

**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 CV0620

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

Telefax: to be confirmed

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

Name(s):

Address:

1.5 Submitting officer:

Name and address: Caitriona Nic Aonghusa
Marine Institute
Rinville,
Oranmore,
Galway

Country: Ireland
Telephone: 00 353 91 387200
Telefax: to be confirmed

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

2.1 Nature of objectives of the project:

In 2006 the Marine Institute Ireland has planned to carry out UWTV survey of the Celtic Sea *Nephrops* grounds. This survey will be used to describe the abundance, distribution and estimate the biomass of *Nephrops* in the Celtic Sea. The 2006 survey will have objectives as listed below.

Specific Objectives:

1. Technology and protocol transfer between Marine Institute (Ireland) and Department of Agriculture and Rural Development Northern Ireland (DARDNI 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 DARDNI (UK) UWTV surveys of the Western Irish Sea *Nephrops* grounds since 2003. This survey will involve scientists, equipment and protocols from both DARDNI (UK), MI (Ireland) and IFREMER (France) and will for the first time 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: Celtic Voyager

Nationality: Irish

Owner: Marine Institute

Overall length: 31m

Maximum draught: 3.8m

Net tonnage:

Propulsion: Wartsila UD25M5 (626 kW) ZF Marine Gearbox + Berg propeller

Van der Giessen Wing Nozzle

Cruising speed: 10kn

Call sign:

Method and capability of communication – radio, satphone, gsm

Name of master: Denis rowan

Number of crew: 8

Number of scientists on board: 6

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

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 sledge will be deployed and towed on RV Celtic Voyager's port trawl drum using 10mm non-rotating transducer armoured cable. The amount of cable shot was quantified using a mechanical

cable meter, which served as the towing block. The umbilical cable, which is non-load bearing, was paid out manually as the warp was shot. Every 10 m the umbilical was secured to the transducer cable using cable ties.

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 18-148 meters (average ~79 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 within 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°	0.00	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 station positions are shown in Figure 1. The starting position of the Smalls grid in 2006 will be randomly selected.

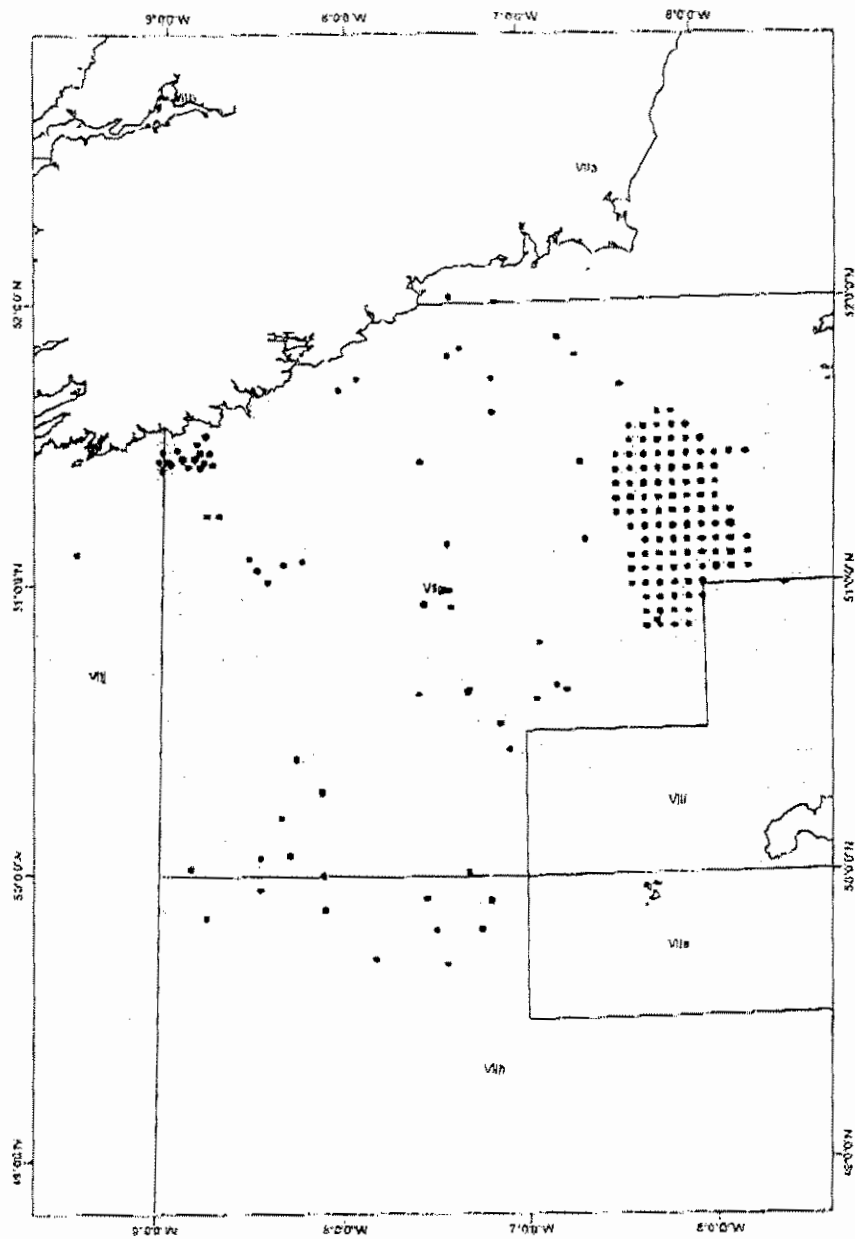


Figure 1: The Distribution of the UWTV Stations in the Celtic Sea *Nephrops* survey 2006.

6. Dates 28/06/2006-07/07/2006

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

28/06/2006-07/07/2006

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 DARDNI (UK) and MI (Ireland). It is expected that a scientist from IFREMER (France) will be aboard RV Celtic Voyager during this survey.

8.2 Proposed dates and ports for embarkation / disembarkation:

Cork 28/06/2006- Cork 07/07/2006

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:

07/07/2006 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 DARDNI (UK) 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 DARDNI (UK) and MI (Ireland).

9.4 Proposed means of making research results internationally available:

Report will be presented to the international scientific community through 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	Yes	Yes	No	Yes	Yes	No

(On behalf of the Principle Scientist)

Dated -----