

Centre for Environment, Fisheries and Aquaculture Sciences,  
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1999 Research Vessel Report

Programme: RV Corystes : Cruise 13

**STAFF**

J Rees (SIC)  
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**DURATION:** 15-20 October

**LOCALITY:** Hastings Shingle Bank

**AIMS** (all under project code A0910):

1. To survey the seabed using sidescan around the proposed Minipod and Loggerpot locations to detect changes in seabed morphology since deployment in October.
2. To undertake sediment surveys using the Day grab to collect sediment samples for calibration of optical suspended load sensors.
3. To recover 2 Minipods and 3 Loggerpots in a line NE from the Hastings Shingle Bank dredge area.
4. To determine lateral and longitudinal dispersion and composition of the plume at 5m using a towed body passing through the sediment plume generated by the dredger.
5. To undertake a sidescan sonar and biotope survey of the area as part of the Biotope survey project (at night).

**NARRATIVE: [note all times in GMT]**

RV Corystes sailed on the 1400 tide of the 15<sup>th</sup>, and sailed to the Hastings Shingle Bank and arrived on site at approximately midnight. Overnight, the drop camera frame was deployed at twelve stations north and south of the Hastings Shingle Bank dredge area to ground-truth sidescan data collected during Corystes 10/99.

During the morning of the 16<sup>th</sup> the 2 Minipods with their associated guard buoys were recovered successfully. Two loggerpots were recovered after lunch but the third

loggerpots was not recovered even after a square search of the deployment location. Overnight a broad-scale RoxAnn survey was carried out over an area of seabed from Hastings to Dungeness.

No dredgers were present during the 17<sup>th</sup> so sediment samples and TV stations were completed on the Minipod and Micrologger stations. A further search for the lost micrologger was also completed during the late afternoon. Overnight the broad-scale survey was repeated between Hastings and Dungeness, this time with the seabed discrimination system QTC View.

The dredger Sand Falcon started working early on the 18<sup>th</sup> and the suspended sediment plume generated by the dredger was monitored using the "Tadpole" and ADCP systems. During the afternoon, after the dredger had ceased operations, a long sidescan sonar line was completed along the Minipod/micrologger stations. A further two side scan lines crossing the broadscale survey area were then completed. Overnight sediment samples were collected at 18 stations along these two sidescan lines using a Shipek grab. Strong winds made the use of the Hamon grab for collection of benthos samples at these stations unsafe, and therefore these samples were not collected.

On the morning of the 19<sup>th</sup> four dredgers were working Hastings Shingle Bank (probably moved south from Cross Sands (Yarmouth) due to strong northerly winds). The Tadpole profiler and ADCP was used to monitoring the extent of the plume from the dredger Arco Tyne. After dredging operations had ceased further runs were complete to monitor the decrease in background suspended load.

A further sediment sample was taken at one of the Minipod locations before starting heading for Lowestoft. A further short Roxann/Sidescan/QTC survey was complete at the Varne site (just east of Dungeness) before continuing passage.

RV Corystes docked at 0630 in Lowestoft on the 20<sup>th</sup> November.

## RESULTS:

1. Two Minipods and two loggerpots were recovered from a line NE from the Hastings dredge area and sediment samples collected at each site. The Minipods and Microloggers operated completely satisfactorily with 100 % data returns.
2. The "Tadpole" towed body was again proved to be stable up to 4 knots at a depth of 10 m.. Data from the LISST and the ADCP showed good (over 100 water samples taken for suspended load and particle size analysis) for numerous passes with the dredgers Sand Falcon and Arco Tyne.
3. The Long term Loggerpot deployed by Peter Storey was also recovered and the Micrologger and FSI Acoustic current meter downloaded. A fresh loggerpot was returned to Peter Storey for deployed until after the New Year (last deployment).
4. TV footage of the seabed at 12 sites from an intensive survey box (100 % coverage) were collected for ground-truthing acoustic data collected during an earlier cruise (Corystes 10/99).

5. A total of 90 miles of RoxAnn and QTC data were collected from a broad-scale regional survey of seabed between Hastings and Dungeness. 18 sediment samples were successfully collected to ground-truth these acoustic data sets
6. A fully operational version of Tower Survey software was evaluated as possible replacement for DOS-based Sextant software. The software proved flexible and able to meet the majority of requirements required by Scientists and Bridge officers alike. The software was run during various ship operations (Sidescan, buoy recovery and grab sampling), and met with favourable comments from current users of sextant.

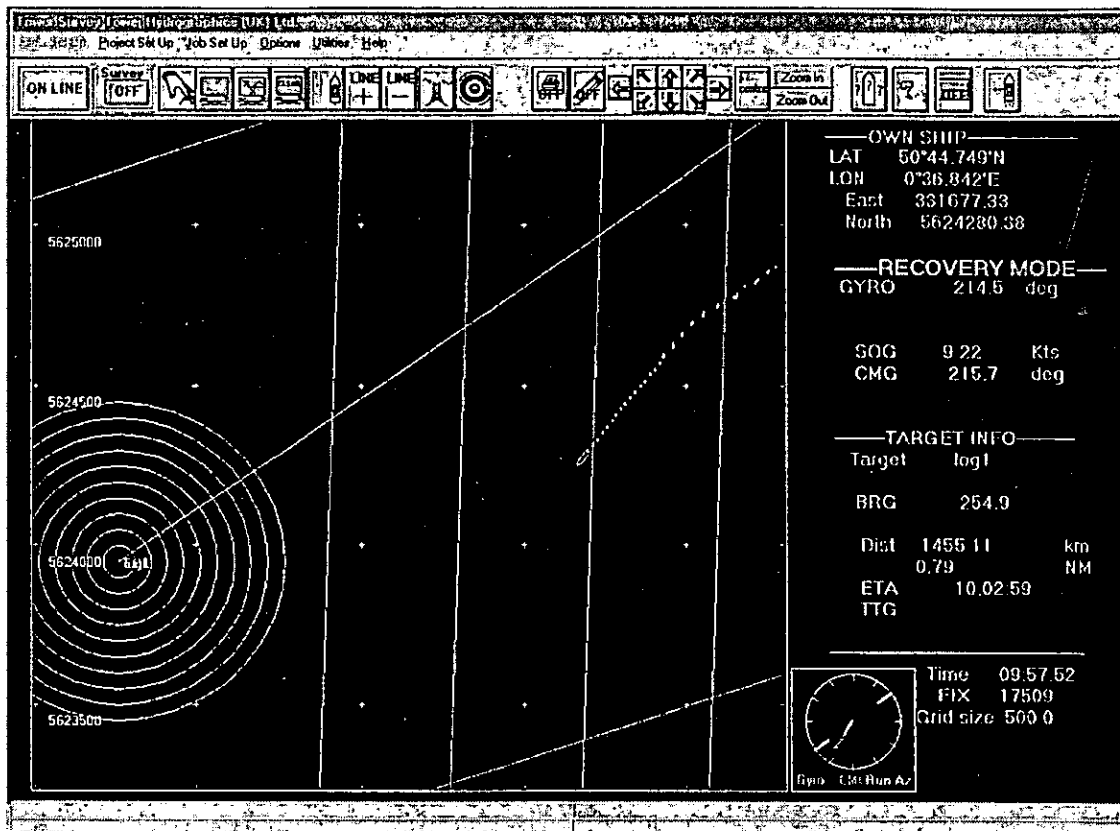


Figure 1 An example screen is shown below depicting Corystes closing on a Micrologger mooring.

SEEN IN DRAFT:

Master  
Senior Fishing Mate

*Jon Rees*  
*[Signature]*

Jon Rees SIC  
20 Nov 1999

Distribution:

Basic List + (names on staff list)