

R1/3

Not to be cited without prior reference to the FRS Marine Laboratory, Aberdeen

FRV *Clupea*

Cruise 1504C

## **REPORT**

8–22 October 2004

### **Ports**

**Start Point:** Fraserburgh

**End Point:** Fraserburgh

### **Personnel**

|           |                         |
|-----------|-------------------------|
| J Kinnear | (SIC) 7–21 October 2004 |
| I Gibb    | 7–21 October 2004       |
| F Neat    | 7–21 October 2004       |
| K Urquart | 7–21 October 2004       |
| F Burns   | 7–14 October 2004       |
| R Kilburn | 7–14 October 2004       |
| S Wallace | 14–21 October 2004      |
| C Pert    | 14–21 October 2004      |

### **Gear**

Young gadoid trawl BT158 with bobbins and 10 mm codend  
Live fish codend

### **Other Equipment**

Scanmar  
Minilogger  
CTD  
Live fish tanks  
Day grab

### **Objectives**

1. To investigate the distribution of juvenile commercial gadoids in the inshore grounds on the west coast of Scotland, with particular reference to habitat preference.
2. To collect samples of cod, haddock and whiting for analysis of reproductive development, genetics and otolith chemistry.
3. To tag cod, haddock and whiting using conventional T bar and DST tags.
4. To take samples of various fish species throughout the cruise to determine the prevalence of IPNV in wild fish. Samples will also be taken at each location for bacteriology, parasitology and virology to test for the presence of disease agents.

## **Project Out-turn: 15 Days MFO465**

### **Narrative**

Scientific staff joined *Clupea* on the morning of 8 October but departure for the west coast was delayed by bad weather and *Clupea* did not leave Fraserburgh until the morning of 9 October, arriving at Kinlochbervie at 2000 hours. The next day work began off Clash, working a series of inshore trawl stations down to Colonsay. Extra stations were picked up on the return leg, with particular attention given to capturing live fish for T-bar and DST tagging. Poor weather curtailed operations on 19 October and with the forecast remaining poor it was decided to begin the steam to Fraserburgh. However, *Clupea* was forced to anchor in Dinnet Bay for the night due to strong easterly winds. *Clupea* left Dinnet Bay mid afternoon of 20 October, arriving in Fraserburgh on the following morning.

### **Sampling**

Tows of 30 minutes duration were conducted at selected sites using the BT158 net. A mini logger attached to the trawl and was used to collect data on sea temperature and depth. A CTD was taken at each trawl station. All fish were measured and sorted at sea according to standing instructions. Where necessary sub samples were taken from appropriate species and worked up according to the relevant protocols associated with each project. One grab sample was taken at each trawl site for sediment analysis.

### **Trawling**

A total of 37 trawls were carried out including 13 live fish tows.

### **Fish Tagging**

For live fish capture the BT 158 Jackson Rock hopper trawl was modified to include a PVC liner in the cod-end, retaining 1 cubic metre of seawater in a still water environment. A minillogger attached to the headline recorded water temperature and depth throughout each tow. Only two cod caught throughout the survey were of suitable size (>25 cm) and condition for internal tagging with data storage tags (DSTs), only 14 Haddock were also of a suitable size (>30 cm). These fish were tagged with the Star-Oddi Centi DST and released within 5 km of the area caught. Juvenile gadoids were tagged externally only, with T-bar anchor tags (2 codling, 593 Haddock and 605 Whiting). Fin clips were taken from the majority of tagged fish for genetic analysis.

### **IPNV Summary**

Main areas sampled were Loch clash, Clashnessie Bay, Enard Bay, Rubha Reidh, Loch Kishorn, East Loch Alsh, Loch Hourn, Loch Sunart and West of Colonsay and in addition samples were obtained from several other locations. In total, fish were obtained from 15 areas and 17 species of wild marine fish were sampled giving a total of 4281 fish for the trip. These samples have been stored and will be tested for IPNV in January 2005. Due to adverse weather conditions on the last few days of the cruise the target of 5000 fish for the trip was not met. However, the number of fish sampled and the locations visited will provide some very useful data for the IPNV ROAME.

### **FC1188 - Parasitology**

**Proposal:** To re-visit 10 locations on the west coast of Scotland which were sampled during 2003 to examine year on year pathogen loading levels in gadoids. The priority order of

target species was – cod, haddock, whiting, saithe and hake all to be sampled for parasitology, bacteriology and virology (list II and III diseases).

**Samples:** The main target species were cod and haddock although as insufficient numbers were present then other gadoids were selected instead such as whiting. All fish were measured, gill and pectoral fin clips were taken for parasitology, kidney loop for bacteriology, the carcass flat frozen for later examination and samples of kidney, brain and spleen taken for virology screening which were snap frozen in liquid nitrogen.

Nine areas were sampled for project FC1188 which fell short of target 10 distinct sampling areas. Of this only five were repeats from 2003. A total of 112 pools were generated for list II and III diseases as well as 272 fish sampled for bacteriology and frozen for parasitology. The table below outlines the total number of fish sampled from each area under FC1188:

**Summary:** Nine areas and 272 fish (see Table 1) were sampled for project FC1188 which failed to meet the target set at the outset. This was due in part to inclement weather, unforeseen delays and the conflicting area/site requirements of the other groups present.

**Table 1**

| Area<br>Species | Loch<br>Sunart | Annat<br>Bay | Rubha<br>Reidh | Eigg | Loch<br>Slapin | Loch<br>Hourn | Bloody<br>Bay | Loch<br>Gairloch | Jambo |
|-----------------|----------------|--------------|----------------|------|----------------|---------------|---------------|------------------|-------|
| Cod             | 0              | 2            | 60             | 0    | 0              | 0             | 0             | 0                | 0     |
| Haddock         | 30             | 60           | 60             | 60   | 0              | 0             | 10            | 60               | 30    |
| Whiting         | 30             | 0            | 0              | 0    | 20             | 60            | 60            | 0                | 30    |
| Hake            | 0              | 0            | 0              | 0    | 40             | 0             | 0             | 0                | 0     |

J Kinnear  
17 November 2004

Seen in draft: A Simpson, OIC *Clupea*

## Trawl stations

| Haul No. | Tow Name          | Lat       | Long     |
|----------|-------------------|-----------|----------|
| c04/361  | Clash Outer       | 58.490333 | -5.31217 |
| c04/362  | Clash Inner       | 58.448    | -5.16983 |
| c04/363  | Clashnessie       | 58.257667 | -5.33817 |
| c04/364  | Sth of stour      | 58.205    | -5.42    |
| c04/365  | Achmelvech        | 58.194833 | -5.35867 |
| c04/366  | The Clete (Enard) | 58.137833 | -5.37433 |
| c04/367  | Rhu Coigach       | 58.115333 | -5.594   |
| c04/368  | Annat Bay         | 57.943833 | -5.29967 |
| c04/369  | Melvech           | 57.828667 | -5.86033 |
| c04/370  | Longa             | 57.742    | -5.83983 |
| c04/371  | Burma west        | 57.842167 | -6.05017 |
| c04/372  | Burma             | 57.892833 | -6.12767 |
| c04/373  | Burma             | 57.8955   | -6.09517 |
| c04/374  | Burma             | 57.892167 | -6.13083 |
| Foul     | Red Point         | 57.650833 | -5.87033 |
| co4/375  | Kishorn           | 57.3275   | -5.73817 |
| co04/376 | Aish              | 57.267    | -5.60267 |
| c04/377  | Sleat             | 57.068    | -5.83683 |
| c04/378  | Eigg              | 56.909    | -6.09167 |
| c04/379  | Bloody bay        | 56.645    | -6.08583 |
| c04/380  | Inner Sunart      | 56.698    | -5.77833 |
| c04/381  | Loch Buie         | 56.321333 | -5.9045  |
| c04/382  | Loch Buie         | 56.319833 | -5.9045  |
| c04/383  | E Colonsay        | 56.088    | -6.08367 |
| c04/384  | West jura         | 56.070167 | -6.00633 |
| c04/385  | Tarbet Bank Jura  | 55.976    | -6.10317 |
| c04/386  | west Jura         | 56.031167 | -6.13133 |
| c04/387  | Colonsay NE       | 56.090167 | -6.084   |
| c04/388  | Out Sunart        | 56.657333 | -5.96767 |
| c04/389  | Coll              | 56.6865   | -6.53067 |
| c04/390  | E eigg            | 56.913833 | -6.09467 |
| c04/391  | Slapin            | 57.099333 | -6.05883 |
| co4/392  | L Hourn           | 57.125    | -5.59067 |
| c04/393  | S Burma           | 57.718167 | -5.98717 |
| c04/394  | N Burma           | 57.791333 | -6.05833 |
| c04/395  | Melvech W         | 57.797    | -5.90583 |
| c04/396  | Longa             | 57.739833 | -5.8405  |

