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

Date: 13/02/2013

1. General information

1.1 Cruise name and/or number: CV13004

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. Samuel Shephard
Address: Medical Biology Centre, Queen's University Belfast, UK

Telephone: 00353 86 1723878
Telefax:

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

Name(s): Dr. Samuel Shephard
Address: Medical Biology Centre, Queen's University Belfast, UK

1.5 Submitting officer:

Name and address:
Marine Institute
Rinville
Oranmore
Galway

Country: Ireland

Telephone: (++353) 91 387 200
Telefax: (++353) 91 387 201

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

2.1 Nature of objectives of the project:

1. Collect fine-scale data on shark and ray biology in the refuge area.
2. Identify 'hotspots' of abundance, particularly of juveniles.

3. Describe the benthic habitat using a Day Grab
4. Synthesize data to support mathematical models of population structure.

2.2 Relevant previous or future research cruises: Irish Groundfish Survey annual fisheries survey cruises

2.3 Previously published research data relating to the project:

Shephard, S., Gerritsen, H. D., Kaiser, M. J., and Reid, D. G. 2012. Spatial heterogeneity in fishing creates *de facto* refugia for endangered Celtic Sea elasmobranchs. PLOS ONE. doi:10.1371/journal.pone.0049307

3. Methods and means to be used

Otter trawling
Day Grab

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: 5

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
Abundance and distribution	Otter trawl	Trawl net
Age	Hard parts of fish	None
Maturity	Gonads	None
Substrate	Visual assessment	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

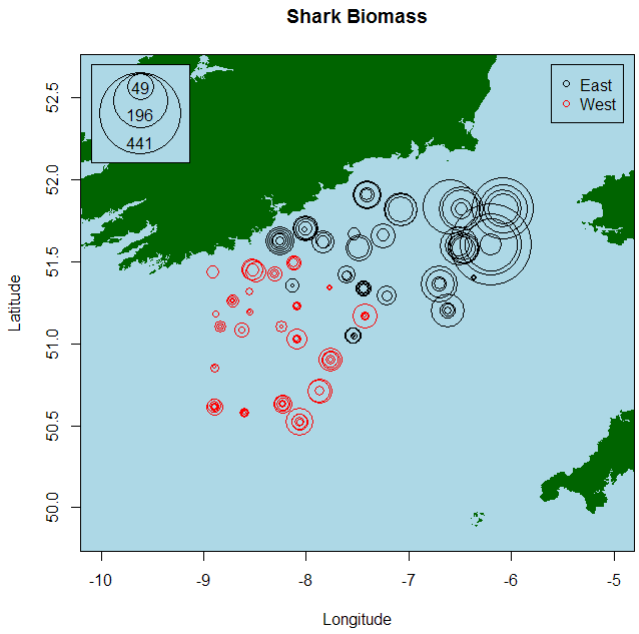
Details of installations and equipment (dates of laying, servicing, recovery, exact locations and depth): None

5. Geographical areas

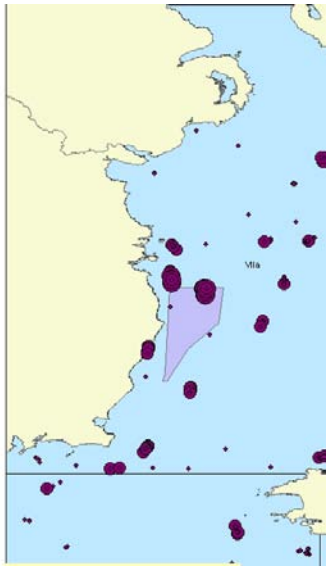
5.1 Indicate geographical areas in which the project is to be conducted (with reference in latitude and longitude): See charts

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.

Fig. 1. (A) Celtic Sea and (B) Irish Sea survey areas. Sampling tows will be selected from bubbles.



A



B

6. Dates

6.1 Expected dates of first entry into final departure from research area of the research vessel: 27 March 2013 – 05 April 2013

6.2 Indicate if multiple entry is expected: Yes

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: Project is lead by UK institution (QUB)

8.2 Proposed dates and ports for embarkation / disembarkation:
27 March 2013 – 05 April 2013

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: October 2013

9.2 Proposed means for access by UNITED KINGDOM to data and samples: Data and samples will be shared with CEFAS, UK.

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 samples will be shared with CEFAS, UK.

9.4 Proposed means of making research results internationally available: Peer review publication

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	No No Water column including sediment sampling of the Seabed	No No Yes Yes		DISTANCE FROM COAST **12-200 NM ONLY**		
				Within 12nms Maximum of 3nm from coast from 10m contour	Between 12-200nms	(Continental shelf work only)
WATER SAMPLING		No				
PROFILING INSTRUMENTS		No				
ABOVE WATER OPTICS AND PHOTOGRAPHY		No				

(On behalf of the Principle Scientist)

Dated ----------