

**School of Ocean Sciences, University of Wales BANGOR, Menai
Bridge, Gwynedd, LL59 5EY, United Kingdom**

RESEARCH VESSEL PROGRAMME

PROGRAMME: RV PRINCE MADOG: SCOTER DUCK CRUISE

Duration: 03/04-09/04/2004

Locality: Eastern Irish Sea

Scientific staff involved:

- | | |
|----------------------------|---------------|
| 1. Maria Galanidi | (SOS) |
| 2. Ivor Rees | (SOS) |
| 3. Ana Ruiz Frau | (SOS) |
| 4. Richard Griffiths (MSc) | (SOS) |
| 5. Aimee Oackham | (SOS) |
| 6. Erin Pettifer (MSc) | (SOS) |
| 7. Paul Robinson | NR Consulting |

Aims of the cruise and survey methods

1. This is the third cruise in a series of seasonal surveys of the availability and quality of potential scoter duck prey organisms. The aim is to monitor the distribution and temporal variation of benthic communities with particular focus on bivalve populations. The choice of monitoring stations is based on the results of an extensive survey carried out in August 2003, which mapped the distribution of bivalve abundances and biomass throughout the shallow areas (depth<20m) of Liverpool Bay.
2. At each station, 4 replicate 0.1m² Day grab samples will be collected and processed as follows: As the primary interest is in large infauna that will be of relevance to the scoters, samples will be sieved over a 1-mm mesh screen and bivalves larger than 5mm will be picked off directly by hand, identified and enumerated. The bivalves will be stored in the freezer in plastic bags for subsequent estimation of their biomass and ash free dry weight in the lab. The residue, containing the remaining benthic organisms, will be preserved in buffered formalin for later analysis in the lab.
3. In addition to sampling the monitoring stations, an ornithologist will undertake a field survey of common scoter distribution and behaviour in the area. Once feeding groups of birds have been located, we will get the bearing from the ships radar, sail towards them and target that location for benthic sampling to see what they had been eating.

Cruise plan

03.04.2004	Mobilisation
04.04.2004	The PM will leave port in the morning (exact time to be decided). It will sail towards the northern stations (Shell Flat area) where sampling will commence. Sampling order of the stations will depend on the tides.
05.04.2004	Sampling of the monitoring stations will continue in Shell Flat. During the day sufficient time will be allocated to bird observations, when the ship will remain stationary and then follow the birds for additional samples.
06.04.2004	Sampling of the small-scale grid stations. Bird observations. (Possibly steaming to Burbo Flats and anchoring there-discuss with Captain Duckworth)
07.04.2004	Sampling of the southern monitoring stations (Burbo Flats, Chester Flats, Llandulas).
08.04.2004	Sampling of the small-scale grid stations. Bird observations
09.04.2004	Return to Menai Bridge and demobilisation

Cruise report

03.04.2004	Mobilisation
04.04.2004	The PM left Menai Bridge at 8am and steamed towards Llandulas. Sampling of stations 79L and 83L. No scoter observations. Due to bad weather, we had to stop sampling and return to Menai Bridge.
05.04.2004	We left Menai Bridge in the morning and steamed to the Chester Flats (off Rhyl) where sampling of stations 77L, 78L and 88L took place. No scoter observations. Force 6-7 winds and rough sea. Return to Menai Bridge.
06.04.2004	Bad weather. We stayed anchored at Menai Bridge.
07.04.2004	Prince Madog steamed towards Shell Flat at 9am. We reached the first monitoring station at 2.30pm and sampled stations 1MS to 12MS inclusive. No scoter ducks were observed in the area (summer migration to Siberia).
08.04.2004	Return to station 6MS. Sampling of a small grid of 13 stations around a focal point (two quadrats, the inner 2x2 stations and the outer 3x3 stations) in order to assess the small scale variability of the macrobenthos. Sampling of stations 57L, 59L, 61L at Burbo Flats and stations 68L, 75L, 76L and 91L off Llandulas. Sampling of two transects (parallel to the shore) in Red Wharf Bay on the east side of Anglesey. A small flock of scoter ducks (8-10 birds) was spotted and more samples were taken on that location (stations RWB4-RWB8).
09.04.2004	Sampling of two more transects in Red Wharf Bay perpendicular to the shore. Return to Menai Bridge and demobilisation.

Scientists 1-6 involved in biological sampling. Scientist 7 involved in bird observations.