CEFAS FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND

2003 RESEARCH VESSEL PROGRAMME

REPORT: RV CEFAS ENDEAVOUR: CRUISE 8/03

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DURATION

27th September – 3rd October 2003

LOCALITY

North Sea – Thames, Gabbard, Friesen Front and Oyster Ground

AIMS

1. To recover and service SmartBuoys at The Warp and West Gabbard (AE004)
2. Survey and assess the trophic status of the stratified region Oyster Ground (A1225)
3. To deploy Waverider and guard buoy at Dowsing (C1828)

All aims were achieved.

REPORT

We sailed at 21:30 Friday 26th and steamed south to the Warp SmartBuoy site. A water sample was collected for calibration purposes before recovering the SmartBuoy and guard buoy. During the recovery of the SmartBuoy

mooring the 6m strop parted, the weight shift to the mooring caused the 25m chain to part leaving the anchor weight behind. Both buoys were serviced and new moorings deployed. A water sample was collected before leaving the site and we steamed to the West Gabbard collecting surface water samples for salinity, chl. Susp load every hour (on the half hour). Arrive 15:00, proceed with CTD cast then recover and re-deploy buoys. (approx 3 hours work). Recover Waverider. A Zooplankton net haul was collected for Swier Oosterhuis. Another CTD cast was collected after deployments were complete. Leave 18:00ish steam up towards the Friesen Front site. Collect hourly surface samples en-route overnight. The on-board CT logging system was not running so an ESM2 with Seapoint fluorometer was rigged in a tank supplied from the continuous salt supply and new software written by Dave Pearce to display the data to a laptop screen.

Sunday 28th September
We arrived at Friesen Front site process studies site (OG1) – 53 42.00N 04 30.00E) in time for a 07:00 CTD for Jo (100lt from bottom) and Primary production studies. 08:30 – 10:00 NIOZ coring for sediment processes. CTD for Keith and Swier (8 depths). Zooplankton hauls x 3. 12:00 Steam to Dutch coast for Scanfish transect but unable to deploy as the brake on the scissor winch of the stern gantry is inoperable. Steam the transect out to OG1 and then on to Oyster Ground mooring site (OG2) – (54 25.00N 04 02.00E) collecting surface samples every 15 mins and CTD casts at 30m, 35m, 40m and 45m contour. Surface every 30mins after 45m cast until OG2.

Day 3 Monday 29th
Oyster Ground central process site– (OG2) – (54 25.00N 04 02.00E)

Start CTD anchor station at 01:30 – hourly for 24 hours.
05:30 primary production CTD (stratification is still intact – hurray), then 07:00 deploy Aqualander (LISST 100, WMS-1, timed booner, ESM2 with 2 additional OBS and 1 Seapoint fluorometer) and guard buoy. NIOZ coring in between CTD's including the process station for Keith. Swier took samples from every CTD cast during the 24hrs for secondary production. Zooplankton hauls mid-morning. Trials with the Vibrocorer were unsuccessful but it was deployed as a gravity corer to collect 50 –75cm of sediment. Unfortunately the CTD surefire failed at around 20:30 so last water samples were surface only via continuous supply but was still used to profile water column. Last CTD of anchor station at 01:30, leave OG2 at 02:00. Steam to OG3 Clay Deep (54 55.00N 04 15.00E).

Day 4 Tuesday 30th
CTD at 07:30 for primary production at 5m with Niskin bottle on wire (a messenger was fabricated by ships engineer Kevin). 07:30 CTD for surface and bottom samples, light profile for Keith Weston
08:30 water for Keith at 50m, 35m 10m and surface (via continuous supply).
08:45 –10:00 zooplankton net hauls then NIOZ coring – lots of problems with shoes and boxes not fitting or sealing – switched to neoprene cushioned shoes and collected enough cores for a reduced sediment sampling.

Tried to use the Vibrocorer as a gravity corer but with limited effect. Test cast of the CTD rosette to trial the Surefire with new termination – still no good.

The engineers had worked a fix for deploying the Scanfish so we steamed north west to TS 235 (55 10.20N 3 09.27E) on NE Dogger Bank to start a Scanfish transect. Scanfish at 8 knots to Dutch coast via OG2 (54 25.00N 04 02.00E) and OG1 (53 42.00N 04 30.00E). Arriving at approx 12:00 on Wednesday 1st. During the Scanfish transects hourly surface samples were collected from the continuous supply for salinity, chl, suspended load and nutrients.

Wednesday 1st October
Complete Scanfish Leg 1 to Dutch coast. Steam at full speed to start of Scanfish Leg 2 (53 20.00N 03 35.00E) to look for the "English River" - collect surface water samples hourly on the half hour. Scanfish Leg 2 passes through the mooring site (54 25.00N 04 02.00E) to finish at 54 35.00N 05 00.00E). Finish leg 2 at approx midnight.

Thursday 2nd October
From end of Scanfish Leg 2 (54 35.00N 05 00.00E) steam to process site OG4 (54 43.506N 03 38.43E). 07:30 CTD – top, middle and bottom samples, bottom water for Jo, light profile for Keith (Nigel had swapped out the Surefire unit on the rosette and this now worked). The following tight programme was adhered to:- 08:30 CTD for Keith and Swier, 09:00 – 10:30 – NIOZ corer, 11:00 – Zooplankton Net (x 3), 11:00 – 12:00 – Vibrocorer. At 12:00 steam full speed to OG3 Clay Deep (54 55.00N 04 15.00E) to Scanfish Leg 3 to the mooring site (54 25.00N 04 02.00E).

18:00 - Recover the mooring and guard buoy. 20:00 Scanfish Leg 4 from mooring site 40miles west towards Dowsing Waverider site.

Day 7 Friday 3rd –
Steam full speed to the Dowsing Waverider site (53 32.00N 01 03.00E). 07:00 deploy Waverider and guard buoy at Dowsing, then steam for Lowestoft collecting hourly samples until midday.

Dock 15:30.

I would like to thank the scientists and ships staff who gave their time and enthusiasm freely and made this an enjoyable cruise even though the schedule and work programme were very demanding. A more detailed report of the scientific achievements on the cruise will be circulated when the results are available.

Dave Sivyer