

## NOTIFICATION OF PROPOSED RESEARCH CRUISE

### PART A: GENERAL

1. NAME OF SHIP: F.S. "Poseidon" Cruise No. P352

2. DATES OF CRUISE: FROM: 08.06.07 TO: 05.07.07

3. OPERATING AUTHORITY: Leibniz-Institut für Meereswissenschaften  
an der Universität Kiel  
Düsternbrooker Weg 20  
24105 KIEL, Germany  
phone: +49-431-600-4161 / 1542  
fax +49-431-600-4152

4. OWNER: (if different from para 3)

5. <u>PARTICULARS OF SHIP</u> :	<u>NAME</u>	<b>POSEIDON</b>
	<u>Nationality</u>	German
	<u>OVERALL LENGTH</u>	60,80 m
	<u>MAXIMAL DRAUGHT</u>	4,60 m
	<u>NETTONAGE</u>	305,37
	<u>PROPULSION</u>	Diesel Electric
	<u>CALL SIGN</u>	DBKV
	<u>IMO no.</u>	7427518
	<u>MMSI no.</u>	211 204 360
	<u>PHONE INMARSAT</u>	+870 – 7 61 65 17 73
	<u>FAX INMARSAT</u>	+870 – 6 00 27 36 36
	<u>E-MAIL</u>	poseidon-b@skyfile.de
	<u>REGISTERED PORT &amp; NUMBER</u>	Kiel, Germany
	(if registered fishing vessel)	

6. CREW: NAME OF MASTER: Michael Schneider

NUMBER OF CREW: 15

### 7. SCIENTIFIC PERSONNEL:

#### NAME & ADDRESS OF SCIENTIST IN CHARGE

Prof. Dr. Allan Cembella

Alfred Wegener Institute for Polar and Marine Research

Am Handelshafen 12

TEL./TELEFAX No. +49-471-4831-1494/+49-471-4831-2115

NUMBER OF SCIENTISTS: 11

8. GEOGRAPHICAL AREA IN WHICH SHIP WILL OPERATE (with reference in latitude and longitude):

Two General Research Areas: East Coast of Scotland/Great Britain (Orkney Islands to Firth of Forth)

1.0 – 0.0 °W 56 – 60 °N

South Coast Norway/Skagerrak

6.0 – 11.0 °E 57 – 59 °N

Entire area including transit: 1.0 °W – 11.0 °E 53.2 – 60.0 °N

9. BRIEF DESCRIPTION OF PURPOSE OF CRUISE:

The project cruise addresses key research question on the dynamics of Harmful Algal Blooms (HABs). The specific goals are:

- 1) To assess and compare the genotypic variability of populations of selected HAB species
- 2) To assess and compare the toxin profile and content of HAB species and toxin transfer and metabolism to the next trophic level
- 3) To assess and compare the effect of grazing by both metazoa and protists as a potential "top down" regulatory mechanism for population dynamics of HAB species
- 4) To assess potential effects of allelochemicals produced by *Alexandrium* spp. on the population dynamics and composition of the whole plankton community
- 5) To determine the intrinsic in situ growth rate of the HAB field population

10. DATES AND NAMES OF INTENDED PORTS OF CALL:

Aberdeen, Scotland (embark Scottish scientist 10.06.07/disembark 21.06.07)

Flodevigen/Arendahl, Norway (embark Norwegian scientist 24.06.07/disembark 03.07.07)

11. ANY SPECIAL REQUIREMENTS AT PORTS OF CALL:      None

## NOTIFICATION OF PROPOSED RESEARCH CRUISE

### PART B: GENERAL

#### 1. NAME OF RESEARCH SHIP

F.S. "Poseidon"

Cruise No. P352

#### 2. DATES OF CRUISE

FROM 08.06.07 (embark Bremerhaven 07.06.07)

TO 05.07.07 (disembark Kiel 06.07.07)

#### 3. a) PURPOSE OF RESEARCH

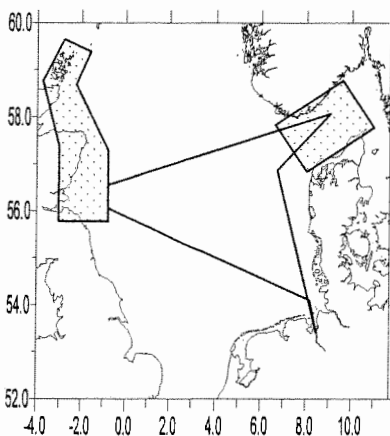
The objective of this cruise is to conduct an limited oceanographic survey for key species (*Alexandrium* spp., *Pseudo-nitzschia* spp., *Dinophysis* spp., etc.) that form Harmful Algal Blooms in the North Sea and adjacent coastal waters. Profiling instrumentation (biooptics, physical oceanography, fluorescence) will be combined with sampling for phytoplankton, microzooplankton and metazooplankton for on board experiments on grazing, population genetics and toxin compartmentalization. This cruise is expected to contribute to the comparative studies conducted under GEOHAB to understanding the processes underlying bloom dynamics.

#### b) GENERAL OPERATIONAL METHODS (including full description of any fishing

geartrawl type, mesh size etc)

The operational methods involved in this cruise involved standard oceanographic profiling instrumentation (CTD, HyperSpectral profiler, in situ fluorometer) and equipment for plankton sampling (Rosette sampler, plankton nets). No fishing gear will be deployed and no benthic dredge sampling is proposed. Plankton catch will be limited to size-fraction <300 µm, specifically for nanophytoplankton (20 µm) and zooplankton size fractions (150 and 300 µm) mesh size.

4. ATTACH CHART 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, areas to be fished:



Betroffene Küstenstaaten:  
Großbritannien, Norwegen, Dänemark

The coastal areas involved include those of Scotland/Great Britain, Norway and Denmark. The shaded grid areas indicated the general scope of the proposed sampling. No moorages or other seabed anchorages are planned, but rather a drifter will be deployed to follow the current track and the anticipated bloom patches of the target organisms. Plankton are by definition "wanderers" therefore fixed stations cannot be established in advance of the *in situ* sampling. To set the key stations for sampling and to begin the drift series, we expect to conduct a preliminary survey of the grid at approximately 5 km resolution and repeat as necessary with modified resolution.

5. a) TYPES OF SAMPLES REQUIRED

Water and plankton samples from the surface to below the euphotic zone (max 150 m)

Benthic cysts (optional) – only if pelagic bloom status is judged to be relevant

b) METHODS OF OBTAINING SAMPLES

Phytoplankton nets (20 µm)

Zooplankton nets (150, 300 µm)

Rosette sampler

Diaphragm pump/on board filtration

Benthic corer (only if cysts are sampled)

(wet biomass of plankton required <10 g)

6. DETAILS OF MOORING EQUIPMENT:

DATES

<u>Laying</u>	<u>Recovery</u>	<u>Description</u>	<u>Depth</u>	<u>Latitude</u>	<u>Longitude</u>
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7. ANY HAZARDOUS MATERIAL (Chemicals, explosives, gases, radioactive, etc):

(use separate sheet if necessary)

(a) TYPE and TRADE NAME (buffered formalin and Lugols iodine solution for plankton preservation)

(b) CHEMICAL CONTENT (& FORMULA) (2% final formalin and Lugols iodine final concentration). Formaldehyde:  $H_2CO$  Lugols iodine ( $I_2$ ,  $CH_3COOH$ )

(c) IMO IMDG CODE Reference and Un No. CAS No 50-00-0 (AOSHA)

(d) QUANTITY & METHODS of STOWAGE ON BOARD (max 5 L retained in polyethylene carboys and/or Nalgene plastic sample vials 10 ml). Minimal on board waste – disposable after cruise

(e) IF EXPLOSIVES give date(s) of detonation

- Method of detonation
- Position of detonation
- Frequency of detonation
- Depth of detonation
- Size of explosive charge in Kg

8. DETAIL & REFERENCE OF:

(a) ANY RELEVANT PREVIOUS / FUTURE CRUISES:

Heincke Cruise (2000) BMBF TEPS Project No. 03F0161

Heincke Cruise (2004) Orkneys transect

(b) ANY PREVIOUSLY PUBLISHED RESEARCH DATA RELATING TO THE PROPOSED CRUISE:

Alpermann, T.J., B. Beszteri, U. Tillmann, A.D. Cembella, U. John. 2006. Species discrimination in the genus *Alexandrium* by Amplified Fragment Length Polymorphism, XII Inter Conf. on Harmful Algae, Proceedings. (in press).

John, U., A. Cembella, C. Hummert, M. Elbrächter, R. Groben, and L.K. Medlin. 2003. Discrimination of the toxigenic dinoflagellates *Alexandrium tamarense* and *A. ostenfeldii* in co-occurring natural populations from Scottish coastal waters. Eur. J. Phycol. 38: 25-40.

9. NAMES AND ADDRESS OF SCIENTISTS WITH WHOM PREVIOUS CONTACT HAS BEEN MADE:

Dahl, Einar	Institute of Marine Research	47-37059040 (T)	einar.dahl@imr.no
	Flodevigen Marine Research Station	47-37059001 (F)	
	N-4817 HIS		
	Norway		
Bresnan, Eileen	FRS marine Lab	44-1224876544 (T)	E.Bresnan@marlab.ac.uk
	Victoria Road	44-1224295511 (F)	
	Aberdeen AB1 9DB		
	Scotland		

10. STATE

- (a) WHETHER VISITS TO THE SHIP IN PORT BY SCIENTISTS OF THE WILL BE ACCEPTABLE:

YES

- (b) PARTICIPATION OF AN OBSERVER FROM THE COASTAL STATE FOR ANY PART OF THE CRUISE TOGETHER WITH THE DATES AND PORTS FOR EMBARKATION / DISEMBARKATION

YES, in principle but should not be required; limited accommodation on board

- (c) WHEN RESEARCH DATA FROM THE INTENDED CRUISE IS LIKELY TO BE MADE AVAILABLE TO THE COASTAL STATE:

Raw data will be made immediately available following the cruise to the participating national scientists involved in the cruise; all data will be made available to the associated states upon publication or within 2 years of the termination of the cruise.

Part C: SCIENTIFIC EQUIPMENT

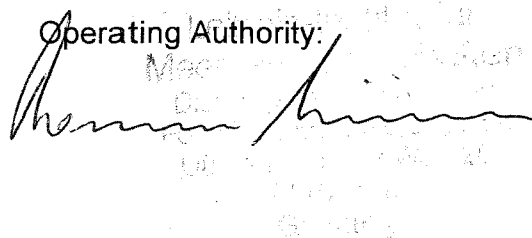
COASTAL STATE: **Scotland/Great Britain**

11. Complete the following table - SEPARATE COPY FOR EACH COASTAL STATE  
(INDICATE 'YES' OR 'NO' )

			DISTANCE FROM COAST			
List of all major Marine Scientific Equipment it is proposed to use and indicate waters in which it will be deployed.	Fishery Research Within Fishing Limits	Research concerning Continental Shelf out to coastal state's margin	Within 3 NM	Between 3 - 12 NM	Between 12 - 50 NM	Between 50 - 200 NM
Water sampling -Plankton nets -Entrapment bottles	NO	NO	YES	YES	YES	YES
Seabed sampling -Benthic corer	NO	NO	YES	YES	YES	YES
Followed drifter -Free surface drogue	NO	NO	YES	YES	YES	YES

Dated: 24.01.2007

Operating Authority:



N.B. IF ANY DETAILS ARE MATERIALLY CHANGED REGARDING DATES / AREA OF OPERATION AFTER THIS FORM HAS BEEN SUBMITTED THE COASTAL STATE'S AUTHORITIES MUST BE NOTIFIED IMMEDIATELY.