NOTIFICATION OF PROPOSED RESEARCH CRUISE

Part A: GENERAL

1. Name of research ship: **RV Pelagia** **Cruise number: 64PE438**

2. Cruise dates: 23 May - 6 June 2018

3a. Operating authority:
NIOZ Royal Netherlands Institute for Sea Research
Telephone: (+31) (0)222-369300
Telefax: (+31) (0)222-319674

3b. Operating agent:
NIOZ Royal Netherlands Institute for Sea Research
Telephone: (+31) (0)222-369300
Telefax: (+31) (0)222-319674

4. Owner: NIOZ Royal Netherlands Institute for Sea Research

5. Particulars of ship:

name:	Pelagia
nationality:	Dutch
overall length:	66.00 meters
maximum draught:	4.00 meters
nett tonnage:	1553 NRT
propulsion:	2 diesel electric Elliot White Gill Bow Truster
call sign:	PGRQ
IMO nr:	9001461

6. Crew:

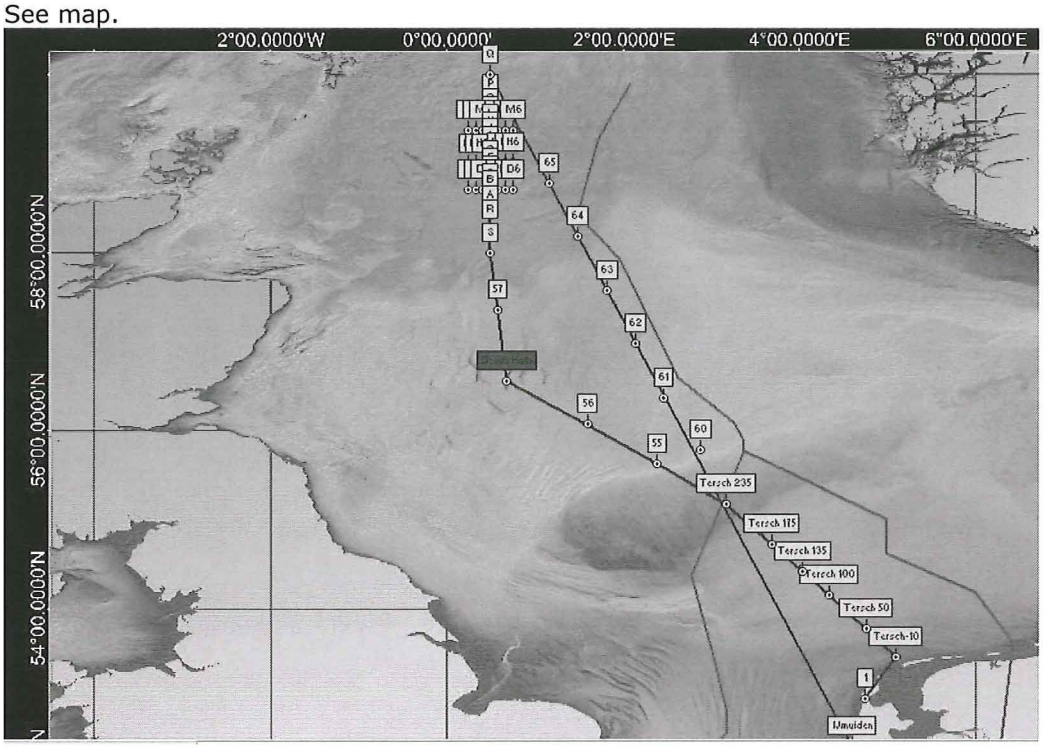
name of master:	J.C. Ellen / P. Kuijt
number of crew:	11

7. Chief scientist:

name:	Rob Witbaard
addresses:	
telephone:	0222 369537 / 0113 577 497
e-mail address:	rob.witbaard@nioz.nl

8. Geographical area in which the ship will operate: (with reference in latitude and longitude)

See map.



9. Brief description of purpose of cruise:

During the cruise we will sail a transect from Texel to 60°N 00°30 E. We start in Dutch territorial waters and follow the standard transect as being used by RWS. In this way we have back ground information on abiotic and biotic parameters over the last decades. Along this transect we intend to collect bottom and water samples to study past and present biodiversity with traditional and new techniques (*E*dna) and to make estimates of benthic remineralization by doing deck incubations of intact sediment cores. In the north of the area we want to sample the ocean quahog (*Arctica islandica*)population with the triple D dredge to study the population development and obtain detailed information on mortality and survival. Gears which will be used are: boxcorer (30cm), Triple D dredge, Triangular dredge, Isaacs kid net- Multinet and CTD.

10. Names and dates of intended ports of call:

No intended port calls

11. Any special logistic requirements at ports of call:

No specific logistic requirements needed.

Part B: DETAIL

1. **Name of research ship: RV Pelagia**

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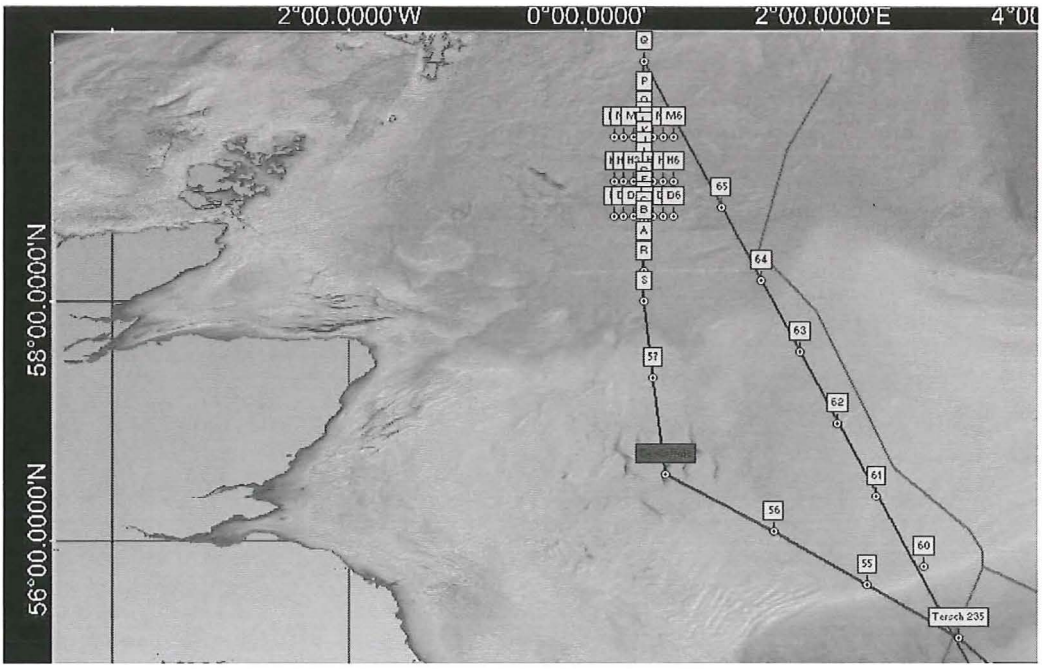
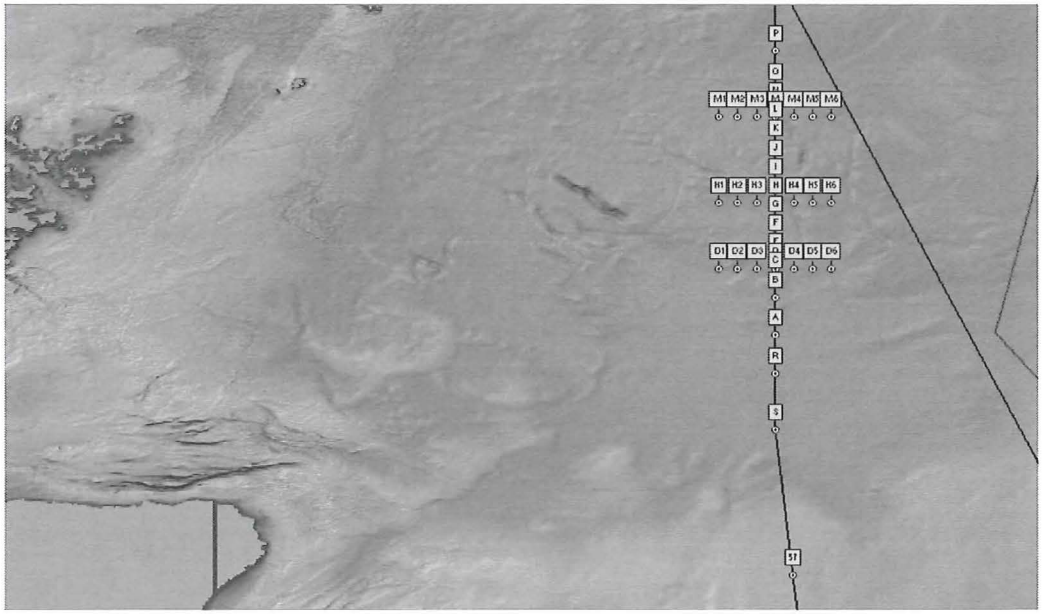
2. **Cruise dates: 24th May-June 6th 2018**

3. **Purpose of research and general operational methods:**
During the cruise we will sail a transect from Texel to 60°N 00°30 E. We start in Dutch territorial waters and follow the standard transect as being used by RWS. Aim of the cruise is to make an inventory of biodiversity in the north Sea with a combination of standard and new techniques. In addition benthic mineralisation estimates in a wide range of benthic environments will be done enabling the modelling of nutrient regeneration over a North Sea wide scale. In the Fladen ground the ocean quahog population will be sampled to study its population development and obtain detailed information on mortality and survival rates. Gears which will be used are;, boxcorer (30cm), Triple D dredge, Triangular dredge, Isaacs kid net- Multinet and CTD.

4. **Attach chart showing (on an appropriate scale) the geographical area of the intended work, positions of intended stations/hydrographic sections:**

An overall map of the entire cruise is depicted above. Below two more detailed maps are given with the sampling locations in the UK waters of which one with the details of the stations in the Fladen Grounds.





Locations where we want to sample in the UK sector of the North Sea are given in the table below. We realise that this is an ambitious program.

5a. Type of samples required:

Water samples for e dna,
suspended matter,
fungal
bacterial diversity
watermass identification
Plankton samples (zoo plankton)
Sediment samples (Fauna)
Incubation core samples

5b. Methods by which samples will be obtained (including dredge/core/drill techniques):

Boxcorer (30cm)
Triple D dredge
Triangular dredge

Isaacs kid net
Multinet
CTD

6. Details of moored equipment:
no moored equipment will be used

7. Explosives:

No explosives will be used

8. Detail and reference of:

a. Any relevant previous/future cruises:

In 1983 NIOZ worked in the Fladen ground area within the REFLEX program. and in1991 and 2000 the Fladen Ground were visited in transit.

b. Any published research data relating to the proposed cruise:

Wilde et al, 1986. Biomass and activity of benthic fauna on the fladen ground (northern North Sea). Neth. Journ. Sea res 20(2-3) 313-323.

Witbaard et al, 1997. A long term growth record derived from Arctica islandica from the Fladen ground Northern North Sea. J.Mar.Biol.Ass.UK 77 3 pp801-816.

Witbaard, 1996. Growth Variations in Arctica islandica (mollusca) a reflection of hydrography related food supply. ICES Journal of Marine science 53, 6-981-987.

Witbaard et al, 2003. Copepods link quahog growth to climate. Journal of Sea research 50(1) 77-83.

Witbaard & Bergman, 2003. The distribution and population structure of the bivalve Arctica islandica L. in the North Sea: What possible factors are involved. Journ. Sea Res. 50(1) 11-25.

Butler et al, 2009. Accurate increment identification and the spatial extent of the common signal in five Arctica islandica chronologies from the Fladen Ground, northern North Sea. Paleoceanography 24(2) 1-18

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

p.butler@exeter.ac.uk

Geography department, college of Life and environmental sciences University of Exeter
Penryn Campus,
Peter Lnyon Building,
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Regent Quay
Aberdeen AB11 5BE UK
UK

10. State:

a. Whether visits to the ship in port by scientist of the coastal state concerned will be acceptable:

Yes. but we do not intend to visit a harbour in the UK, so that will not be possible otherwise scientists would be welcome to visit.

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:

Not possible. The cruise is already overpopulated if an observer is not needed we would prefer that as we otherwise have to disappoint one of the enrolled scientists.

c. When research data from intended cruise is likely to be made available to the coastal state and if so, by what means:

Research data will be made available along the generally accepted scientific means by publication in peer reviewed scientific journals, symposia and meetings. Upon request data can be made available for specific purposes

COASTAL STATE:
United Kingdom

SCIENTIFIC EQUIPMENT

11. Complete the following table - include a separate copy for each coastal state (indicate "Yes" or "No" if applicable)

Marine scientific equipment used	**water depth (m)**	**fisheries research**	**distance of research to coast in nautical miles**			
			< 3	**3-12**	**12-50**	**50-200**
CTD	50-150	no				**50-200**
Boxcorer	50-150	no				**50-200**
Triangular Dredge	50-150	no				**50-200**
Triple D dredge	50-150	no				**50-200**
Isaacs kid net	50-150	no				**50-200**
Multi net	50-150	no				**50-200**

List of intended sampling stations during Pelagia cruise.

Stationnr	Degrees (N)	Degrees(E)	Deg Min	Deg Min
P	59.66667	0.5	59°40'N	0°30'E
O	59.5	0.5	59°30'N	0°30'E
N	59.41667	0.5	59°25'N	0°30'E
M	59.375	0.5	59°22.5'N	0°30'E
M1	59.375	0.25	59°22.5'N	0°15'E
M2	59.375	0.333333	59°22.5'N	0°20'E

M3	59.375	0.416667	59°22.5'N	0°25'E
M4	59.375	0.583333	59°22.5'N	0°35'E
M5	59.375	0.666667	59°22.5'N	0°40'E
M6	59.375	0.75	59°22.5'N	0°45'E
L	59.33333	0.5	59°20'N	0°30'E
K	59.25	0.5	59°15'N	0°30'E
J	59.16667	0.5	59°10'N	0°30'E
I	59.08333	0.5	59°5'N	0°30'E
H	59	0.5	59°0'N	0°30'E
H1	59	0.25	59°0'N	0°15'E
H2	59	0.333333	59°0'N	0°20'E
H3	59	0.416667	59°0'N	0°25'E
H4	59	0.583333	59°0'N	0°35'E
H5	59	0.666667	59°0'N	0°40'E
H6	59	0.75	59°0'N	0°45'E
G	58.91667	0.5	58°55'N	0°30'E
F	58.83333	0.5	58°50'N	0°30'E
E	58.75	0.5	58°45'N	0°30'E
D	58.70833	0.5	58°42.5'N	0°30'E
D1	58.70833	0.25	58°42.5'N	0°15'E
D2	58.70833	0.333333	58°42.5'N	0°20'E
D3	58.70833	0.416667	58°42.5'N	0°25'E
D4	58.70833	0.583333	58°42.5'N	0°35'E
D5	58.70833	0.666667	58°42.5'N	0°40'E
D6	58.70833	0.75	58°42.5'N	0°45'E
C	58.66667	0.5	58°40'N	0°30'E
B	58.58333	0.5	58°35'N	0°30'E
A	58.41667	0.5	58°25'N	0°30'E
R	58.25	0.5	58°15'N	0°30'E
S	58	0.5	58°0'N	0°30'E
Devils Hole	56.55468	0.682154	56°33.281'N	0°40.929'E
55	55.62189	2.386032	55°37.313'N	2°23.162'E
56	56.06656	1.596837	56°3.993'N	1°35.81'E
57	57.36042	0.577902	57°21.625'N	0°34.674'E
Q	60	0.5	60°0'N	0°30'E
60	55.77892	2.868918	55°46.735'N	2°52.135'E
61	56.36558	2.457898	56°21.935'N	2°27.474'E
62	56.96913	2.140852	56°58.148'N	2°8.451'E
63	57.57259	1.818588	57°34.355'N	1°49.115'E
64	58.17597	1.490895	58°10.558'N	1°29.454'E
65	58.77925	1.157548	58°46.755'N	1°9.453'E

References