Multibeam	Olex and Multibeam

3.4 Indicate whether harmful substances will be used: No.

3.5 Indicate whether drilling will be carried out: No.

3.6 Indicate whether explosives will be used: No.

4. Installations and equipment

The sled will be towed by a load bearing umbilical cable and associated winches.

RV Celtic Voyager will making between 2-3 knots for shooting into the weather. Once in the water the camera lights are switched on and warp paid out until the seabed comes into view. Shortly before touch down the vessel is slowed back to 0.8-1.0 knots. A warp-depth ratio of around between 1.4:1 and 1.8:1 is used at most stations. Once stable on the bottom the sledge is towed between 0.8-1.0 knots for around 10-14 minutes. During this time the sledge travels between 160-200m along the sea bed.

The sledge will be deployed at around 3.5 nautical mile intervals in regularly spaced grid over the survey area. The starting point for this grid will be randomized. The depth range will be from 50-147 meters (average ~100 m).

5. Geographical areas

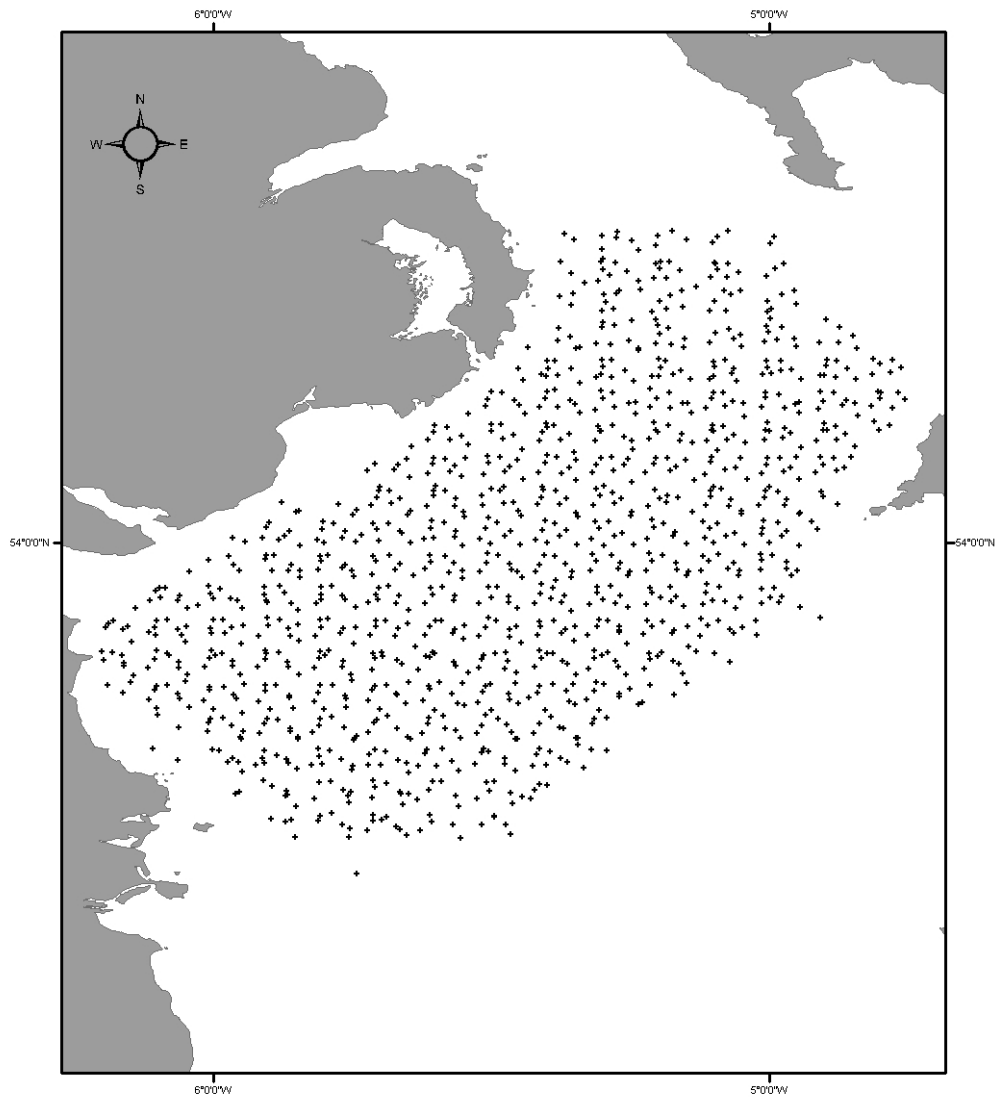
5.1 Indicate geographical areas in which the project is to be conducted (with reference in latitude and longitude):

Way Points for the Irish Sea.

Latitude North	Longitude West
54° 32.4	5° 16.8
54° 2.4	5° 46.2
54° 3.6	5° 57.0
53° 52.2	6° 13.2
53° 30.0	5° 52.8
53° 30.0	5° 27.6
53° 50.4	5° 0.6
54° 15.6	4° 46.2
54° 31.8	5° 3.6
54° 33.0	5° 16.8

5.2 Attach chart(s) at an appropriate scale showing the geographical areas of the intended work and, as far as practicable, the positions of intended stations, the tracks of survey lines, and the locations of installations and equipment.

The 2003 to 2010 station positions are shown in Figure 1. The starting position of the Irish Sea grid in 2011 will be randomly selected and similar to the 2010 station grid.



**Marine Institute Ireland
Irish Sea FU15 UWTV Nephrops Surveys
2003-2010 Station Positions**

• IrishSea_UWTV_FinalData_0310

6.Dates

6.1 Expected dates of first entry into and final departure from research area of the research vessel:

entry date : 17/08/2011

departure date : 26/08/2011

6.2 Indicate if multiple entry is expected:

Yes (the survey area covers some of the Irish zone and UK zone) so multiple entry are expected.

7. Port calls

7.1 Dates and names of intended ports of calls in UNITED KINGDOM: None

7.2 Any special logistical at ports of call: None

7.3 Names/ Address / Telephone of shipping agent (if available)

8. Participation

8.1 Extent to which UNITED KINGDOM will be enable to participate to be represented in research project:

This joint survey will be carried out using the RVs Celtic Voyager and Corystes involving scientists, equipment and protocols from both AFBI-Northern Ireland (UK) and MI (Ireland). It is expected that a scientist from AFBI will be aboard RV Celtic Voyager during the Irish leg of the survey.

8.2 Proposed dates and ports for embarkation / disembarkation:

start date : 17/08/2011 Howth, County Dublin,
Ireland.

end date : 26/08/2011 Howth, County Dublin,
Ireland.

9. Access to data, samples and research results

9.1 Expected dates of submission to UNITED KINGDOM preliminary reports which should include the expected dates of submission of the final results:

30/08/2011 Preliminary survey report.

30/09/2011 Final Survey Report.

9.2 Proposed means for access by UNITED KINGDOM to data and samples:

Survey data and results will be analyzed jointly by Scientists from AFBI Northern Ireland (UK) and MI (Ireland). Access to data and samples via Chief Scientist.

9.3 Proposed means to provide UNITED KINGDOM with assessment of data, samples and research results or provide assistance in their assessment or interpretation:

Data and results will be shared freely between scientists from AFBI Northern Ireland (UK) and MI (Ireland). Access to data and samples via Chief Scientist.

9.4 Proposed means of making research results internationally available:

Report will be presented to the international scientific community through the relevant ICES working groups.

10. Scientific Equipment

**COMPLETE THE FOLLOWING TABLE-
SEPARATE PAGE FOR EACH COSTAL STATE:**

INDICATE YES OR NO

LIST SCIENTIFIC WORK BY FUNCTION Eg: MAGNETOMETRY: GRAVITY DIVING SEISMICS BATHYMETRY SEABED SAMPLING TRAWLING ECHO SOUNDING WATER SAMPLING U/W TV MOORED INSTRUMENTS TRAWLING ECHO SOUNDING WATER SAMPLING	Water column includin g sedimen t samplin g of the Seabed	Fisheri es researc h within fishing limits	Research concerni ng the natural resource s of the continen tal shelf or its physical character i-stics	DISTANCE FROM COAST		
				Within 12nms	Between 12-200nms	(Continental shelf work only) Beyond 200nm but within the continental margin
UnderWater Television SEABED SAMPLING	Yes	Yes	No	Yes	Yes	No

(On behalf of the Principle Scientist)

Dated -----