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FRV *Clupea*

Cruise 1606C

REPORT

29 November – 15 December 2006

Personnel

A Weetman (SIC)
C Shand
J Drewery

Gear

50 mm prawn trawl BT 149B.
Day grab and table
Towed TV sledge, umbilical towing cable and cameras (plus backup)
TV drop frame
Creel frame

Objectives

- To obtain estimates of the distribution and abundance of *Nephrops* in the Firth of Forth and Moray Firth using underwater cameras.
- To collect sediment samples at each station.
- To use trawl caught samples of *Nephrops* to examine biological features at different sites throughout the survey areas.
- To record benthic fauna interactions with a creel whilst *in-situ*.
- To collect data on other benthic fauna – using the TV survey.

Narrative:

The scientific staff joined FRV *Clupea* in Fraserburgh at 1000 on 29 November and following some final modifications to the sledge, the vessel sailed due North at 1100. This first working day saw the sledge deployed six times. However, due to rough sea conditions and poor visibility only four of the stations were completed before heading back to Fraserburgh harbour for the night. The following two days saw the vessel venture out into the Moray Firth. With poor sea conditions on both occasions, however, the deployment of the TV sledge was not possible, and *Clupea* returned to Fraserburgh each night. On the 2 December, seven stations were successfully surveyed to the west of Fraserburgh - but with gale warnings, *Clupea* returned to the safety of Fraserburgh harbour in the evening. Due to the gales lasting for the next two days, the vessel remained in port. This provided the opportunity to change the TV umbilical on the 4 December, as faults had been logged in a number of

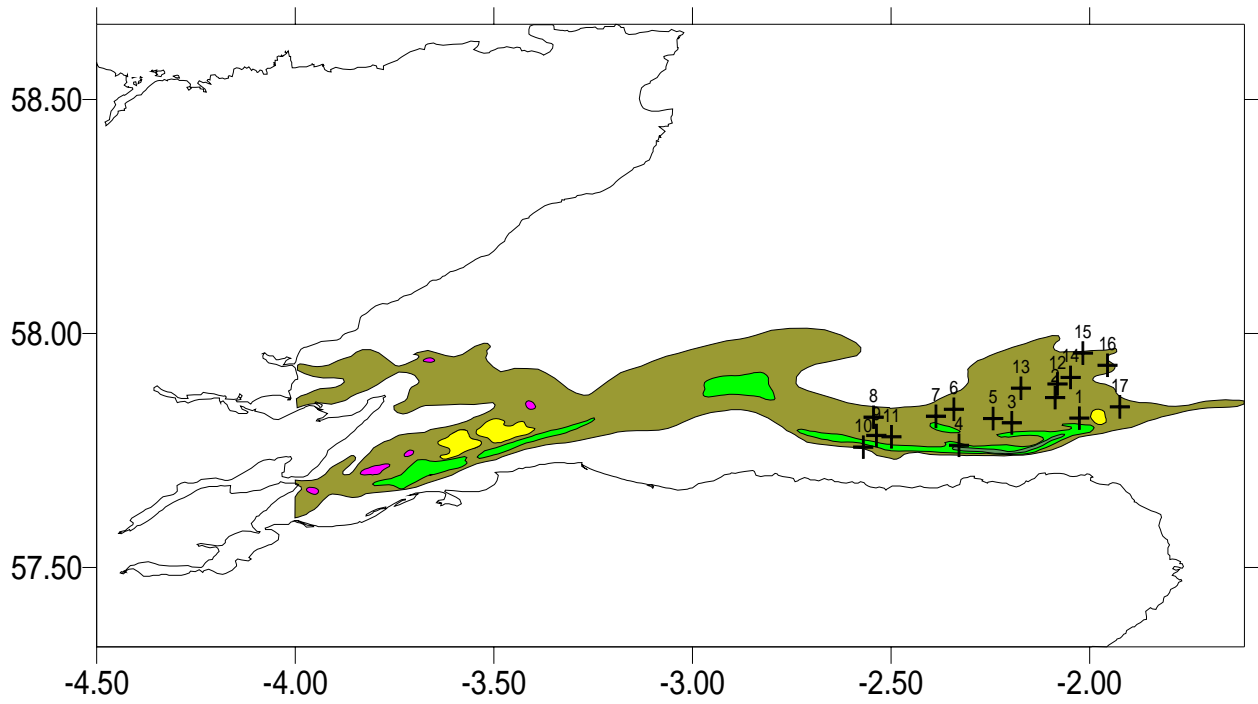
instruments, suggesting that the cable was damaged. Six more stations were completed in the Moray Firth on the 5 December before Clupea headed to the Firth of Forth on the 6 December, and after deploying the creel frame there, the vessel anchored in St Andrews Bay. The creel cam was safely recovered on the morning of the 7 December, and TV work continued off Fife Ness, with 4 stations being completed. With one instrument still not functioning properly, further examination of the system revealed a major fault in the TV winch. Due to the nature of the problem, it was necessary for Clupea to head for Leith to allow repairs to be carried out. The 8 December was spent in Leith where an electrical engineer rectified the problem. Setting off from Leith on the 9 December, fourteen stations were completed around the area of Largo Bay and the island of Fidra, before anchoring in Musselburgh Bay. With a strong south westerly wind on the 10 December, Clupea managed five stations for the day before the conditions proved too difficult for the correct operation of the TV sledge. A fishing trawl was carried out in the north of the Firth and Clupea returned to Fidra for an overnight anchorage and net repairs. On the morning of the 11 December, sea conditions made TV operations unworkable due to a westerly gale, and Clupea steamed north east and found a safe anchorage in St. Andrews Bay for the rest of that afternoon and all of the 12 December. The forecast for the 13 December looked more promising up until midday and an early start allowed eight TV stations to be surveyed, (covering as much of the ground as possible) before high winds and rough seas meant both TV and trawling activities were no longer possible. With the forecast of gale conditions remaining for the rest of the 13 and all of the 14 December, the vessel headed back to Fraserburgh. The 14 December was spent in port disassembling equipment and preparing for the next cruise. Following the debrief on the 15 December, scientific staff left the vessel at 1130.

Results

- 17 TV stations were completed in the east of the Moray Firth. It was hoped to return to this area nearer the end of the survey to finish the remaining stations, but due to the weather this was not possible.
- 31 stations, with a good spatial distribution, were completed in the Firth of Forth.
- Footage from all 48 TV stations was reviewed and verified whilst at sea.
- One trawl was carried out in the Firth of Forth, providing further morphometric and biological data.
- 45 sediment samples were taken throughout the cruise, (the results of which will contribute to the improvement of the survey). Three sites were not sampled due to sediment type/mechanical problems.
- The creel cam was deployed once, albeit on a sandy substrate. Five brown crabs (*Cancer pagurus*) were trapped and filmed. This provided very positive results regarding the use of a new recording format (solid state flash card) which allows for a longer recording period. The internal visibility of the modified creel (a Perspex cover instead of traditional creel netting) surpassed expectations, and allowed for improved observations of the trapped animals.

A Weetman.
19 December 2006

Moray Firth December 2006



Firth of Forth December 2006

