

DEPARTMENT FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS.

2003 RESEARCH VESSEL REPORT

PROGRAMME: RV *PRINCE MADOG* 06/03

STAFF:

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DURATION:

4th September – 8th September 2003

LOCALITY:

Liverpool Bay

AIMS:

1. Collect samples for macrofauna and contaminant analysis from a historic sewage sludge site
2. To collect sediment samples for macrofauna, meiofauna, PSA, and contaminants from Site Z dredged material disposal site and reference sites.
3. Conduct camera sledge tows through Site Z as part of a habitat mapping approach
4. To collect samples for macrofauna, meiofauna, PSA, and contaminants from a grid at Site Y dredge disposal ground and collect sediment samples from a transect of the area.
5. Conduct a grab survey for fauna and contaminants and a trawling survey at Mostyn Deep

CRUISE REPORT

RV Prince Madog departed Menai Bridge at 0730 Friday 5th September. The vessel sailed to a historic sewage sludge disposal site to collect Day grab samples from 8 stations along a transect for macrofauna, meiofauna, PSA, metals and organics (aim 1). RV Prince Madog then sailed to Site Y dredged material disposal ground and collected a suite of 6 grab samples for rapid benthos assessment, PSA and metals analysis (aim 4). On completion, the vessel sailed to the Site Z dredge disposal ground and grabbing at two stations was completed before work stopped for the day at 1930. The vessel anchored overnight near the Site Z disposal ground.

On the morning of the 6th September work commenced at 0800 and the grab survey was completed by 1030 (aim 2). Microbial samples were also collected from each day grab at this site as part of a PhD project examining the function of bacteria in marine sediments (extra aim). A 2m Jennings beam trawl was then deployed at 4 sites running NW to SE in a transect through Site Z in order to gain information on the epifaunal species present (extra aim). This data will be used by the AE1033 seabed mapping project and will also be useful for FEPA monitoring purposes. Initial sample processing on board the vessel indicated that the epifauna to the west

and east of the disposal site was dominated by the brittle star *Ophiura ophiura* whereas within the disposal site there were very few epifaunal species collected. This was further backed up by 8 camera tows that were conducted to coincide with slack tide during the afternoon in and around Site Z (aim 3). The images collected were of acceptable quality and allowed the seabed to be characterised successfully. To the west of the site, the substrate was found to be featureless muddy sand with large numbers of Ophiuroids, while to the east it comprised rippled sand with fewer epifaunal species. Within the disposal site, lumps of clay and some non-marine debris were seen which are likely evidence of the disposal activity. Following the camera survey, a further two trawl samples were collected to the north and south of the disposal site. On completion of this aim, the vessel sailed to anchor overnight at Rhyl flats so that survey work in the area of the Mostyn Deep could commence as soon as possible the following morning.

On the 7th September, the Mostyn grab and trawl survey was completed with a total of 36 Day grabs sampled for fauna, PSA and metal/organic contaminants. Six 2-metre beam trawls were also taken, mainly to investigate the local fish population. One grab from each station underwent rapid benthos assessment to allow immediate reporting on the status of the area to CEFAS licensing officers. Preliminary evaluation showed that the substrate in and around Mostyn Deep is heterogeneous in nature with sparse benthic infauna. The trawling was very successful and many juvenile common flatfish species were collected. This data will also be made available to licensing officers immediately on return to CEFAS. Both grab and trawl data collected during this survey will be useful in assessing the status of this high profile site.

On completion of the Mostyn survey at around 1500, the RV Prince Madog made her way back to Menai Bridge, docking at 1730 on 7th September.

R Kilbride

Date: 9th September 2003

INITIALLED:

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