Centre for Environment Fisheries & Aquaculture Science

Cefas

RESEARCH VESSEL PROGRAMME

RV CEFAS ENDEAVOUR
Survey: C END 14 - 2017
Clean Seas Environmental Monitoring Programme (CSEMP)

SIC: **Manuel Nicolaus**

DEPART: Lowestoft - 5th July 2017 at 8:30.
ARRIVE: Portland - 16th July 2017 in the evening.

LOCATION: Greater North Sea

Name	Berth	Name	Berth
Manuel Nicolaus	SIC cabin	Jon Barber	Main Sci 6
Alex Callaway	Upper Sci 1	Sara Stones	Main Sci 7
John Bignell	Upper Sci 2	Stuart Ross	Main Sci 8
Michelle Pond	Main Sci 1	Craig Stenton	Lower Sci 2
Dave Sivyer??	Main Sci 2	Fiona McNie	Lower Sci 3
Ecotox	Main Sci 3	Alyce Lazenbury	Lower Sci 4
Paul Nelson	Main Sci 4	Fahad Alajmi	Lower Sci 5
???	Main Sci 5	H. Almuduyan	Lower Sci 6

P&O contact: pomsukoffice@pomaritime.com

OBJECTIVES AND AIMS

The information generated during this survey will be used to meet UK's obligations for reporting of contaminant, eutrophication and marine litter data to MERMAN and the ICES database and for subsequent assessments for OSPAR and UK indicator assessments (GES descriptors 1, 4, 5, 8, 9 & 10) under the UK Marine Strategy. After discussions with EA and NRW staff a coordinated approach is being taken to help deliver additional EQSD requirements for the EA and NRW.

SPECIFIC AIMS

1. To collect samples of demersal fish for chemical analysis from the North Sea and Eastern Channel in support of the Clean Seas Environmental Monitoring Programme (CSEMP)**Annex 1 and 2**

2. To collect fish samples at CSEMP sites for fish disease and biochemical markers (e.g. EROD and bile metabolites analysis) **Annex 2**

Pakefield Road, Lowestoft NR33 0HT | www.cefas.co.uk | +44 (0) 1502 562244

3. To sample representative CSEMP stations using day grab, for polycyclic aromatic hydrocarbons (PAHs), trace metal contaminants, organic contaminants (PCBs, PBDEs and HBCD), sediment particle size analysis (PSA), benthic fauna and marine litter. **Annex 1 and 2**

4. To conduct marine litter surveys by collecting benthic litter information from the trawls and also collecting sediment samples for litter analysis.

5. To conduct passive sampler transects to analyse samples for performance reference compounds (PRCs), PAHs, PCBs, OCPs and PBDEs in the water column using the Ferrybox water sampling system.

6. To conduct marine mammal observations.

7. To collect samples near Harwich at a dredge disposal site (further details to come after discussions are being held with the MMO).

OVERVIEW

4th July

Scientific staff board ship with Inductions at 15:30.

5th July
Leaving Lowestoft in the morning tide and fishing Smiths Knoll trend sites (Annex 2). Then moving on North-East to the Inner Wash (CSEMP 387) and Outer Humber (CSEMP 377) stations. Overnight collecting sediment samples.

6th July
Fishing Inner Wash (CSEMP 387) and Outer Humber (CSEMP 377) stations before moving on to complete sediment station.
Then depending on weather, either following

- Plan A: moving NE to Indefatigable Bank (CSEMP 378)
- Plan B: North to Flamborough (CSEMP 344)

7th July

- Plan A: sampling Indefatigable Bank (CSEMP 378) in the morning and Off Humber (CSEMP 346) in the afternoon; then off to Dogger Central (CSEMP 287).
- Plan B: fishing Flamborough (CSEMP 344) in the morning and then off to Off Tees (CSEMP 295).

8th July

- Plan A: fishing Dogger Central (CSEMP 287) in the morning and North (East) Dogger 1 (CSEMP 283) in the evening. Moving on to North Dogger 2 (CSEMP 284).
- Plan B: Fishing Off Tees (CSEMP 295) and Tees Bay (CSEMP 294). Then off to Off Tyne (CSEMP 245) for fishing either in the evening or the next morning

Pakefield Road, Lowestoft NR33 0HT | www.cefas.co.uk | +44 (0) 1502 562244

9th July

- Plan A: Fishing North Dogger 2 (CSEMP 284) in the morning and West Dogger in the afternoon. Steaming to Farne (CSEMP 243)
- Plan B: Fishing Off Tyne (CSEMP 245) in the morning, then off to Amble (CSEMP 244) to fish in the afternoon and Farne (CSEMP 243). Then steaming to West Dogger (CSEMP 286).

10th October

- Plan A: Fishing Farne (CSEMP 243) and Amble (CSEMP 244), then off to Off Tyne (CSEMP 245) for fishing.
- Plan B: Fishing West Dogger (CSEMP 286) and North Dogger 2 (CSEMP 284), maybe also North (EAST) Dogger 1 (CSEMP 283).

11th July

- Plan A: Fishing Tees Bay (CSEMP 294) and Off Tees (CSEMP 295). Then steaming to Flamborough (CSEMP 344).
- Plan B: Fishing North (EAST) Dogger 1 (CSEMP 283) and Central Dogger (CSEMP 287). Then moving on to Off Humber (CSEMP 346).

Crew Change - either on the 11th or 12th.

12th July

- Plan A: Fishing Flamborough (CSEMP 344) and then steaming to Thames Gabbard (CSEMP 475).
- Plan B: Fishing Off Humber (CSEMP 346) and Indefatigable Bank (CSEMP 378). Then steaming to Thames Gabbard (CSEMP 475).

13th July

Dredge disposal work start.

14th July

Fishing Thames Gabbard (CSEMP 475). Then steaming to Rye Bay (CSEMP 486).

15th July

Fishing Rye Bay (CSEMP 486) and Off Newhaven (CSEMP 494).

16th July

Docking in Portland in the Evening.

Manuel Nicolaus
Scientist in Charge
25 May 2017

DISTRIBUTION:

Pakefield Road, Lowestoft NR33 0HT | www.cefas.co.uk | +44 (0) 1502 562244

Annex 1: A: CSEMP fishing stn positions

Old Station Code	New Station Code	New Station Name	y	x
243fi	TyneTees_TTOpenSeaS_fi02	Farne	55.4952	-1.1263
244fi	TyneTees_TTInter_fi01	Amble	55.2967	-1.255
245fi	TyneTees_TTInter_fi02	Off Tyne	55.0083	-1.1333
283fi	HumWash_HWOpenSeaNE_fi01	North Dogger 1 (East)	55.3023	2.8972
284fi	HumWash_HWOpenSeaNE_fi02	North Dogger 2	55.068	2.09
286fi	HumWash_HWOpenSeaNE_fi03	West Dogger	54.8333	1.255
287fi	HumWash_HWOpenSeaNE_fi04	Dogger Central	54.5152	2.6905
288fi	ENorthSea_ENSOpenSea_fi01	North East Dogger (add)	55.504	4.1525
294fi	TyneTees_TTInter_fi03	Tees Bay	54.7597	-1.1397
295fi	TyneTees_TTInter_fi04	Off Tees (add)	54.7333	-0.8833
344fi	TyneTees_TTOpenSeaS_fi01	Flamborough	54.2417	0.4883
346fi	HumWash_HWOpenSeaS_fi01	Off Humber	54.0633	1.79
377fi	HumWash_HWInter_fi01	Outer Humber	53.3167	0.4283
378fi	HumWash_HWOpenSeaS_fi02	Indefatigable Bank	53.5567	2.082
387fi	HumWash_HWInter_fi02	Inner Wash	53.1417	0.555
475fi	Anglia_AnOpenSea_fi01	Thames (Gabbard)	52	2.3333
486fi (EastChan_ECInter_fi01)	EastChan_ECInterE_fi01	Rye Bay	50.8667	0.8083
494fi (EastChan_ECInter_fi02)	EastChan_ECInterE_fi02	Off Newhaven	50.7598	0
Smith's Knoll	ENorthSea_ENSOpenSea_fi02	Smith's Knoll	52.8111	2.7555
Alternative Smith's Knoll	Anglia_AnOpenSea_fi03	Alternative Smith's Knoll	52.7318	2.4585
Smith's Knoll Bank	Anglia_AnOpenSea_fi04	Smith's Knoll Bank	52.7746	2.2875

Pakefield Road, Lowestoft NR33 0HT | www.cefas.co.uk | +44 (0) 1502 562244

B: **CSEMP sediment stations**

Old NMMP No.	Sediment stations	y	x
245	**245**	**55.00830**	**-1.13330**
245 295 41	2	**55.08016**	**-1.32931**
East245 172	3	55.03647	-0.28368
East245 177	4	55.12906	-0.24673
295	**295**	**54.73330**	**-0.88330**
245 295 37	6	55.27639	-0.66774
245 295 38	7	55.61492	-1.11361
East245 178	8	55.09037	-0.27961
285	**285**	**54.83330**	**1.33330**
NorthWest285 47	10	55.12504	0.709716
NorthWest285 53	11	55.36638	0.327996
NorthWest285 57	12	55.22234	0.28162
345	**345**	**54.00000**	**2.00000**
345 26	14	**54.14151**	**2.659648**
345 29	15	54.11327	2.52067
West345 71	16	54.09909	0.071461
376	**376**	**53.33330**	**0.58330**
386	**386**	**52.98300**	**0.33470**
376 386 84	19	**52.93161**	**0.212574**
376 386 79	20	53.43713	0.705277
376 386 87	21	53.01238	0.312504
376 386 88	22	53.05071	0.408608
OffLowestoft 90	23	52.7562	2.330228
OffLowestoft 94	24	52.68425	2.308214
475	**475**	**52.00000**	**2.33330**
466	**466**	**51.49670**	**1.00000**
SouthWest475 105	27	51.92033	1.800022
SouthWest475 110	28	51.82437	1.854109
West475 125	29	52.15092	1.67608
West475 129	30	52.17334	1.683148
West475 133	31	52.224	1.721424
West475 134	32	52.15803	1.708337
484	**484**	**50.98330**	**1.01670**
484 187	34	50.98679	1.026147
South484 202	35	50.86562	0.801532
South484 208	36	50.87755	0.813552

Pakefield Road, Lowestoft NR33 0HT | www.cefas.co.uk | +44 (0) 1502 562244

Annex 2: CSEMP fishing and temporal/spatial sediment