

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

Date : 07/07/2005

**1 - GENERAL INFORMATION**

**1.1. Cruise name and/or number : IBTS 2006**

**1.2. Sponsoring institution :**

Name : IFREMER  
Address : Siège social : Technopolis 40  
155 rue Jean-Jacques Rousseau - 92138 ISSY les MOULINEAUX - FRANCE  
Phone : 01.46.48.21.00 Fax : 01.46.48.22.48  
Director : Jean-Yves PERROT

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

Name : Yves VERIN  
Address : IFREMER - Centre de Boulogne  
150 quai Gambetta - BP 699 - 62321 BOULOGNE s/mer - FRANCE  
Phone : 03.21.99.56.00 Fax : 03.21.99.56.01  
Email : Yves.Verin@ifremer.fr

**1.4. Scientist from United Kingdom involved in the planning of the project :**

Name : Mr Ken Coull	Mr Brian Harley Boon
Address : SOAFD Marine Laboratory	MAFF, Fisheries Laboratory
P.O. Box 101	Lowestoft
Victoria Road	Suffolk NR33 0HT
Aberdeen AB9 8DB	
Phone : +44 1502 562244	+44 1224 295507
Fax : +44 1502513 865	+44 1224 295511

**1.5. Submitting officer:**

Name : Jean-Xavier CASTREC  
Address : Ifremer Centre de Brest - Secteur Programmation de la Flotte  
B.P. 70 - 29280 PLOUZANE  
Phone : 33(0)2.98.22.44.53 Fax : 33 (0)2.98.22.44.55  
Email : [jean\\_xavier.castrec@ifremer.fr](mailto:jean_xavier.castrec@ifremer.fr)

## 2 - DESCRIPTION OF THE PROJECT

### 2.1. Nature and objectives of the project :

Seven countries bordering the North Sea contribute to the "International Bottom Trawl Survey" program which has been initiated in the 1970's : The Netherlands, Germany, Denmark, Norway, Sweden, United Kingdom (England and Scotland) and France. This program is coordinated by the International Council for Exploration of the Sea (ICES) in Copenhagen.

The main objective is to obtain annual forecasts of recruitment of the various commercial fish species of the North Sea. These estimates are used by ICES Working groups to assess these various stocks, and to propose management measures for the following year. In addition, the data collected during these surveys concern biological and abundance analysis on main commercial fish species exploited by European countries in the North Sea. The results of these research works are published in international scientific papers and allow knowledge to progress in this field.

Working methods, during these surveys are standardised, in order to keep consistency in results. So, the trawl used (Grande Ouverture Verticale net) is the same on each research vessel. In the same way, fishing methods are also the same.

In order to determine abundance and distribution of late herring and sprat larvae, each vessel participating in the survey in February sample at night with a MIK net (Methot Isaac Kidd net). Working methods are standardized as well. Results are used by the herring working group to calculate an indices for the 0 group.

France has been participated to this program since 1976, and has been carried out a survey on the R/V Thalassa each year mainly in the southern part of the North Sea in February.

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

France participate to this cruise since 1976 during the first quarter of each year. Between 1992 and 1996, a survey was organized each quarter, and France participated at the survey of the third quarter.

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

- after each survey, a descriptive report of the cruise is done,
- after the results of all countries collected by ICES in Copenhagen, an annual report is produced by some members of the International Bottom Trawl Survey Working Group :

*ICES, 2001.* Report of the International Bottom Trawl Survey Working Group. - Copenhagen., 2-5 April 2001. CM 2001/D:05, ref ACFM.

*ICES, 2002.* Report of the International Bottom Trawl Survey Working Group. Dublin, April 2002. ICES C.M. 2002/ D:3 Ref. ACFM

*ICES, 2003.* Report of the International Bottom Trawl Survey Working Group, 25-28 March 2003 - Lorient (France) ICES CM 2003/D:05 Ref. ACFM,ACE,G

*ICES, 2004.* Report of the International Bottom Trawl Survey Working Group, 23-26 March 2004 - Lisbon (Portugal) ICES CM 2004/D:05

*ICES, 2005.* Report of the International Bottom Trawl Survey Working Group, 29 March -1 April 2005 - Hamburg (Germany) ICES CM 2005/D:05

- ICES publications are produced by participants of France :

*S.Cachera, Massé J, Verin Y., 1999.* How the use of acoustics during bottom trawl surveys may provide more accurate abundance indices : an application to IBTS surveys carried out in the Southern North sea. CM 1999/J:12.

- Other Publications are done in several forms :

*Yves Vérin* - Les campagnes de chalutages expérimentaux en mer du Nord. CYBIUM. Bulletin de la Société Française d'Ichtyologie, 1998, 22(4) : 349-356.

*Kienzie M.*, 1999. Description de la croissance de trois gadidés de mer du Nord par modèle d'allocation des ressources. Influence des facteurs environnementaux sur ces paramètres. Mémoire de D.E.A (Analyse et Modélisation des Systèmes Biologiques). Université Claude Bernard - Lyon I : 28 pp (+annexes).

*Rochet M.J.* 1998 *et al.* La pente de la structure en taille multispécifique : un indicateur de l'effet de la pêche sur les peuplements de poissons exploités. Rapport intermédiaire - décembre 1998.

*Markovic L.*, 1998. Recherche des facteurs influençant l'âge et la taille de maturité chez trois espèces de Gadidés de Mer du Nord. Mémoire de DEA. Ecole Nationale Supérieure Agronomique de Rennes

*Robatel G.*, 1997. Mémoire de la plasticité phénotypique de l'âge de maturité sexuelle chez la morue de la mer du Nord, *Gadus morhua*. Mémoire de D.E.A (DEA d'analyse et modélisation des systèmes biologiques), Université Claude Bernard, Lyon 1.

*Shin Y.J.*, 1996. Un modèle pour la plasticité phénotypique de la croissance en fonction des conditions trophiques : exemple du hareng de la mer du Nord. Mémoire de DEA de Biomathématiques, Universités Paris VI-Paris VII. :

*Braud S.*, 2001. Premières estimations de la diversité et de la structure quantitative de la mégafaune de la Manche Orientale et du sud de la mer du Nord. Diplôme Supérieur de Recherche. Université des Sciences et Technologies de Lille. Station Marine de Wimereux. 79 p. + annexes.

*Leroy Y.*, 2001. Contamination par les métaux traces des chaînes trophiques de la mer du Nord. Mémoire de DEA d'Océanologie, option océanographie. Université de Liège, Faculté des sciences. 61 p + annexes.

*Braud S.*, 2002. Structure et fonctionnement des communautés benthiques dans le sud de la mer du Nord. Mémoire de DEA Biodiversité Ecosystèmes Fossiles et Actuels – Océanologie biologique. Université des Sciences et Technologies de Lille. Station Marine de Wimereux. 30 p. + annexes.

*Méhault S.*, 2002. Acoustics combined to Bottom Trawl Survey – Application to IBTS cruise in the North Sea. Honours Project. BSc of Coastal and Marine Environment Studies. Glamorgan University – Pembrokeshire College. 71 p.

*Tachaires S.*, 2002. Campagne IBTS : Contribution à la connaissance de la distribution de la morue (*Gadus morhua*) et du merlan (*Merlangius merlangus*) en mer du Nord. Mémoire de stage ENSAR 2ème année. 20 p. + annexes.

*Lambilliotte M.*, 2002. Les campagnes d'évaluation des ressources halieutiques – Chalutage et acoustique. Mémoire de DEUG "Science de la vie". Université des Sciences et Techniques de Lille. 31 p + annexes.

- IBTS of 1994 and 1995, were realized with a financing of EU (DG XIV). – contract n° 94/048. A final report was published in 1997 and describe works during IBTS 95 (1) IBTS 95(2) et IBTS 96 (1). This report is available in IFREMER / Boulogne sur mer (Y.Vérin) :  
"Campagnes expérimentales de chalutages en mer du Nord et en Manche Orientale".
- A second project was accepted by UE for IBTS 97 and IBTS 98. Contract N° 96/040. A preliminary report was submitted to UE in february 1998. The final report was presented in June 1999.

*Vérin Y. & J.L. Dufour*, 1999. Campagnes expérimentales de chalutage en mer du Nord et en Manche Orientale. Volume I. Les campagnes IBTS 1997 et IBTS 98. Rapport final. CE 96/040. 133 p

- IBTS 99 and 2000 were realized with a financing of EU (DG XIV).- contract n° 98/058. A final report was submitted in May 2001.

*Vérin Y, F. Coppin, J.-P. Delpech, J.-L. Dufour & A. Carpentier, 2001. Campagnes d'évaluation des Ressources Halieutiques en mer du Nord et Manche Orientale. Vol I : Présentation des campagnes IBTS & CGFS. Vol. 2 : Résultats des campagnes IBTS et CGFS en 99 et 2000. Rapport final. CE 98/058 47 p. + 122 p + Annexes.*

- An UE project was submitted in 2000 in collaboration with other participant of the IBTS 2001. This project called "MOSNAS" (MOonitoring of Stocks in the North sea And Skaggerak) was accepted, and a final report was submitted in August 2001.

*Heessen H.J.L.A.W. Newton, Y.Vérin, F. Arrhenius, H Degel & F.Redant, 2001. Monitoring of stocks in the North sea and Skaggerak. MOSNAS. Final report study n°00/008. 99 p.*

- CATEFA is the abbreviation for the EU project N° Q5RS-2001-02038 : "Combining Acoustic and Trawl data for Estimating Fish Abundance". This study has start in November 2001 for 3 years. The participants are :
  - Centre de géostatistique, Fontainebleau (Co-ordinator)
  - Marine Laboratory (Aberdeen)
  - Institute of Marine Research (Bergen)
  - Centre for Environment, Fisheries and Aquaculture Science (Lowestoft)
  - Queen's University of Belfast
  - Institut Français de Recherche pour l'Exploitation de la Mer (Boulogne)

The principal objective of this project is to develop and apply appropriate combination methodologies for the effective use of both acoustic and trawl data from bottom trawl surveys. This is in recognition that bottom trawl surveys are the most important, fisheries independent, data source used in stock assessment of commercial groundfish in European waters. The inclusion of simultaneously collected acoustic survey data, with its more resolved sampling structure, could potentially improve the precision and accuracy of these surveys at little extra cost. The report was submitted in April 2005 :

*F. Bez N. et al. 2005. Combining Acoustic and Trawl data for Estimating Fish Abundance CATEFA. Progress Report – N° Q5RS-2001-02038.*

### 3 - METHODS AND MEANS TO BE USED

#### 3.1. Particular of vessel

Name : THALASSA  
 Nationality : FRENCH  
 Owner : IFREMER  
 Operator : GENAVIR  
 Overall length : 74,5 m  
 Maximum draught : 5,8 m  
 Gross tonnage : 2 803 UMS  
 Propulsion : Diesel Electric  
 Maximum speed : 11 Knots  
 Call sign : FNFP

Method and capability of communication (including telex, frequencies) :

*Inmarsat B1 : Tel : 00.870.3.227.297.21 - Fax : 00.870.3.227.297.30*

*Inmarsat B2 : Tel : 00.870.3.227.297.50 - Fax : 00.870.3.227.297.60*

*Itin ris : 06.07.32.44.87*

*Telex Inmarsat C1 : 058x.4.227.297.10 - Telex Inmarsat C2 : 058x.4.227.297.11*

Name of master : H. PITON

Number of crew : 25

Number of scientists on board : 15 to 18

#### 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
Samples of various fishes by bottom trawl (see chart)	Bottom trawl <with a double codend in 20 mm meshsize (stretched)	(GOV 36/47) with a double codent in 20 mm meshsize (stretched)
Samples of herring and sprat larvae in the Southern North Sea	Sampling during the night with a net for herring and sprat larvae	A net (MIK)
Samples of water each trawling for measuring temperature and salinity	Hydrology after each bottom trawl samples	CTD (Seabird SBE 19)
Samples of fish eggs to know eggs areas in the Southern North Sea	Sea water is pumped at 3 meters under water surface (internal pump) and filtered in order to sort fish eggs	Continuous Fish Eggs Sampler
Acoustic records	With a sonder, acoustic data will be recorded during hauls and during transects	Sounder : ER-60

**SCIENTIFIC EQUIPMENT**

Coastal state : UK  
 Port call :

List scientific work by function	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
Trawling	No	Yes	No	Within 12 nm : No Between 12-200 nm : Yes Beyond 200 nm : No
Towed instruments	No	Yes	No	Within 12 nm : No Between 12-200 nm : Yes Beyond 200 nm : No
Echo sounding	No	Yes	No	Within 12 nm : No Between 12-200 nm : Yes Beyond 200 nm : No
Samples with a larval net	No	Yes	No	Within 12 nm : No Between 12-200 nm : Yes Beyond 200 nm : No

3.4. Indicates 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 EQUIPMENTS**

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

No installations

**5 - GEOGRAPHICAL AREAS**

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

South of North Sea - between 51°N/56°30N and 3°W/9°E

**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 :**

Each year, Thalassa samples the Southern part of the North Sea. (Appendix 1, Figure 1). In 2006, the same rectangles will be covered during the survey. In each square, one haul will be made, but more hauls (2 or 3) will be done in the area south of 53° N.

In addition, hauls in the area located in the Eastern Channel (South of 55° N) could be also covered (Appendix 1, Figure 2).

**6 - DATES**

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

The cruise will start from Brest (France) the 21 of January and will finish the of 19 of February in Boulogne-sur-mer (France).

entry date : January 2006  
departure date : February 2006

**6.2 Indicate if multiple entry is expected :**

More than two weeks are necessary to do the work in the U.K area. But it is impossible to planned exactly when the vessel will be in U.K. area. During all this period more entries could be possible.

**7 - PORTS CALLS**

**7.1. Dates and names of intended ports of call in United Kingdom .**  
No call is planned in this country during the cruise

**7.2. Any special logistical requirements at ports of call :**

**7.3. Name/Address/Telephone of shipping agent (if available)**

## 8 - PARTICIPATION

### 8.1. Extent of which United Kingdom will be enabled to participate or to be represented in the research project :

The R/V CIROLANA and R/V SCOTIA from United Kingdom participate to this cruise and sample some area in the North sea during the same period than France.

The participation of UK people is possible on Thalassa, and exchange of scientist from countries which are involved in this program strongly recommended.

### 8.2. Proposed dates and ports for embarkation/disembarkation :

The IBTS is planned as follow :

The Thalassa will leave Brest the 26<sup>th</sup> of January and after acoustic calibration in French waters, will go to the North Sea. The cruise will be divided in two parts :

1 part :

Start date :	25/01/06	Brest (France)
End date :	07/02/06	IJmuiden (The Netherlands)

2 part :

Start date :	08/02/06	IJmuiden (The Netherlands)
End date :	22/02/06	Boulogne (France)

## 9 - ACCESS TO DATA, SAMPLES AND RESEARCH RESULTS

### 9.1. Expected dates of submission to United Kingdom of preliminary reports which should include the expected dates of submission of the final results :

### 9.2. Proposed means for access by United Kingdom to data and samples :

All data and reports are available to ICES (Copenhagen)

### 9.3. Proposed means of making research internationally available :

The IBTS is an International programm and United Kingdom participate.



<b>ANNEX</b>
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**List of the scientific team**

The definitive scientific team is not yet known but will be composed of 10 to 12 scientist from IFREMER and students from university. Some people will participate only to a half of the survey (a call is planned in IJmuiden in The Netherlands).

At this time, names known are :

Yves Vérin - IFREMER Boulogne.

Frank Coppin . - IFREMER Boulogne (half a cruise)

Jean-Paul Delpech - IFREMER Boulogne (half a cruise)

Didier Le Roy - - IFREMER Boulogne.

### APPENDIX 1

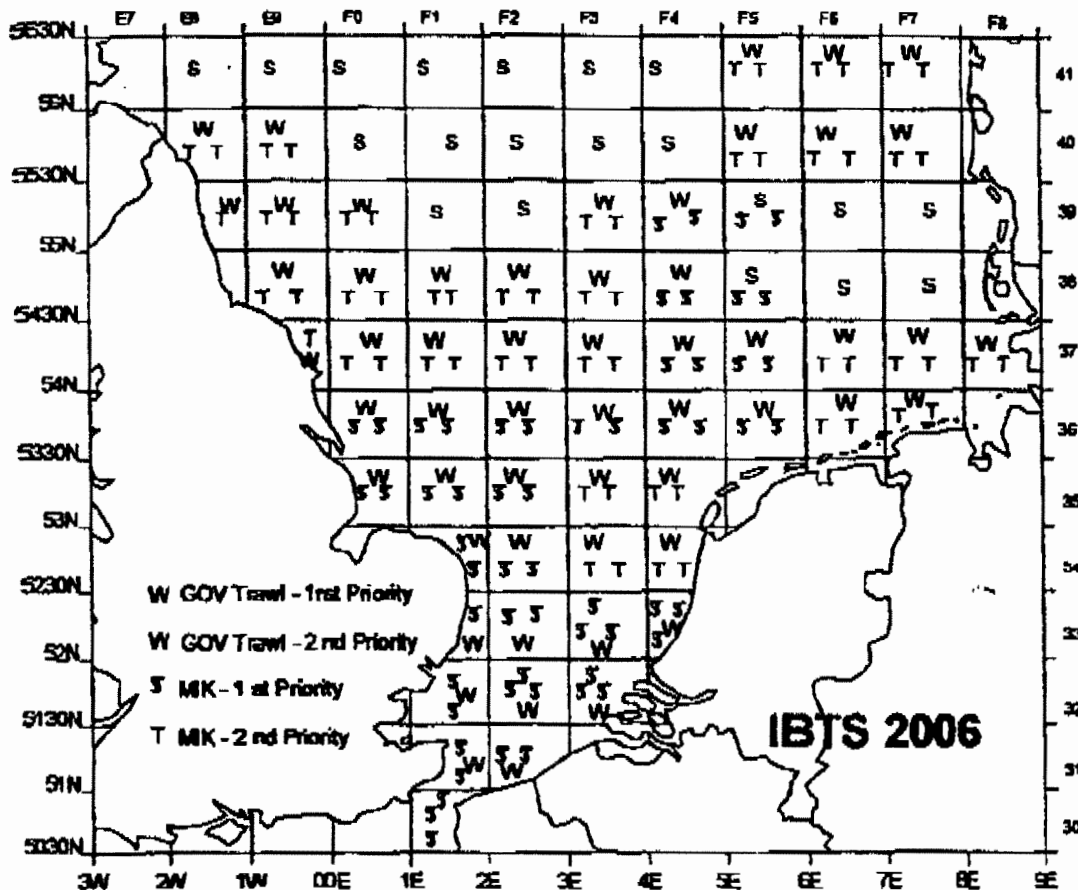


Figure 1 : Area covered during IBTS (trawls during the day and larval stations during the night)

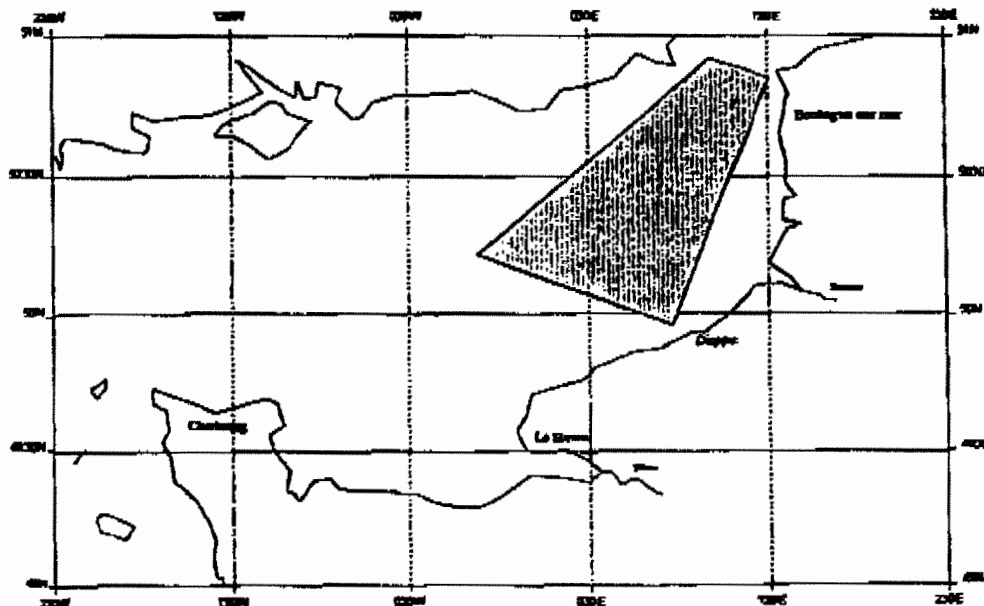


Figure 2 : Area which could be covered at the end of the survey