CENTRE FOR ENVIRONMENT, FISHERIES AND AQUACULTURE SCIENCE, LOWESTOFT, SUFFOLK, ENGLAND

2007 RESEARCH VESSEL REPORT

PROGRAMME: RV Endeavour: CRUISE 17/07

STAFF:

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Steve Milligan	Jean Claude Sorbe (France)
Job Baretta (Noctiluca)	

DURATION: Thursday 13th September – Friday 21st September
LOCALITY: Southern Bight, Oyster grounds and Central North Sea, Dogger Bank region

Overall aims of this series of cruises were to investigate:
1. Pelagic food webs, water column measurements
2. Hydrography and seawater chemistry
3. Community structure
4. Phytoplankton and microbial production
5. Grazing impacts
6. Mesozooplankton secondary production
7. Vertical flux and budgets of carbon
8. Benthic food webs, sediment processes, exchanges across the interface
9. Sediment Profile Imagery
10. Advection in coarse sediments
11. Resuspension events

The Endeavour sailed Thursday 10:30 and headed for the West Gabbard where a CTD and nets (500, 270, 200, 50um), 200 x 2 for Ben, 200um for Swier. We then steamed north towards Sean Gas Field collecting surface water and 2 x 200um nets en-route.

Sean Gas Field:

The guard buoy is missing! The Hyperbenthic Sledge worked okay and collected good samples after towing 1 minute at around 2kts (0.3kts over the ground). The tow cable was straight up and down so we only deployed 50m rather than the proscribed 3x depth which would have been 90m. The Bioness Multinet would not communicate with the PC so we gave up trying at midnight and switched to the Multibeam grid. The 10 SPI camera dips were between 06:30 and 07:30, then a CTD cast for large volume bottom water. The NIOZ coring commenced after a 1.5hr delay whilst releasing seized components on the corer and was finished just before lunch. The gantry wires were changed over to the CTD ready for the afternoon start of the 24 hr anchor stn. The Bioness Multinet again failed to communicate with surface PC and was sidelined for further tests. The benthic sledge was successfully deployed for 1 min tow. The 24hr CTD station started at about 15:50 with full experimental station. There was a brief delay as the CTD winch wire slipped in between the roller and the sheaf and had to be freed. The 2m ring net and the benthic sledge was deployed between casts during the evening.

Saturday – 24hr stn continues, deploy lander (B23) and guard buoy (toroid 17) during the morning. 2m beam trawls during afternoon. benthic sledge after tea then off to the start of 1st scanfish line via Laura's water stations.

Oyster Ground:

The scanfish was towed through the early hours of Sunday 16th to the Oyster Ground site. The survey began with 10 x SPI drops at 06:30 but there was a problem with the video feed so there was a small delay. Deployed the benthic sledge after breakfast for a 1 min haul. The lander was located using the ships HiPap and the release commands sent with PAM but no pop-up buffs appeared so we grappled for the wire instead and picked it up on the first attempt. The lander, wire and clump were successfully recovered although the lander had lost one leg and the ADCP bolts had rusted away to leave it hanging on the safety rope. A trial SPI drop was planned to test the filters and flash for the luminophores expt, but it was decided to be a bit risky (weather wise) for an untended deployment. After lunch there was a single CTD for bottom water for Elke, stratification had unfortunately already been dispersed. NIOZ coring commenced carefully as the sea was running high (probably 2.5 to 3.5m) - 5 cores were collected before it was decided to stop for a while and deploy the lander instead. Coring operations continued after the crew change and was finished very safely and efficiently. The 24hr ctd stn started at 19:00 with the 1st full stn at 21:00. It was too rough to deploy anything over the stern during the night but the sea slackened sufficiently to deploy the benthic sledge in the morning of the 17th. The anchor station continued throughout the day with 2m beam trawls in suitable gaps. Full CTD stations were

03:00, 09:00 and 15:00 the final drop was at 19:00. The benthic sledge was deployed and then a Multibeam survey to 23:20.

Tuesday 18th - 00:30 start scanfish line 2 to 09:00 end of scanfish line 2, but it was to rough to risk bringing the fish in so it was towed to the start of line 3. The start of line 3 was moved slightly to accommodate the prevailing weather but the line still passed through the main North Dogger site and finished at the scheduled most northerly position at around 16:00. The fish was safely recovered as the weather had eased somewhat.

North Dogger:

The ship steamed back to the main site and started work with a CTD for calibration and experimental work at 19:00. The benthic sledge was successfully deployed, then 4 x ring nets for zooplankton for Ben. The multibeam grid was run through the early hours.

Wednesday 19th - the moorings recovery was due to start at 06:00 but the wind was too strong again so it was delayed. Coring was undertaken during the morning instead. The SmartBuoy was recovered after lunch with the lander shortly afterwards. New instruments were deployed in their place. The 24hr CTD station started at 18:00 with the first full station at 21:00. CTD's continued through the night with benthic sledge and 2m ring net hauls at suitable occasions before midnight. 2m beam trawls were fitted around the anchor station during the morning and early afternoon of the 20th. The last job was the benthic sledge haul at 18:30. Final experiments were completed and the gear and labs stripped down during the journey back to Lowestoft, docking at 17:30.

The cruise was highly successful in terms of the samples collected at all sites for nearly all parameters. This was despite some potentially show stopping weather and full credit is due to the officers and deck crew of Endeavour for their professional and safe handling of the ship and gear. The Bioness Multinet obviously needs a bit more work before it's ready to go but the other 'new' kit – the hyperbenthic sledge performed very well. The sledge set-up and deployment SOP was modified during the cruise with the co-operation of the designer John Claude Sorbe.

Dave Sivyer

26/9/07

DISTRIBUTION:
BASIC LIST+ all those on cruise.