

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

Date: 18th January 2012

1. General information

1.1 Cruise name and/or number: Celtic Sea *Nephrops* UWTV CV12012

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:

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

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

In 2006 the Marine Institute Ireland conducted the first UWTV survey of the Celtic Sea *Nephrops* grounds. The 2012 survey will be the seventh in the survey series and is intended to describe the abundance, distribution and estimate the biomass of *Nephrops* in the Celtic Sea.

2.1 Nature of objectives of the project:

Specific Objectives:

1. To complete randomised fixed survey grid of ~100 UWTV with 3 nautical mile (Nmi) spacing stations on the “Smalls” *Nephrops* ground (FU22).
2. To carry out ~20 UWTV indicator stations in the wider Celtic Sea if time allows.
3. To obtain 2012 quality assured estimates of *Nephrops* burrow distribution and abundance on the “Smalls” *Nephrops* ground (FU22). These will be compared with those collected previously.
4. To collect ancillary information from the UWTV footage collected at each station such as the occurrence of sea-pens, other macro benthos and fish species and trawl marks on the sea bed.
5. To collect oceanographic data using a sledge mounted CTD.
6. To collect sediment samples if time allows.
7. To satisfy the requirements of the Irish National programme under the ‘Data Collection Framework’ EC Regulation No 199/2008.

2.2 Relevant previous or future research cruises:

Since 2002 MI (Ireland) has carried out UWTV surveys of *Nephrops* grounds in the Aran grounds West of Ireland and also in co-operation with AFBI Northern Ireland (UK), UWTV surveys of the Western Irish Sea *Nephrops* grounds since 2003. This survey in the Celtic Sea will involve scientists, equipment and protocols from MI (Ireland) and will produce a fishery independent biomass estimate of the Celtic Sea *Nephrops* stocks.

2.3 Previously published research data relating to the project:

Doyle, J., Lordan, C., Fitzgerald, R., O’Connor, S., Fee, D., Nolan, C. & Hayes, J., “Celtic Sea *Nephrops* Grounds 2011 UWTV Survey Report”, Marine Institute 2011.

<http://oar.marine.ie/handle/10793/671>

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

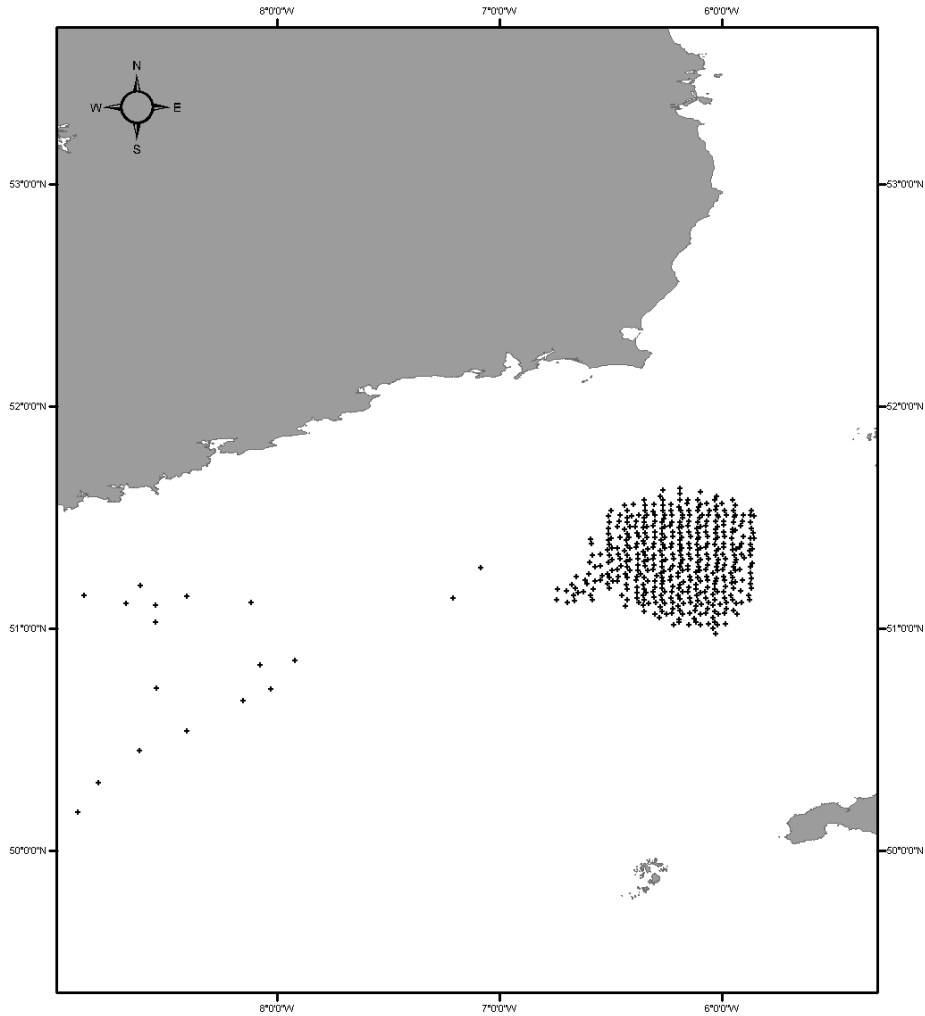
5.1 Indicate geographical areas in which the project is to be conducted (with reference in latitude and longitude):

Way Points for the Smalls Ground.

Latitude North		Longitude West	
51°	46.00	6°	48.00
51°	26.00	6°	48.00
51°	56.00	6°	4.00
51°	11.00	6°	4.00
50°	96.00	6°	32.00
50°	86.00	6°	32.00
51°	61.00	6°	23.00
50°	86.00	6°	8.00
50°	96.00	6°	0.00
51°	26.00	5°	84.00
51°	46.00	5°	75.00
51°	0.06	5°	76.00

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 2006 to 2010 station positions are shown in Figure 1. The starting position of the Smalls grid in 2011 will be randomly selected and similar to the 2010 station grid.



**Marine Institute Ireland
Celtic Sea FU20-22 UWTV Nephrops Surveys
2006 to 2010 Station Positions**

+ Smalls_AllStations_UWTV_FinalData

6.Dates

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

entry date : 24/06/2012

departure date : 03/07/2012

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 survey involves fishery, oceanography, sea bed mapping data collection and we would be happy to accommodate further multi-disciplinary elements within the survey programme.

8.2 Proposed dates and ports for embarkation / disembarkation:

start date : 24/06/2012 Cork, County Cork, Ireland.

end date : 03/07/2012 Cork, County Cork, 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:

30/07/2012 Preliminary survey report.

30/09/2012 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), IFREMER France and MI (Ireland) through ICES. Access to data and samples can be arranged via Chief Scientist. Historical data and UWTV footage has been provided to JNCC in the UK in 2011.

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), JNCC UK, IFREMER France 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. The survey results will also be made publically available on the Marine Institute's publications repository:

http://oar.marine.ie/handle/10793/59/browse?type=title&submit_browse=Title

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 including sediment sampling of the Seabed	Fishes research within fishing limits	Research concerning the natural resources of the continental shelf or its physical characteristics	DISTANCE FROM COAST		
				Within 12nms	Between 12-200nms	(Continental shelf work only) Beyond 200nm but within the continental margin
UnderWater Television SEABED SAMPLING Trawling	Yes	Yes	No	Yes	Yes	No

(On behalf of the Principle Scientist)

Dated -----