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FRV Clupea

Cruise 1006C

REPORT

24 July – 1 August

Personnel

A Weetman	(SIC)
C Shand	
N Campbell	
B Andersen	DIFRES Demark, visitor, 24-27 July 2006

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 utilise the TV survey to collect data on other benthic fauna.

Narrative

The scientific staff joined FRV Clupea in Fraserburgh at 0930 on the 24 July, and soon after, the vessel headed south, anchoring that night in Lunan Bay (south of Montrose). On the 25 July, nine successful survey stations were completed in the Firth of Forth, and before going to anchor that evening, the creel cam was deployed on the west side of the Isle of May. After safely recovering the creel cam on the morning of the 26 July, the vessel headed for the TV stations off the coast of Eyemouth, where 4 sites were surveyed before a mechanical failure halted progress. After closer examination it was seen to be too dangerous for both the operators and the cable to continue working with the winch. The Laboratory was notified that Clupea was heading for Leith for repairs. The vessel arrived in port at 1930 where on arrival a contracted engineer examined the winch. The contractor reported back the following day that the repairs would take at least a week. Various options were considered, but it was too hazardous to use the cable until the winch was fully repaired, which effectively stopped the TV survey at this point. Mr Andersen opted to leave the vessel and return home at this point as he had been primarily interested in the TV operation.

To reduce the time required if the survey was repeated at a later date a decision was taken that the trawl sites should be completed in both the Moray Firth and the Firth of Forth. Accordingly a

further two trawls were fished in the Firth of Forth on the 27 July, and a deployment of the creel cam nearby to the anchorage of Largo Bay. On the 28 July, the creel cam was recovered, and the final four Firth of Forth trawls were sampled, before anchoring off the Isle of May, with the creel cam position nearby for the night. After collecting the creel cam, the 29 July was spent steaming north in fog to Fraserburgh, arriving at 1930. On Sunday 30 July, as the vessel worked west, four *Nephrops* trawls were completed in the Moray Firth, anchoring off Burghead, after deployment of the creel cam. The following morning the creel cam was recovered and was followed by a further two tows before the vessel returned to Fraserburgh, in preparation for the unloading on 1 August. The scientific staff left the vessel at 1000 on 1 August.

Results

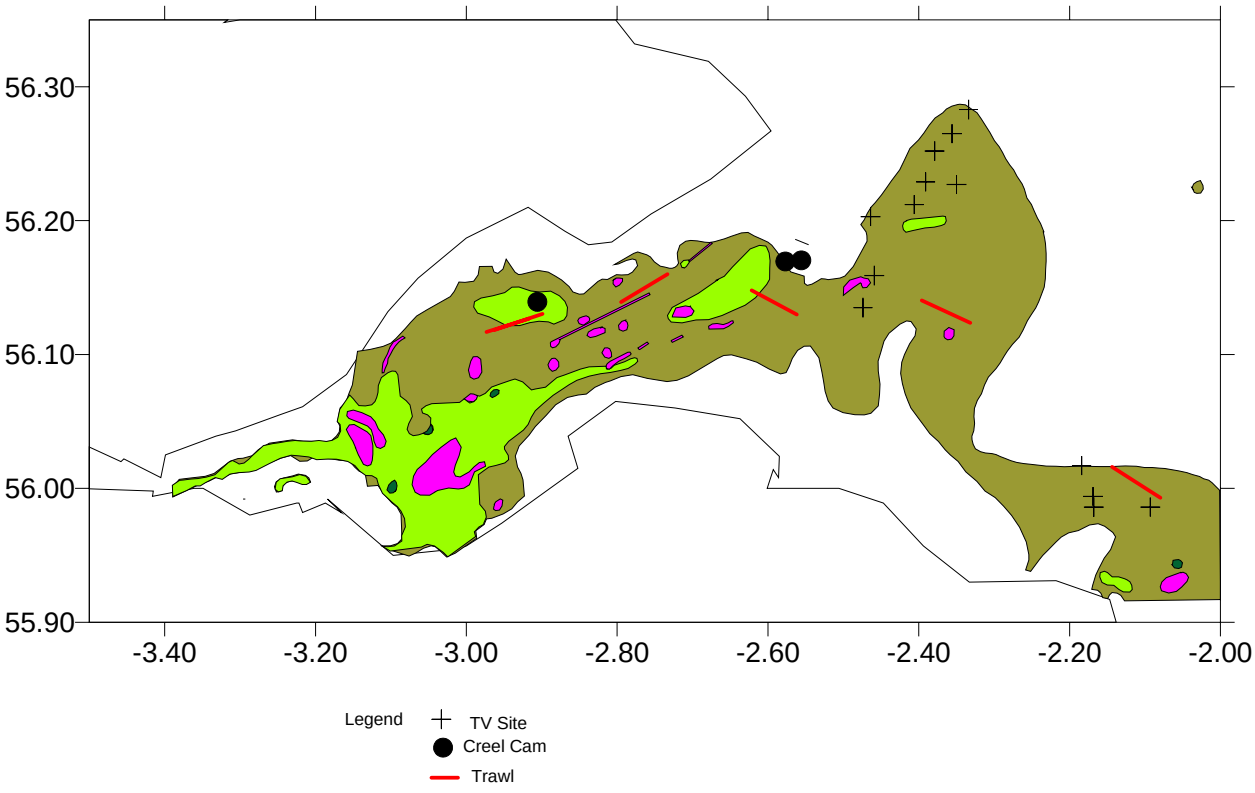
Due to the mechanical breakdown, it was not possible to survey as many TV sites as intended. However, the results from the 13 stations that were studied will be used as a provisional comparison to previous year's data from the same area.

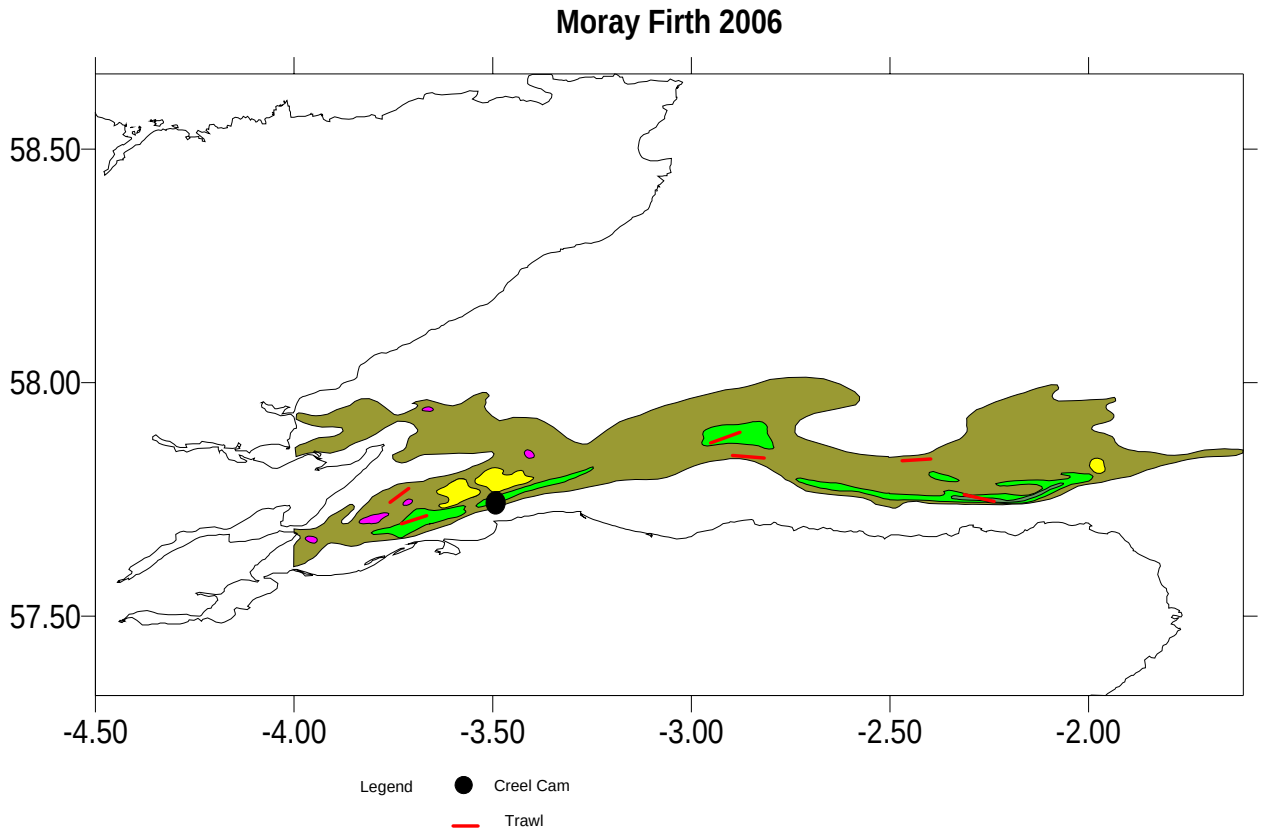
Sediment samples from 12 of the 13 TV sites were collected, and will be analysed for particle size, within 2 months of returning to the Laboratory. 12 fishing tows were made, and where present, length frequency distributions and ovary stages were taken from the trawl caught *Nephrops*, to be used at a later date at *Nephrops* Study Groups.

Morophometric data, with up to 12 parameters, were taken from 200 individual *Nephrops*.
The creel cam was deployed and recovered 4 times during the cruise, and due to changes made to the set-up of the electrical equipment and the bait, the footage improved each time. The findings show distinct patterns in how different species approach and interact with the creel, depending on the bait and if the creel is already 'occupied'. It also indicates how not all animals (especially *Nephrops*) that show interest to the baited creel, are actually harvested by the creel. There is more work to be done on this subject, but this trip greatly improved the methodologies for its successful use (launching and recovered the frame, bait, arrangement of lights and cameras, etc).

A Weetman
30 October 2006

Firth of Forth 2006




Moray Firth 2006
58.50
58.00
57.50
-4.50
-4.00
-3.50
-3.00
-2.50
-2.00
Legend
Creel Cam
Trawl