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

Date:

1. General information

1.1 Cruise name and/or number: CV13018 - Celtic Sea UWTV Survey

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
Rinville,
Oranmore,
Co. Galway,
Ireland.

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

Name(s):
Address:

1.5 Submitting officer: Bernadette Ní Chonghaile
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Rinville
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Country: Ireland

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

Since 2006 the Marine Institute have carried UWTV surveys of the Celtic Sea *Nephrops* grounds which includes the Smalls and Labadie Nephrops grounds.
The results of the survey series were used to describe the abundance, distribution and estimate the biomass of *Nephrops* in the Celtic Sea.

2.1 Nature of objectives of the project:

1. To obtain 2013 quality assured estimates of Nephrops burrow densities from a randomised isometric grid of UWTV stations at 4.5 nautical mile spacing on the Smalls and Labadie Nephrops grounds.
2. To obtain 2013 quality assured estimates of Nephrops burrow densities from other areas in the Celtic Sea.
3. 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.
4. To collect oceanographic data using a sledge mounted CTD.
5. 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 2006 the Marine Institute have carried UWTV surveys of the Celtic Sea *Nephrops* grounds which includes the Smalls and Labadie Nephrops grounds.

2.3 Previously published research data relating to the project:

Doyle, J., Lordan, C., Hehir, I., Fee, D., O'Connor, S., Browne, P. and Casserly, J. 2012. The "Smalls" *Nephrops* Grounds (FU22) 2012 UWTV Survey Report and catch options for 2013. Marine Institute UWTV Survey report.

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
Nephrops Catches	Beam Trawling	4 metre 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 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) for both the Western Irish Sea and Celtic Sea.

5. Geographical areas

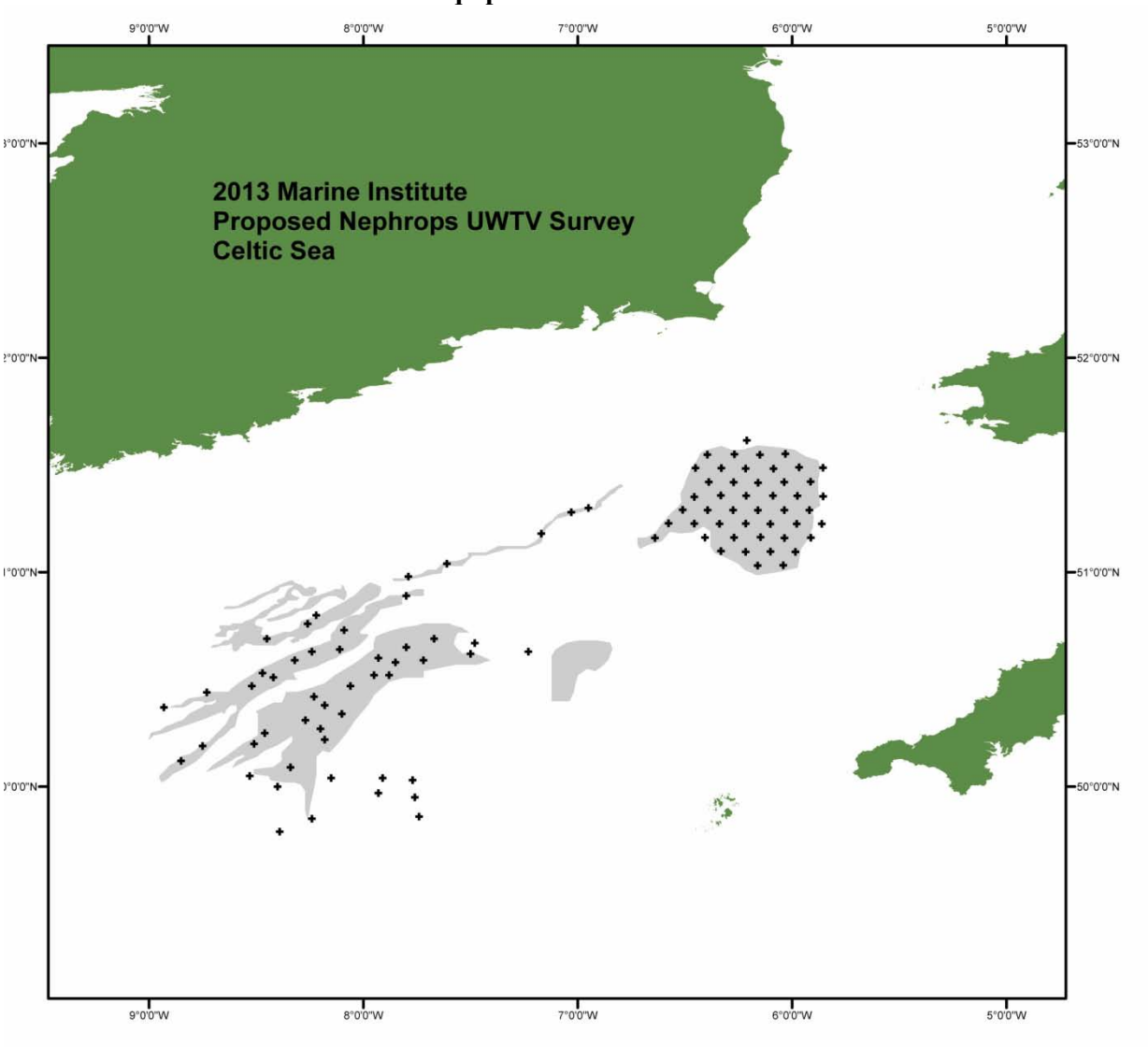
5.1 Indicate geographical areas in which the project is to be conducted (with reference in latitude and longitude):
Way points of the Smalls.

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

Way points of the Labadie.

Latitude North		Longitude West	
51°	26.25	6°	46.9
51°	9.6	7°	28.45
50°	50.11	8°	35.19
50°	18.25	9°	9.24
49°	50.46	8°	58.2
49°	46.7	8°	27.39
49°	42.12	7°	53.23
49°	47.33	7°	22.41
50°	33.57	7°	0.012
51°	21.38	6°	46.59

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.



Stations in 2013 will be slightly offset to those 2012 stations shown in the above map.

6. Dates

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

entry date : 24/06/2013

departure date : 03/07/2013

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 and oceanography 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 : 24/06/2013 Cork, County Cork, Ireland.

end date : 03/07/2013 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:
31/07/2013 Preliminary survey report.
30/11/2013 Final Survey Report.

9.2 Proposed means for access by UNITED KINGDOM to data and samples:
Survey data and results will be analyzed jointly be 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 2012.

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 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	Fisheries research within fishing limits	Research concerning the natural resources of the continental shelf or its physical character i-stics	DISTANCE FROM COAST		
				Within 12nms Maximum of 3nm from coast from 10m contour	Between 12-200nms	(Continental shelf work only)
TRAWLING	YES	YES	NO	YES	YES	NO
UnderWater Television Sampling	YES	YES	NO	YES	YES	NO

(On behalf of the Principle Scientist)

Dated ----------