

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

1. General information

1.1 Cruise name and/or number: *Celtic Sea Nephrops* UWTV CV0917

1.2 Sponsoring institution:

Name: Marine Institute
Rinville
Oranmore
Galway
Ireland

Name of Chief Executive: Dr. Peter Heffernan

1.3 Scientist in charge of the project:

Name: Dr. Colm Lordan

Address:

Marine Institute
Rinville
Oranmore
Galway
Ireland

Telephone: 00 353 91 387200

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

Name(s): N/A

Address:

1.5 Submitting officer:

Name and address: Carol Maloney
Marine Institute
Rinville,
Oranmore,
Galway

Country: Ireland

Telephone: 00 353 91 387200

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

2.1 Nature of objectives of the project:

In 2006 the Marine Institute Ireland conducted the first UWTV survey of the Celtic Sea *Nephrops* grounds. The 2009 survey the fourth in the survey series will be used to describe the abundance, distribution and estimate the biomass of *Nephrops* in the Celtic Sea. The 2009 survey will have objectives as listed below.

Specific Objectives:

1. Technology and protocol transfer between Marine Institute (Ireland), AFBI Northern Ireland (UK) and IFREMER (France).
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 Celtic Sea *Nephrops* grounds.
5. To gather data on the abundance, distribution and patchiness of *Nephrops* burrows in the Celtic Sea.
6. To collect secondary data on the seabed in the Celtic 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:

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:

Lordan, C., Doyle, J and Briggs R. 2004. Preliminary Results of the joint MI-DARDNI UWTV Survey on the Western Irish Sea *Nephrops* Grounds. Appendix III Working Document to the ICES Working Group on *Nephrops* Stocks. ICES CM 2004/ACFM:19 pp 322-337.

3. Methods and means to be used

3.1 Particulars of vessel

Name: R.V. Celtic Voyager

Nationality: Irish

Owner: Marine Institute

Overall length: 31.4m

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: Denis Rowan/Fergus O Hehir

Number of crew: 5

Number of scientists on board: Six

3.2 Aircraft or other craft to be used in the project: No

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	Beam Trawl

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

Details of installations and equipment (dates of laying, servicing, recovery, exact locations and depth):

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 were switched on and warp was paid out until the seabed came into view.

Shortly before touch down the vessel was slowed back to 0.8-1.0 knots. A warp-depth ratio of around between 1.4:1 and 1.8:1 was used at most stations. Once stable on the bottom the sledge was towed at 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 (see below). 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):

The geographical areas are the sand and mud patches in the Celtic Sea with the following way points for the main ground to be surveyed known as the "Smalls".

Also there are many discrete patches of sand and mud which will be surveyed and the map in Figure 1. displays the distribution of stations in the Celtic Sea.

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 2008 station positions are shown in Figure 1. The starting position of the Smalls grid in 2009 will be randomly selected and similar to the 2008 station grid.

**Celtic Sea UWTV SURVEY
2006 - 2008 Stations Surveyed**

+ All_stations_summary

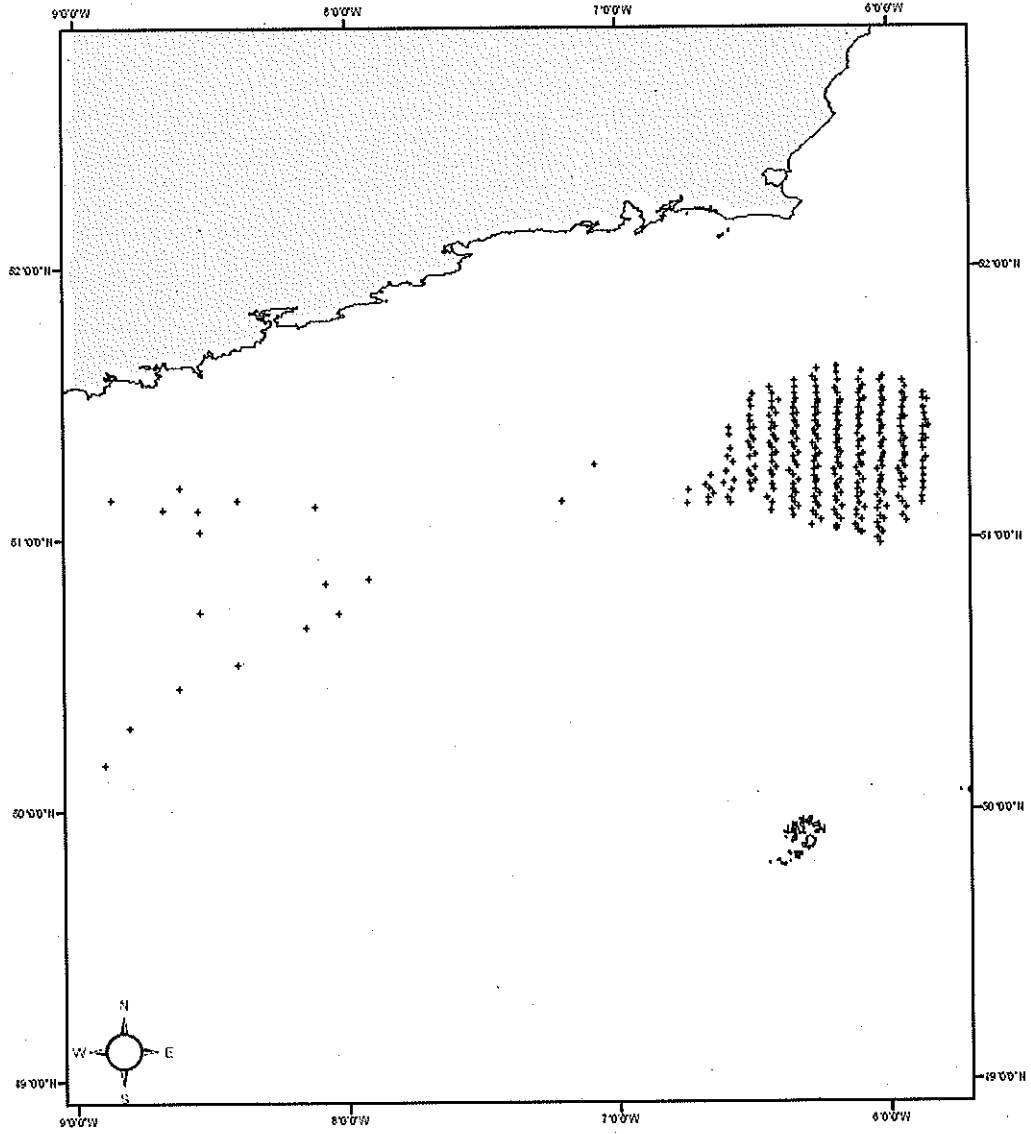


Figure 1: The Distribution of UWTV Stations in the 2006 -2008 Celtic Sea *Nephrops* survey.

6. Dates 10/07/2009-19/07/2009

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

10/07/2009 -19/07/2009

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

None expected or planned in UK ports. There may be port calls in Ireland depending on weather and progress of survey.

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)

None

8. Participation

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

This survey will be carried out using the RV.Celtic Voyager involving protocols from both AFBI Northern Ireland (UK) and MI (Ireland).

8.2 Proposed dates and ports for embarkation / disembarkation:

Cork 10/07/2009- Cork 19/07/2009

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:

30/09/2009 Preliminary 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).

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), IFREMER France and MI (Ireland).

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.

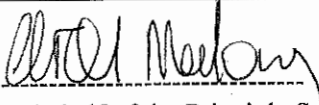
10. Scientific Equipment

COMPLETE THE FOLLOWING TABLE-

SEPARATE PAGE FOR EACH COSTAL STATE: United Kingdom

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	Fisheries 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 26/5/04