

R1/6

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FRV *Clupea*

Cruise 0106C

## **REPORT**

6-20 January 2006

### **Personnel**

A Weetman     OIC  
C Shand  
J Drewery

**Out-turn Days Per Project:** 15 - RV0601 (10388)

### **Gear**

50 mm prawn trawl 149B  
Day Grab  
Towed TV sledge, drop frame, umbilical towing cable and cameras (plus back up)  
Framed creel and appropriate video equipment  
Prawn sorting table

### **Objectives**

1. To obtain estimates of distribution and abundance of *Nephrops* in Loch Torridon and the Inner Sound areas, as part of the Torridon project.
2. To collect sediment samples at each station.
3. To use trawl caught samples of *Nephrops* to examine biological features at different sites throughout the survey areas.
4. To record the habits of *Nephrops* around a creel, *in situ*.

### **Narrative**

The scientific staff joined the vessel at Fraserburgh 6 January, and in poor sea conditions sailed for the West Coast, allowing work to commence early the following morning. After initial investigations at the most northerly Inner Sound sites revealed the sea state was unfavourable for the use of the TV sledge in that area, work was successfully carried out to the South West of Longa. Leaving Gairloch on 8 January, the sea had settled a little allowing work to be carried out in the more exposed northerly stations, returning to Gairloch that evening. Overnight the wind had gathered strength, and by first light it was obvious no TV work could be achieved, and that with strong South Westerly gales forecast, Kyle of Lochalsh was a safer location to be at than Gairloch. *Clupea* steamed south to Kyle, arriving at 1400 to find the conditions were such that it was advised to anchor in Lochalsh until the weather abated. By 1930 the vessel was secured to the pier where it remained for the next four days, as violent storms (Beaufort force 11) were being recorded in the

Minch. There was a complete turn around in the weather by 14 January and having contacted the creel fishermen the previous day to coordinate suitable survey sites, the vessel headed for Loch Torridon. Following a full day's work using the drop frame system in Loch Shildaig, and the Inner and Outer Lochs, *Clupea* then had to return to Kyle of Lochalsh for safe haven, as strong gales were forecast for 15 January. During the TV operations that day, the remote control for the TV winch ceased to work, so a system of hand held radios to direct the winch man was used. As expected, this was not as responsive as controlling the winch from the laboratory, which raised concerns about using the sledge. It was decided that for the remainder of the trip, only the drop frame would be used to survey the grounds. This, due to its design and working practice, would pose the least risk to damaging the TV equipment if an obstacle was encountered. Strong gales were experienced on 15 January, but by 16 January it was possible to head across to Portree and start working north through the Sound of Raasay. Once the lee from Rona was no longer available, the South Easterly wind proved difficult to work in, Outer Loch Torridon and Loch Shildaig were surveyed, returning to Gairloch that evening. On 17 January four TV stations to the west side of the survey area and two fishing trawls were carried out (with poor results) before the vessel returned to Gairloch.

On the morning of 18 January, *Clupea* sailed to catch the tide at the Pentland Firth, and proceeded to the Moray Firth to anchor off Burghead. *Clupea* set for Fraserburgh, after two successful deployments of the 'creel frame' were made. While this system was recording fauna interaction with the baited creel, six further drop frame TV surveys were carried out in the immediate locale.

The scientific staff disembarked on 20 January after collecting data from 44 TV sites, 2 fishing trawls and 2 creel frame deployments.

## Results

Despite the poor weather conditions, both the Inner Sound and Torridon areas were surveyed to a satisfactory level. The positions of all the sites are listed below. All the video footage has been verified, but levels of abundance have yet to be established.

Sediment samples were obtained at most of the stations, and will be freeze dried and analysed as a priority on returning to FRS.

With new Infrared lights mounted on the creel frame, the images recorded were of a far higher quality than previously experienced. The field of view and some modifications to the creel are planned, which should improve the footage further. Although the frame was sited in approximately 40 m of water and slightly off ideal *Nephrops* grounds, data was collected of various crustacea and fish activity.

Twenty five still images were taken using the Benthos 35 mm camera. Subject matter ranged from large *Nephrops* burrows and their inhabitants to edible crabs, rocky sea bed to munida, and will add to the expanding portfolio of images, mapping the sea bed and its fauna.

A Weetman  
9 March 2006

Seen in draft: Alex H Nicol, OIC *Clupea*

## Positions of TV stations on Clupea, January 2006

### Inner Sound TV Survey Sites

Station name	Latitude	Longitude
IS06001	57 46.750N	005 54.438W
IS06002	57 43.541N	005 53.252W
IS06003	57 41.957N	005 52.346W
IS06004	57 42.41N	005 51.050W
IS06005	57 43.258N	005 51.266W
IS06006	57 42.290N	005 55.896W
IS06007	57 45.594N	005 58.897W
IS06008	57 48.756N	005 59.788W
IS06009	57 45.533N	006 01.892 005
IS06010	57 42.737N	59.758W 005
IS06011	57 40.396N	58.116W 005
IS06012	57 39.507N	51.929W 005
IS06013	57 39.542N	53.648W 006
IS06014	57 24.297N	07.220W 006
IS06015	57 29.285N	06.352W 006
IS06016	57 32.156N	03.256W 006
IS06017	57 36.114N	03.626W 006
IS06018	57 35.826N	00.078W 006
IS06019	57 40.155N	00.841W 006
IS06020	57 39.608N	04.571W 006
IS06021	57 41.523N	05.890W 005
IS06022	57 50.772N	55.740W

### Loch Torridon TV Survey Sites

Station name	Latitude	Longitude
TD06001	57 37.105N	005 46.514W
TD06002	57 36.146N	005 45.517W
TD06003	57 34.787N	005 44.505W
TD06004	57 53.087N	005 41.465W
TD06005	57 32.796N	005 37.483W
TD06006	57 32.750N	005 35.373W
TD06007	57 32.711N	005 33.322W
TD06008	57 32.593N	005 35.077W
TD06009	57 32.530N	005 37.304W
TD06010	57 32.824N	005 37.220W
TD06011	57 32.162N	005 40.611W
TD06012	57 34.555N	005 44.861W
TD06013	57 35.334N	005 47.52W
TD06014	57 34.997N	005 46.548W
TD06015	57 32.542N	005 40.692W
TD06016	57 34.667N	005 44.164W

#### Fishing Trawls in Inner Sound

57 49.20N	005 57.67W	Shot 1
57 47.84N	006 02.42W	Hauled 1
57 46.05N	006 01.61W	Shot 2
57 43.05N	005 55.92W	Hauled 2

#### Moray Firth Creel Frame Positions

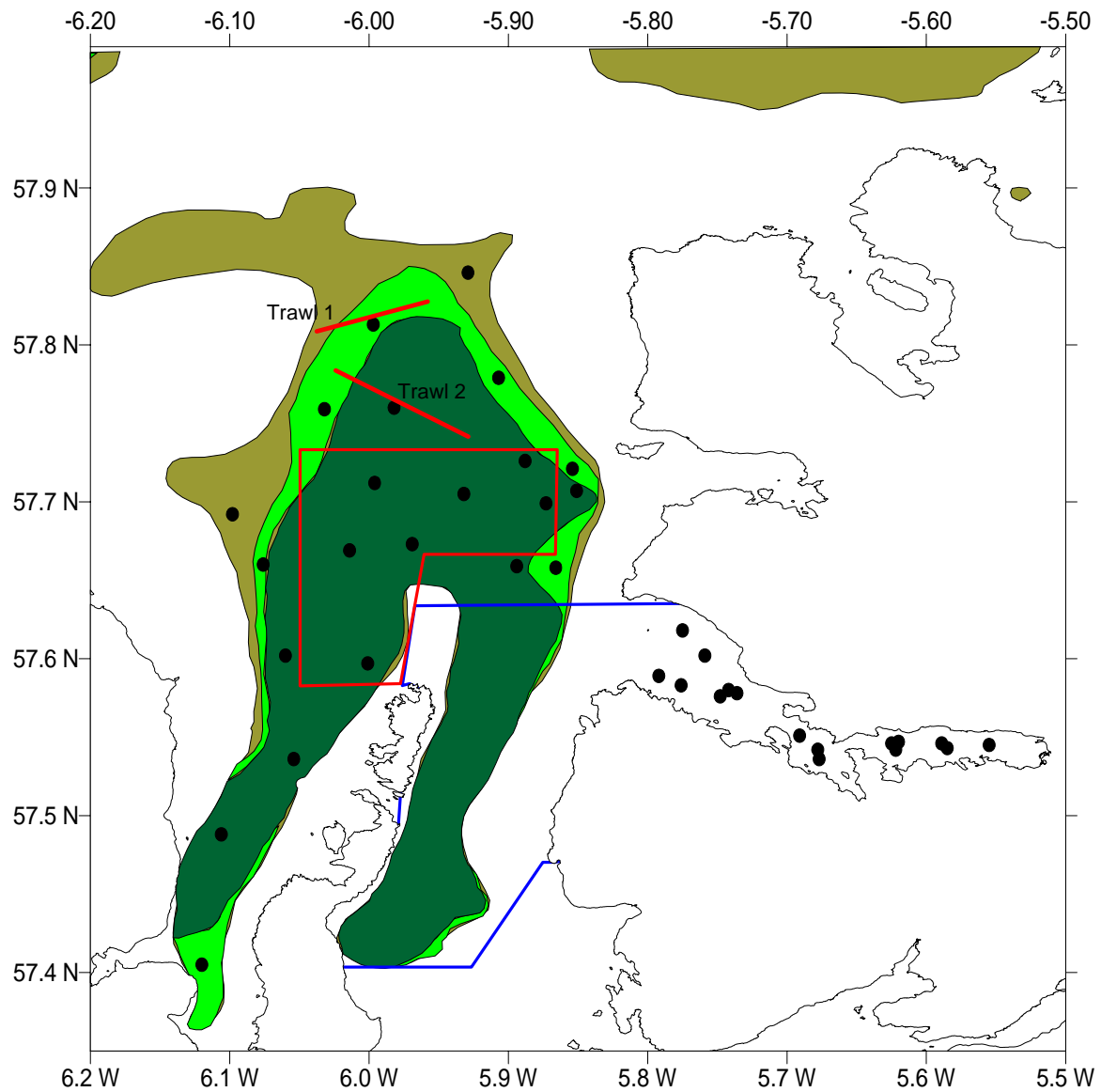
Station name	Latitude	Longitude
1	57 43.213N	003 33.281W
2	57 44.560N	003 28.935W

#### Moray Firth TV Sites

Station name	Latitude	Longitude
MF06791	57 43.542N	003 33.550W
MF06792	57 44.011N	003 33.226W
MF06793	57 44.562N	003 33.012W
MF06794	57 45.139N	003 28.373W
MF06795	57 45.831N	003 28.064W
MF06796	57 46.084N	003 26.802W

## Inner Sound and Torridon TV Sites

January 2006, Cruise RV0601



**Moray Firth, TV and Creel Frame Sites**  
**January 2006, Cruise RV0601**

