Annex A
Campaigns 05/19

INTERNATIONAL AFFAIRS / SURVEY / BNS BELGICA / UK TTW/ 23/08 – 01/09/ 2005.

1. **A. Participating naval unit:** BNS BELGICA (A 962)
   B. Ship's characteristics: length 51m / beam 10m / draught 4.6m / masthead height 28.6m / Displacement 1200 T

2. **Waters to be passed:** UK TTW

3. **Waters :**
   A. Entrance UK TTW : on 23 Aug PM near Dover
   B. Leaving UK TTW : on 01 Sep AM near Dover

4. **Anchorage in UK TW:** In case of adverse weather or technical problems

5. **Visit to harbour (harbour / period / character):** nihil

6. **Commanding officer:** LTCDR Peter Ramboer (Sep 03)

7. **Crew:**
   A. Total crew: 30
   B. Officers: 2
   C. Crew: 13
   D. Civilian scientists: 15

8. **Reason for visit:** nil
   Reason for stay in TTW en EZ : FISHERY

9. **Communication requirements :**
   A.1. Frequencies: 2461K3, 4158K8, 6239K0, 8330k4
   A.2. Frequencies: 2072k1, 4113k9, 8752k2
   B.1.Transmission mode: F1B
   B.2.Transmission mode: J3E
   C. Effective output: 400 Watt
   D. International call sign: OSCAR ROMEO GOLF QUEBEC
   E. Receiver station: OSN

10. **Organic aircraft:** nil

11. **Logistic requirements:** nil

12. **Summary of survey:** See para 9 of NPRC (annexe B)

NOTIFICATION OF PROPOSED RESEARCH CRUISE

GENERAL
ORGANISATION
PART A

1. Name of research ship **BELGICA** Cruise N° **2005/19**

2. Dates of cruise From **23 August** to **01 September 2005**

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.",
3e & 23e Linieregimentsplein, 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
Net tonnage	232 NRT
Propulsion	Diesel
Call Sign	ORGQ

6. Crew

Name of master	**P. RAMBOER, LTZ 1ste Klasse**
N° of Crew	**15**

7. Scientific Personnel Name and address of scientist in charge :

Bart MAERTENS
CLO - Sea Fisheries Department
Ankerstraat 1
8400 OOSTENDE
BELGIUM

N° of scientists **15**
(A nominal 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 , French and UK Continental Shelves
N 51°00, E 0°30, N 54°00, E 3°00

9. Brief description of purpose of cruise

Purpose a)
Research project in the frame of the ICES co-ordinated Working Group on Beam Trawl Surveys.
Determination of flatfish stocks (primarily plaice and sole) in the North Sea

Purpose b)
Belgian national Scientific support plan for sustainable development programme. Global change, ecosystems and biodiversity.
Project "TROPHOS" studying the processes structuring the higher tropic levels in the North Sea ecosystem.

10. Port of Call. Dates. Reasons.

Zeebrugge 23/08/05 - 01/09/05 Departure / Arrival

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° **2005/18**

2. Date of cruise From **23 August 2005** To **01 September 2005**

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.

Purpose a)

Since 1985, the Sea Fisheries Department performs fishery-independent surveys of the adult flatfish stocks (primarily plaice and sole) in the southern North Sea. Each year, approximately 60 stations are sampled. All invertebrates and fish are sorted by species, then counted. The commercial species are also measured for length. For plaice and sole, otoliths are taken for age determination (5 otoliths per cm size class). The data are exchanged at the Working Group on Beam Trawl Surveys (WGBEAM), a group which is co-ordinated by the International Council for the Exploration of the Sea (ICES). Finaly, fish diseases are looked at on board, and samples are taken for the analysis of heavy metals and radio-activity.

The survey is a compulsory part of the Belgian National Data Gathering Program, in fulfillment of the requirements of EC Regulation 1639/2001.

Purpose b)

TROPHOS aims at studying the processes structuring the higher trophic levels in the North Sea Ecosystem. Food web interactions determining benthic communities will be clarified using natural stable isotopes and markers. These techniques make it possible to unravel how food cascades into animal biomass. Dispersal mechanisms of pelagic species (or species having a pelagic life stages) will be investigated by relating the genotyping of the populations with Lagrangian modeling of particles in a 3-d hydro-dynamical model. Seabird distribution will be investigated by linking their distribution to the distribution of pelagic fish that serve as food for these birds.

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 1 + positions in Table 1

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

Fish, macrobenthos

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

beam trawling

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

Dates Laying	Recovery	Description	Latitude	Longitude

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

Purpose a) :
Belgica cruises 92/19, 93/19, 94/19, 95/19, 96/18, 97/17, 98/16, 99/16, 2000/20, 2001/21, 2002/18, 2003/20 and 2004/18
Purpose b :
Project TROPHOS: Belgica cruise 2003/07, 2003/11, 2003/16, 2003/26 (Dutch and French waters)

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

Purpose a)
Demersal fish populations in the coastal waters of the UK and continental NW Europe from beam trawl survey data collected from 1990 to 1995. Journal of Sea Research Vol. 39 (1998) 79-102.

ICES, 2003. Report of the Working Group on Beam Trawl Surveys. ICES CM 2003/G:14

Purpose b :
Vanaverbeke J, Ghesklere T., Vincx M (2000) The melobenthos of subtidal sandbanks on the Belgian Continental Shelf (Southern Bight of the North Sea) Estuarine Coastal and Shelf Science 51, 637-648

Vanaverbeke J, Ghesklere T., Steyaert M., Vincx M (in press) Nematode assemblages from subtidal sandbanks in the Southern Bight of the North Sea: effect of small sedimentological differences Journal of Sea Research

Zietara M.S., Arndt A., Geets A., Hellemans B. & Volckaert F.A.M. (2000) The nuclear rDNA region of *Gyrodactylus arcuatus* and *G. branchicus* (Monogenea: Gyrodactylidae) from the threespine stickleback (*Gasterosteus aculeatus*). Journal of Parasitology 86: 1368-1373.

Volckaert F.A.M., Kayens G., Schallier R. & Jacques Th. (2000) Aerial surveillance of operational oil pollution in Belgium's Maritime Zone of interest. Marine Pollution Bulletin 40 :1051-1056

Daemen E., Cross T., Ollevier F. & Volckaert F.A.M. (2001) Analysis of the genetic structure of European eel using microsatellite DNA and mtDNA markers. Marine Biology 139: 755-764

Zietara, M.S., Huyse T., Lumme J. & Volckaert F.A.M. (2002). Deep divergence among subgenera of *Gyrodactylus* inferred from rDNA ITS region. Parasitology 124: 39-52

Huyse T., Volckaert F.A.M. (2002) Identification of a host-associated species complex using molecular and morphometric analyses, with the description of *Gyrodactylus rugiensoides* n. sp. (Gyrodactylidae, Monogenea), Parasitology 124: 39-52.

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.

Mr. R. MILLNER, CEFAS, Lowestoft, Suffolk NR33 OHT, UK
Mr. F. COPPIN, IFREMER, Boulogne, 150 qual Gambetta, FR

Dr. Rachid AMARA, Université du Littoral-Côte d'Opale-UPRES-A ELICO 8013 CNRS, Avenue Foch, F-62930 Wimereux, France

10. State :

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

N.A.

(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, see 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 after the cruise, by request to the chief scientist.
The research data have been and will be published within the frame of the Marine Resources Committee of ICES

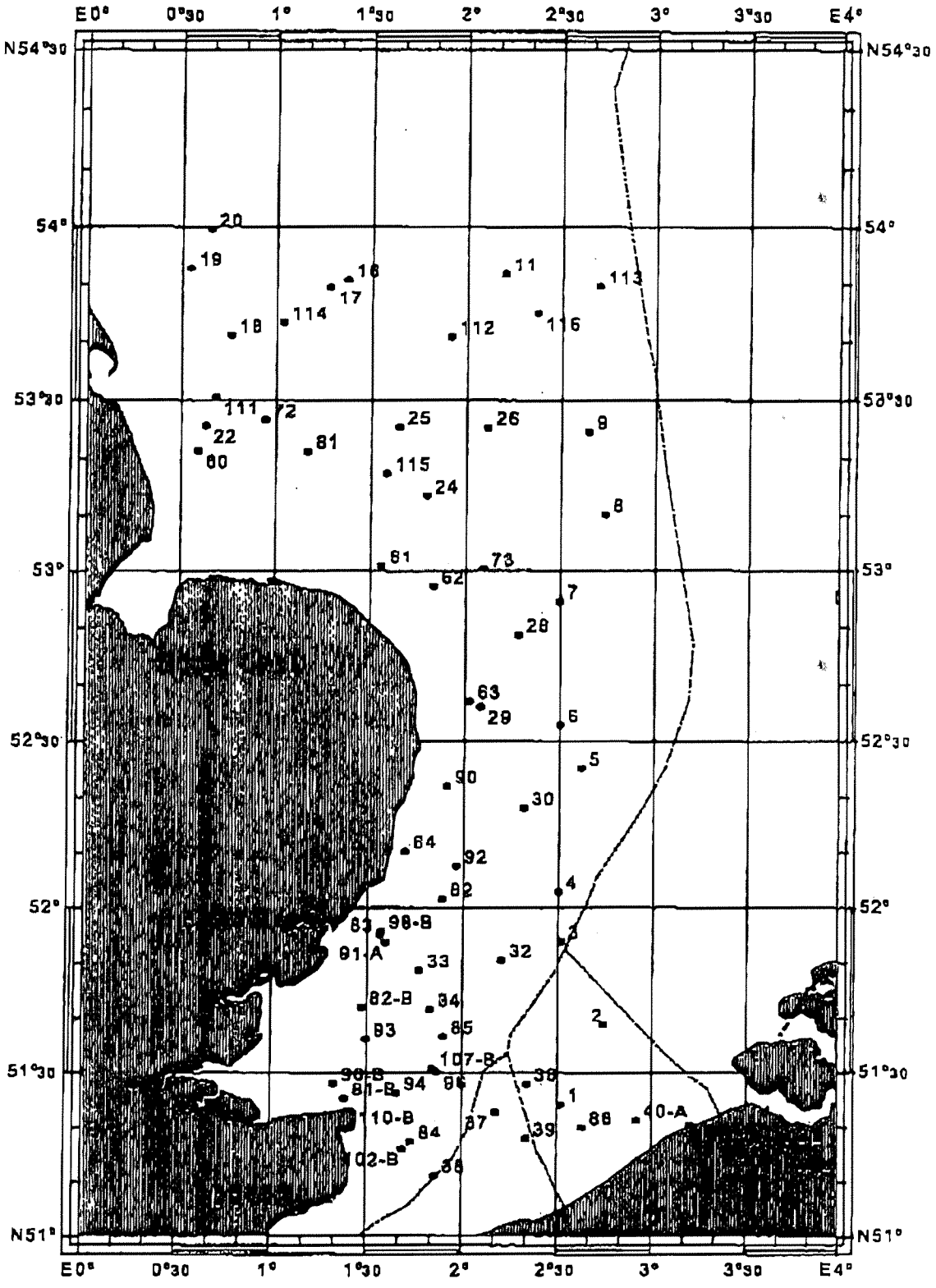
PART C : **SCIENTIFIC EQUIPMENT**

COASTAL STATE : **UNITED KINGDOM**

INDICATE "YES" OR "NO"

LIST SCIENTIFIC WORK BY FUNCTION eg. MAGNETOMETRY : GRAVITY DIVING : SEISMICS: BATHYMETRY SEABED SAMPLING TRAWLING ECHO SOUNDING : WATER SAMPLING U/W T.V. : MOORED INSTRUMENTS: TOWED INSTRUMENTS:	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
4 m beam trawl with chain net	**No**	**YES**	**No**	**YES**	**YES**	**No**

Chart 1: Belgica campaign 2005/19



BELGICA Cruise 2005/19 : Table 1

Station	Positie begin		Positie einde	
1	N51° 24.07'	E2° 31' 37	N51° 25' 47	E2° 33' 11
2	N51° 38.73'	E2° 44' 78	N51° 40' 00	E2° 47' 35
3	N51° 53.75'	E2° 31' 22	N51° 54' 70	E2° 33' 81
4	N52° 02.69'	E2° 30' 43	N52° 01' 27	E2° 28' 35
5	N52° 25.02'	E2° 37' 35	N52° 27' 03	E2° 37' 42
6	N52° 32.73'	E2° 30' 43	N52° 34' 59	E2° 31' 85
7	N52° 54.39'	E2° 30' 05	N52° 55' 24	E2° 31' 84
8	N53° 10.02'	E2° 44' 38	N53° 11' 95	E2° 44' 56
9	N53° 24.42'	E2° 39' 07	N53° 26' 94	E2° 41' 38
11	N53° 51.64'	E2° 12' 17	N53° 53' 57	E2° 14' 21
16	N53° 50.62'	E1° 22' 57	N53° 51' 20	E1° 25' 70
17	N53° 49.27'	E1° 17' 06	N53° 49' 25	E1° 13' 21
18	N53° 40.95'	E0° 45' 93	N53° 40' 90	E0° 47' 46
19	N53° 52.60'	E0° 32' 92	N53° 56' 40	E0° 32' 33
20	N53° 59.43'	E0° 39' 38	N54° 00' 50	E0° 42' 68
22	N53° 25.50'	E0° 38' 00	N53° 24' 10	E0° 40' 73
24	N53° 13.32'	E1° 47' 82	N53° 14' 64	E1° 44' 88
25	N53° 25.24'	E1° 38' 99	N53° 27' 21	E1° 37' 71
26	N53° 23.40'	E2° 09' 60	N53° 25' 80	E2° 05' 50
28	N52° 48.56'	E2° 17' 04	N52° 50' 47	E2° 16' 23
29	N52° 36.04'	E2° 05' 24	N52° 35' 28	E2° 02' 77
30	N52° 17.90'	E2° 19' 09	N52° 17' 21	E2° 15' 46
32	N51° 50.37'	E2° 12' 45	N51° 48' 20	E2° 10' 83
33	N51° 48.54'	E1° 46' 60	N51° 46' 56	E1° 46' 86
34	N51° 41.51'	E1° 50' 04	N51° 39' 57	E1° 48' 77
36	N51° 27.78'	E2° 20' 66	N51° 28' 55	E2° 21' 27
37	N51° 22.70'	E2° 10' 93	N51° 26' 05	E2° 15' 35
38	N51° 10.99'	E1° 51' 67	N51° 11' 60	E1° 53' 30
39	N51° 17.80'	E2° 20' 49	N51° 19' 65	E2° 23' 74
40a	N51° 21.14'	E2° 56' 45	N51° 20' 19	E2° 53' 39
60	N53° 21.20'	E0° 36' 53	N53° 19' 36	E0° 34' 97
61	N53° 00.70'	E1° 33' 62	N53° 02' 27	E1° 31' 40
62	N52° 57.04'	E1° 50' 02	N52° 57' 97	E1° 48' 16
63	N52° 36.90'	E2° 01' 70	N52° 41' 63	E2° 08' 80
64	N52° 10.00'	E1° 41' 80	N52° 11' 15	E1° 43' 23
72	N53° 26.50'	E0° 56' 90	N53° 28' 40	E0° 54' 60
73	N53° 00.19'	E2° 05' 76	N52° 59' 16	E2° 08' 13
81	N53° 21.08'	E1° 10' 38	N53° 19' 65	E1° 11' 85
81b	N51° 25.14'	E1° 23' 49	N51° 25' 22	E1° 26' 83
82	N52° 01.36'	E1° 53' 60	N52° 04' 59	E1° 54' 83
82b	N51° 41.84'	E1° 28' 64	N51° 40' 84	E1° 26' 65
83	N51° 55.04'	E1° 34' 32	N51° 56' 98	E1° 35' 04
84	N51° 17.20'	E1° 44' 20	N51° 14' 33	E1° 42' 25
85	N51° 36.50'	E1° 54' 18	N51° 33' 80	E1° 51' 40
86	N51° 19.78'	E2° 38' 23	N51° 18' 07	E2° 37' 85
90	N52° 21.80'	E1° 54' 80	N52° 19' 70	E1° 54' 00
91a	N51° 53.60'	E1° 35' 95	N51° 55' 30	E1° 38' 20
92	N52° 03.80'	E1° 45' 80	N52° 04' 50	E1° 49' 25
93	N51° 36.04'	E1° 30' 04	N51° 12' 00	E1° 35' 80
94	N51° 26.14'	E1° 39' 66	N51° 27' 41	E1° 41' 19
96	N51° 29.95'	E1° 52' 12	N51° 25' 20	E1° 49' 52
96b	N51° 27.80'	E1° 20' 00	N51° 27' 21	E1° 16' 92
98b	N51° 55.50'	E1° 34' 50	N51° 57' 30	E1° 35' 20
102b	N52° 15.90'	E1° 41' 60	N51° 14' 10	E1° 40' 50
107b	N52° 30.62'	E1° 50' 81	N51° 28' 86	E1° 50' 70
110b	N53° 19.96'	E1° 25' 63	N51° 19' 91	E1° 28' 65

111	N53° 30.36'	E0° 41' 12	N53° 27' 81	E0° 99' 90
112	N53° 40.71'	E1° 55' 14	N53° 47' 85	E1° 48' 49
113	N53° 49.46'	E2° 42' 20	N53° 51' 60	E2° 36' 66
114	N53° 43.22'	E1° 02' 49	N53° 41' 10	E1° 04' 29
115	N53° 20.55'	E1° 29' 96	N53° 18' 47	E1° 32' 95
116	N53° 44.75'	E2° 22' 45	N53° 45' 65	E2° 33' 80