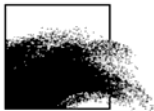
**NOTIFICATION OF PROPOSED RESEARCH CRUISE****GENERAL ORGANISATION
PART A**

1. Name of research ship **BELGICA** Cruise N° **2011/04**
2. Dates of cruise From **14 February 2011** To **18 February 2011**
3. Operating Authority **Belgian Navy under contract for Belgian Ministry of Science Policy
Management Unit of the North Sea Mathematical Model "M.U.M.M.",
3° & 23° Linierregimentsplein, 8400 Oostende
Tel: 32(0)59 70 01 31, Facsimile: 32(0)59 70 49 35
Email : bmmost@mumm.ac.be**
4. Owner **Belgian state represented by Minister for Science Policy**
5. Particulars of ship
- | | |
|-----------------|--|
| Name | Belgica |
| Nationality | Belgian |
| Overall length | 51 meters |
| Maximum draught | 4,5 meters |
| Nett tonnage | 232NRT |
| Propulsion | Diesel |
| Call Sign | ORGQ |
| Telephone | INMARSAT 00870 76 218 73 27 |
| Facsimile | INMARSAT 00870 32 052 18 12 |
| Email | belgica@mumm.ac.be |
6. Crew
- | | |
|----------------|-------------------------------|
| Name of master | DE MAESSCHALK Luc, KVK |
| N° of Crew | 15 |
7. Scientific Personnel
- Name and address of scientist in charge :
- Dhr. Hans POLET
ILVO-Dier-Visserij, Technical Research Unit
Ankerstraat 1, 8400 OOSTENDE, Belgium
Tel +32-59-56 98 37; Fax : +32-59-33 06 29
Email : hans.polet@ilvo.vlaanderen.be
Website : www.ilvo.vlaanderen.be**
- N° of scientists : **15**
- (A nominall roll of all personnel other than nationals of the applicant (flag) state is required)*
8. Geographical area in which ship will operate (with reference in latitude and longitude)
- Belgian, Dutch and UK continental shelf
Between 0° and 5° E and 51°N and 54°30'N**
9. Brief description of purpose of cruise
- Reduction of the environmental impact of the sea fishery by technical adjustments to the beamtrawl,
alternative stimuli or alternative fishery methods**
10. Port of Call. Dates. Reasons
- | | | |
|------------------|-----------------|--|
| Zeebrugge | 14/02/11 | Departure home port; Start of research cruise 11/04 |
| Zeebrugge | 18/02/11 | Arrival home port; End of research cruise 11/04 |
11. Any special logistic requirements at ports of call (other than water, fuel provisions, etc.) **N.A.**

**NOTIFICATION OF PROPOSED RESEARCH CRUISE****DETAIL
PART B**

1. Name of research ship **BELGICA** Cruise N° **2011/04**
2. Dates of cruise From **14 February 2011** To **18 February 2011**

3. Purpose of research and general methods. (If the research work is being taken on behalf of a research institution of a third state, it is the responsibility of that state to obtain prior permission; it is essential that written confirmation that this has been done is obtained and quoted in this application.

The beam trawl has a bad reputation what concerns the impact on the marine environment. Several scientific studies have demonstrated this. The first aim of the project is to decrease the environmental impact through means of technical adaptations to the fishing gear. The second aim is to test the feasibility of an alternative stimulus (electric pulses) to reduce bottom contact and thus damage. Finally, alternative fishing methods (e.g. outrigger otter trawl) with reduced impact will be tested.

Program supported by the EVF, (Flemish Community, EU), the Belgian Science Policy, IWT (Flemish Community) and the 'Waddenfonds' (NL).

4. Attach chart(s) showing (on an appropriate scale) the geographical area of the intended work, positions of intended stations, tracks of survey lines, positions of moored / seabed equipment.

See chart

5. Types of samples required, e.g. Geological / Water / Plankton / Fish / Radioactivity / Isotope

fish

and methods by which samples will be obtained (including dredging/coring/drilling).

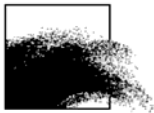
flatfish beam trawl (twin net) or outrigger otter trawl

6. Details of moored equipment : **N.A.**

Dates Laying	Recovery	Description	Latitude	Longitude
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7. Explosives **N.A.**

(a) Type and Trade Name	(b) Chemical content
(c) Dept of trade class and stowage	(d) Size
(e) Depth of detonation	(f) Frequency of detonation
(g) Dates of detonation	



8. Details and reference of

(a) Any relevant previous/future cruises

Belgica cruises 2001/08, 2001/16, 2001/28, 2001/33a, 2002/22 2003/01, 2003/28 and 2003/31, 2004/2a-b, 2004/27, 2004/30, 2005/06, 2005/09, 2006/03, 2006/25, 2007/02, 2007/26, 2007/27, 2008/03, 2008/29, 2009/03, 2009/10, 2009/32a-b, 2010/02a-b; 2010/31a-b

(b) Any previous published research data relating to the proposed cruise
(attach separate sheet if necessary)

Fonteyne, R. and Polet, H., 2002. Reducing the benthos by-catch in flatfish beam trawling by means of technical modifications. Fisheries Research, 55 (1-3) (2002) pp. 219-230

Polet, H., Delanghe, F. and Verschoore, R., 2005. Assessment of the feasibility of electric pulses as an alternative stimulation for brown shrimp (*Crangon crangon*) – laboratory experiments Fisheries Research 72 (2005) 1-12

Polet, H., Delanghe, F. and Verschoore, R., 2005. Assessment of the feasibility of electric pulses as an alternative stimulation for brown shrimp (*Crangon crangon*) – sea trials Fisheries Research 72 (2005) 13-27

Polet, H., Depestele, J., Stouten, H. and Vanderperren, E., 2006. Moving from beam trawls towards multi-rig ottertrawls – and further... In: Conference on energy efficiency in fisheries, EUROPEAN COMMISSION, DIRECTORATE-GENERAL for FISHERIES and MARITIME AFFAIRS, Brussels, 11-12 May 2006, Conference Center Albert Borschette

Depestele, J., Desender, M., Polet, H., Van Craeynest, K., Vincx, M., 2009. Mortality of fish discards in beam trawl fisheries. Gent University/ILVO: Oostende, Belgium. 1 poster pp

Polet, H., 2010. Electric Senses of Fish and Its Application in Marine Fisheries. In: He, P., 2010. Behavior of Marine Fish, Capture Process and Conservation Challenges. 1st Edition, May 2010. ISBN-10: 0-8138-1536-3; ISBN-13: 978-0-8138-1536-7 - John Wiley & Sons

Chiers, K., Verschueren, B., Hermans, K., Decostere, A. and Polet, H., 2010. Effects of low-frequency pulsed direct current (PDC) on captive-housed sea fish. Animal Welfare, submitted.

9. Names and addresses of scientist of the coastal state in whose waters the proposed cruise takes place with whom previous contact has been made.

Dr. Michel J. KAISER, School of Ocean Sciences, University of Wales-Bangor, Menai Bridge, Gwynedd, LL59 5EY, UK

Dr. R.S.T. FERRO, Marine Laboratory, Aberdeen, UK

Mr. B. van Marlen, RIVO, Haringkade 1, IJmuiden, the Netherlands

10. State :

(a) Whether visits to the ship in port by scientists of the coastal state concerned will be acceptable.

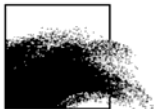
Yes

(b) Whether it will be acceptable to carry on board an observer from the coastal state for any part of the cruise and dates and ports of embarkation / disembarkation.

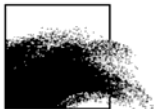
Yes, cfr. part A § 10

(c) When research data from intended cruise is likely to be made available to the coastal state and if so by what means. (If the final report is likely to be delayed beyond 12 months, interim progress reports are required.)

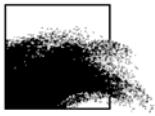
Cruise report within 2 months by request to the chief scientist

**Part C SCIENTIFIC EQUIPMENT**COASTAL STATE : **THE NETHERLANDS***(Indicate "YES" or "NO")*

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		
				WITHIN 12 NMS	BETWEEN 12-200 NMS	CONTINENTAL SHELF WORK ONLY BEYOND 200 NM BUT WITHIN THE CONTINENTAL MARGIN
EG. MAGNETOMETRY : GRAVITY DIVING : SEISMICS: BATHYMETRY SEABED SAMPLING TRAWLING ECHO SOUNDING : WATER SAMPLING U/W T.V. : MOORED INSTRUMENTS: TOWED INSTRUMENTS:						
Trawling with an 8m beam trawl or outrigger otter trawl	Yes	Yes	Yes	Yes	Yes	No

**Part C SCIENTIFIC EQUIPMENT****COASTAL STATE : UNITED KINGDOM***(Indicate "YES" or "NO")*

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		
				WITHIN 12 NMS	BETWEEN 12-200 NMS	CONTINENTAL SHELF WORK ONLY BEYOND 200 NM BUT WITHIN THE CONTINENTAL MARGIN
EG. MAGNETOMETRY : GRAVITY DIVING : SEISMICS: BATHYMETRY SEABED SAMPLING TRAWLING ECHO SOUNDING : WATER SAMPLING U/W T.V. : MOORED INSTRUMENTS: TOWED INSTRUMENTS:						
Trawling with an 8m beam trawl or outrigger otter trawl	Yes	Yes	Yes	Yes	Yes	No



Belgica campaign 11/04 : chart

