

**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:**

**1.2 Sponsoring institution:**

**Name:** Marine Institute

**Address:** Galway Technology Park  
Parkmore Business Park West  
Galway  
Ireland

**Name of Chief Executive:** Dr. Peter Heffernan

**1.3 Scientist in charge of the project:**

**Name:** Mr Stephen Milligan

**Address:** Cefas Lowestoft Laboratory,  
Pakefield Road  
Lowestoft  
Suffolk  
UK  
NR32 0HT

**Telephone:** 00 44 (0)1502 562244

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

**Name(s):** Dr Michael Armstrong, Mr Stephen Milligan, Dr Clive Fox,

**Address:** Cefas Lowestoft Laboratory,  
Pakefield Road  
Lowestoft  
Suffolk  
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**1.5 Submitting officer:**

**Name and address:** Carol Maloney  
Galway Technology Park  
Parkmore  
Galway

**Country:** Ireland

**Telephone:** 00 353 91 730400

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

### **2.1 Nature of objectives of the project:**

To conduct a plankton survey of the Irish Sea (the third of a series of 5 cruises), to estimate the spawning stock biomass (SSB) of Irish Sea cod, haddock and plaice using the Annual Egg Production Method (AEPM). Cefas will use the RV Cefas Endeavour for the first survey and DARDNI will provide the RV Corystes for two of the surveys.

### **2.2 Relevant previous or future research cruises:**

Previous surveys to estimate the SSB of Irish Sea cod, plaice and sole were conducted in 1995 & 2000, with collaboration from Marine Institute, Dublin; DARDNI, Belfast and Port Erin Marine Laboratory (Liverpool University), Isle of Man.

Future surveys will be conducted in 2007 & 2008, utilising lessons learnt in the 2006 survey.

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

Armstrong, M.J., Alesworth, E., Connolly, P., Coulahan, P.J., Dable, G., De Clerk, R., Dickey-Collas, M., Geffen, A., Nash, R.D.M., Milligan, S.P., O'Neill, M., Nichols, J.H., Pawson, M., Withames, P.R. and Woolner, L., (1997). Estimation of fish biomass in the Irish Sea by means of the annual egg production method. EU Concerted Action : AIR3-CT94-2263.

Armstrong, M.J., Connolly, P., Nash, R.D.M., Pawson, M., Alesworth, E., Coulahan, P.J., Dickey-Collas, Milligan, S.P., O'Neill, M., Withames, 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.

Heffernan, O. A., Danilowicz, B. S. and Milligan, S. P. (2004). Determination of species-specific spawning distributions of commercial finfish in the Irish Sea using a biochemical protein-based method. Mar Ecol Prog Ser. Vol. 284: 279-291, 2004.

## **3. Methods and means to be used**

**Name:** Celtic Voyager

**Nationality:** Irish

**Owner:** Marine Institute

**Overall length:** 31.4m

**Maximum draught:** 3.8m

**Net tonnage:** 340

**Propulsion:** Wartsilla UD25m5 (626Kw)

**Cruising speed:** 9.5 Knots

**Call sign:** FION

**Method and capability of communication –**

**Name of master:** Denis Rowan/Fergus O'Hchir

**Number of crew:** 7

**Number of scientists on board:** between 4 and 6

**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                                    |
|--|--|---|
| Zooplankton                                    | Plankton sampling over a predefined grid of stations covering the Irish Sea from 53 to 55N. Double oblique hauls | High-speed plankton sampler (Gulf VII) complete with CTD. |
| Zooplankton                                    | Vertically hauled ring nets  | 0.5m & 1m diameter ring nets of 270micron mesh            |
| Water column temperature and salinity profiles | Vertically deployed CTD  | CTD cast on selected stations                             |
| Surface temperature and salinity               | Measurements recorded on passage using the RV's pumped seawater supply   | CTD   |

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

4% formaldehyde will be used for the preservation (fixation) of plankton samples collected.

**3.5 Indicate whether drilling will be carried out:**

N/A

**3.6 Indicate whether explosives will be used**

N/A

**4. Installations and equipment**

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

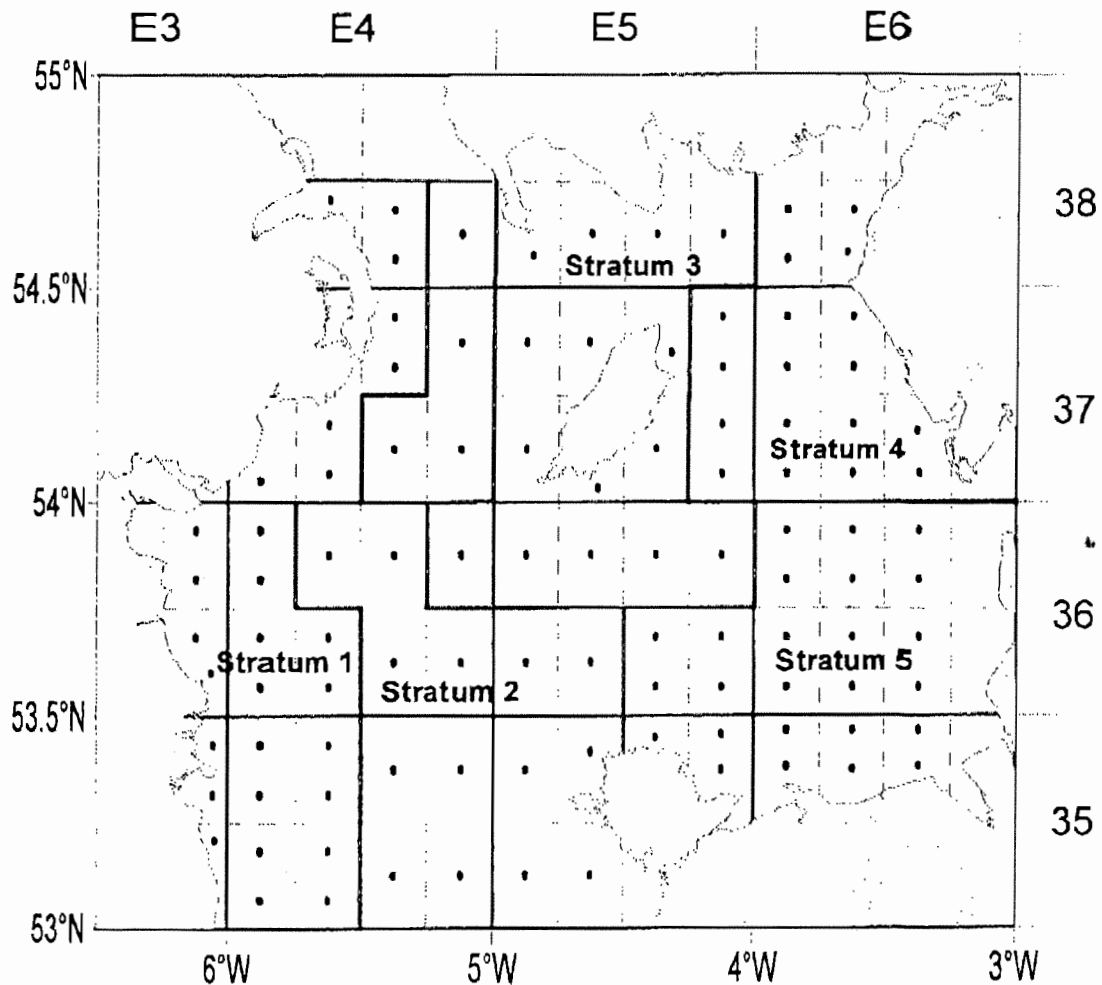
N/A

**5. Geographical areas**

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

Irish Sea between the coasts of Ireland in the west and England and Wales in the east, and between 53N and 55N.

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.



Proposed sampling stations for egg abundance surveys  
in 2000, under DG XIV contract 89/090.

Total of 105 stations.

## 6. Dates

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

5 – 20 March 2006

**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:**

N/A

**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:**

THE UK WILL BE REPRESENTED BY AT LEAST 5 CEFAS SCIENTIFIC STAFF ONBOARD INCLUDING THE SCIENTIST-IN-CHARGE. DR MIKE ARMSTRONG (CEFAS) IS THE OVERALL PROJECT LEADER AND THE WORK WILL BE FUNDED BY DEFRA.

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

Embarkation: Dublin, Ireland. 5 March 2006

Disembarkation: Dublin, Ireland. 20 March 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:**

A Research Vessel cruise report detailing sampling effort and preliminary results will be available within one month following the cruise. Analysis of the resultant samples will be completed by the end of 2006.

The results of the completed surveys will be presented at the relevant ICES Working Groups.

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

Environmental data will be available within 3 months of the end of the cruise.

Plankton analysis (will be conducted at Cefas) and results will be available within one year. Following analysis the plankton samples will remain the property of 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:**

The samples collected will remain with Cefas. Cefas staff will lead the results of analysis and any subsequent publications. The results will be presented at the relevant ICES Working Groups.

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

The results will be presented at the relevant ICES Working Groups. CEFAS internal reports and peer reviewed publications.

**10. Scientific Equipment**

**COMPLETE THE FOLLOWING TABLE-  
SEPARATE PAGE FOR EACH COSTAL STATE:**

INDICATE YES OR NO

| LIST SCIENTIFIC WORK BY FUNCTION Eg:<br>MAGNETOMETRY:<br>GRAVITY DIVING<br>SEISMICS<br>BATHYMETRY<br>SEABED SAMPLING<br>TRAWLING<br>ECHO SOUNDING<br>WATER SAMPLING<br>U/W TV<br>MOORED INSTRUMENTS<br>TRAWLING<br>ECHO SOUNDING<br>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 |
| Plankton sampling  | Yes  | Yes                                   | No   | Yes                 | Yes               | No   |
| Environmental monitoring   | Yes  | Yes                                   | No   | Yes                 | Yes               | No   |