

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

Date: 11<sup>th</sup> February 2008

**1. General information**

**1.1 Cruise name and/or number:** CEFAS Fish Egg 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. Mike Armstrong

**Address:** CEFAS, Pakefield Road  
Lowestoft,  
Suffolk  
NR33 OHT,  
UK

**Telephone:** 44 (0)1502 524362

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

**Name(s):** Dr. Steve Milligan, Dr. Mike Armstrong

**Address:** CEFAS, Pakefield Road Lowestoft, Suffolk NR33 OHT, UK

**1.5 Submitting officer:**

**Name and address:** Aoife Kelly  
Marine Institute  
Rinville  
Oranmore  
Co. Galway

**Country:** Ireland

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

### 2.1 Nature of objectives of the project:

These surveys are part of a series of five surveys in spring 2008 carried out as a principal part of collaborative project involving Cefas (Lowestoft), the Agri-Food Biosciences Institute in Belfast, and the Marine Institute in Galway. The surveys are designed for mapping the distribution of spawning of cod, haddock, whiting and plaice in the Irish Sea, and estimating the spawning stock biomass of cod, haddock and plaice using an annual egg production technique.

### 2.2 Relevant previous or future research cruises:

A similar series of five egg surveys involving Cefas, AFBI and MI research vessels was carried out in 2006 as part of the same project.

### 2.3 Previously published research data relating to the project:

Closely related surveys involving Cefas, AFBI and MI were conducted in 1995 and 2000. Results are available in:

Armstrong, M.J., Connolly, P., Nash, R.D.M., Pawson, M., Alesworth, E., Coulahan, P.J., Dickey-Collas, M., Milligan, S.P., O'Neill, M., Witthames, P.R. and Woolner, L. 2001. An application of the annual egg production method to estimate the spawning biomass of cod (*Gadus morhua* L.), plaice (*Pleuronectes platessa* L.) and sole (*Solea solea* L.) in the Irish Sea. *ICES Journal of Marine Science*, 58:183-203.

Armstrong, M.J., Dickey-Collas, M., Gerritsen, H., Bromley, P., Dunn, M., Fox, C., Milligan, S., O'Brien, C., Pawson, M., Stewart, C., Witthames, P., Warr, K., Woolner, L., Connolly, P., Whitmore, J., Hoey, S., O'Brien, D., Danilowicz, B., Heffernan, O., Nash, R., Geffen, A. and Blythe, R. 2002. Development and validation of egg-production based biomass estimates, using cod and plaice stocks in the Irish Sea. Final Report of EU contract 98/090 to Commission of the European Communities. April 2002. 256pp.

## 3. Methods and means to be used

### 3.1 Particulars of vessel

Name: Celtic Voyager

Nationality: Irish

Owner: Marine Institute

Overall length: 31.5m

Maximum draught: 4m

Net tonnage: 340T

Propulsion: Wärtsilä UD25M5 (626 kW), ZF Marine Gearbox + Berg propeller, Van de Giessen wing nozzle

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:** Mr. Denis Rowan

**Number of crew:** 7

**Number of scientists on board:** 8

**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                        |
|---------------------------|-------------------------------------|---|
| Fish eggs                 | Plankton sampling                   | Gulf-7 towed plankton sampler                 |
| Oceanographic data        | Data recording during plankton tows | Temperature, salinity and fluorescence probes |
|                           |                                     |   |
|                           |                                     |   |

### 3.4 Indicate whether harmful substances will be used:

4% formaldehyde solution used for preserving plankton samples on board.

**3.5 Indicate whether drilling will be carried out:** No

**3.6 Indicate whether explosives will be used:** No

## 4. Installations and equipment

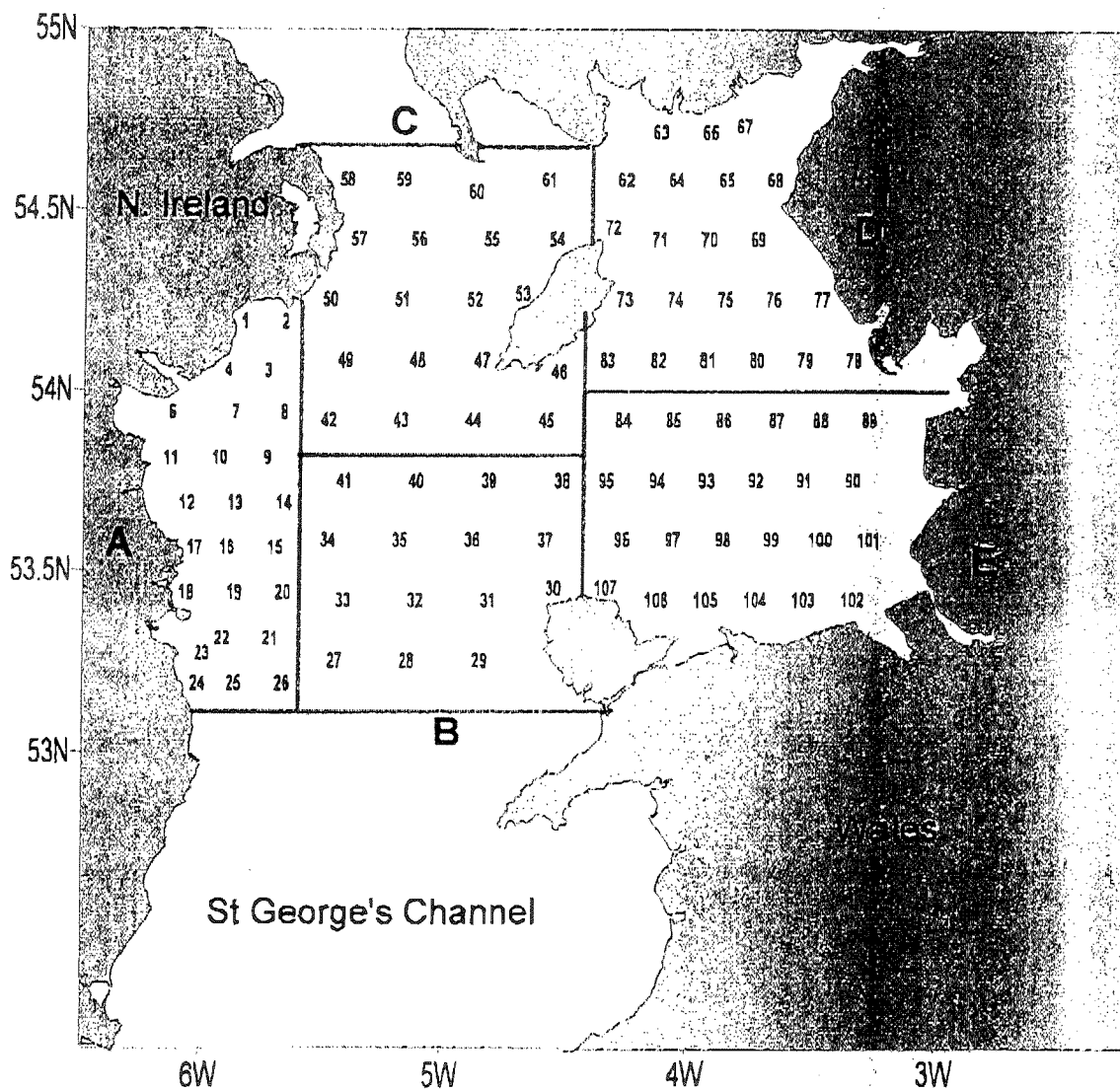
Details of installations and equipment (dates of laying, servicing, recovery, exact locations and depth): no installations involved.

## 5. Geographical areas

**5.1 Indicate geographical areas in which the project is to be conducted (with reference in latitude and longitude):** Irish Sea from 53° 10' N to 54° 40' N

**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.**

Numbers on chart indicate station positions for plankton sampler tows.



**6. Dates**

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

Dates of surveys: 5 – 16 March 2008 and 24 March -4 April 2008. Stations will be occupied in an order that is suitable for the prevailing conditions and not necessarily in the order of the station numbers on the map.

**6.2 Indicate if multiple entry is expected:** Potentially (see 6.1)

**7. Port calls**

**7.1 Dates and names of intended ports of calls in UNITED KINGDOM:**

Vessel will load gear and personnel in BELFAST on 5 March and offload gear and personnel in BELFAST on 4 April 2008.

**7.2 Any special logistical at ports of call:** No

**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:**

Scientific staff from AFBI in Belfast will be present on both surveys.

**8.2 Proposed dates and ports for embarkation / disembarkation:**

- 5 March 2008: Embark in belfast
- 16 March Disembark in Howth
- 24 March Embark in Howth
- 4 April Disembark in Belfast

**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:**

PROGRESS REPORT TO DEFRA (UK) BY SEPTEMBER 2008

**9.2 Proposed means for access by UNITED KINGDOM to data and samples:**

THIS IS A UK PROJECT FUNDED BY DEFRA AND THE DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT IN BELFAST

**9.3 Proposed means to provide UNITED KINGDOM with assessment of data, samples and research results or provide assistance in their assessment or interpretation:**

THIS IS A UK PROJECT FUNDED BY DEFRA AND THE DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT IN BELFAST

**9.4 Proposed means of making research results internationally available:**

Appropriate conferences and peer-reviewed scientific papers.

**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)<br><br>Beyond 200nm but within the continental margin |
| WATER SAMPLING  | yes  | yes                                   | yes  | yes                 | yes               | <u>no</u>   |
| PROFILING INSTRUMENTS   | yes  | yes                                   | yes  | yes                 | yes               | <u>no</u>   |
| ABOVE WATER OPTICS AND PHOTOGRAPHY  | no   | no                                    | no   | no                  | no                | <u>no</u>   |

*M. J. Aronson*

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(On behalf of the Principle Scientist)

Dated -----11 February 2008