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FRV *Clupea*

Cruise 0304C

REPORT

12-26 February 2004

Ports

Start Point: Fraserburgh
End Point: Fraserburgh

Personnel

J Drewery	In Charge
J Kinnear	
F Neat	
J Martin	
I Gibb	17-26 February

Gear

Young gadoid trawl BT158 with bobbins and 10 mm codend/live fish capture (lined) cod-end.

Other Equipment

Scanmar
Minilogger
Live Fish Tanks

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 locate suitable grounds for live capture of cod, haddock and whiting.

4. To tag cod, haddock and whiting.

Project Out-turn: 12 Days MFO465

Narrative

Clupea departed for the West Coast on the afternoon of 12 February and arrived at the first station South of Cape Wrath the following morning after overnighting in Loch Erribol. Work proceeded in a southerly direction, exploring new grounds not yet surveyed but thought of be of interest and then covering stations identified as important on previous surveys. Further

exploratory trawling was done wherever opportunity arose and time permitted. Where areas with suitable concentrations of gadoids were encountered the gear was switched to live fish capture and operations turned to tagging. An additional member of staff joined on the evening of the 16 February at Gairloch, and work continued in the North Minch on 17 February. A problem with part of the ship's navigation equipment meant docking for repairs at Gairloch and again in Oban as *Clupea* worked south. Repairs were not successful as the correct replacement parts were not immediately available and *Clupea* proceeded to the southernmost stations around Mull and Colonsay. After successfully surveying the area, few suitable grounds to obtain fish for tagging were found and *Clupea* worked north again, to concentrate for the remainder of the cruise time on live fish capture in the North Minch. Tagging work continued to the North of Skye, and on the evening of 21 February *Clupea's* electronics were repaired at Gairloch. With strong northerly winds and unworkable conditions having set in on the morning of 22 February, *Clupea* steamed for the East Coast. An engine problem occurred just east of Wick in the early hours of 23 February and the ship was taken into Wick harbour under tow. Scientific staff left the vessel the same day and Clupea proceeded to Fraserburgh, again under tow, docking there that evening. *Clupea* was unloaded on 29 February.

Trawling

Demersal trawls of up to 35 minutes duration were conducted using the BT158 with 10 mm codend on grounds of varying depth and habitat, the exact sediment types having been established on prior surveys. A mini logger attached to the trawl collected temperature and depth data. The sediment types and associated infauna of several new grounds trawled on will be determined on the program's future surveys.

The species and numbers caught by trawl are summarised in Table 1. Numbers are standardised to a 30 minute tow. A total of 22 trawls were performed.

All trawl stations are shown in Figures 1 and 2, Table 2 gives the associated positional data.

Sampling

All fish were sorted and measured at sea according to standing instructions, biological data was obtained in accordance with established protocols.

Fish Tagging

Information from this and previous surveys was used to identify areas suitable for obtaining numbers of appropriate species and age class of fish in good condition.

For live fish capture the BT 158 Jackson Rock hopper trawl was modified to include a PVC liner in the cod-end, retaining one cubic metre of seawater in a still water environment. A minilogger attached to the headline recorded water temperature and depth throughout each tow. Tagging tows varied in length from 10-30 minutes duration depending on expected amounts of target species.

Cod and Haddock of suitable size and condition for internal tagging were implanted with the Star-Oddi Centi data storage tag and released within 5 km of the area caught. The CTD was deployed at every DST release station to collect environmental information.

Juvenile gadoids (haddock, whiting, cod) were tagged externally only with T-bar anchor tags. Fin clips were taken from up to 200 tagged fish per species per tagging area for genetic analysis.

Table 3 contains a summary.

Biological Sampling

Morphological measurements were taken on all 0-group cod caught that were considered unsuitable for tagging. Samples of gill tissue were fixed in absolute ethanol for genetic studies, sagittal otoliths removed with plastic forceps for otolith microchemistry and age analysis and lapillar otoliths removed for future microstructure analysis.

FC1190 - IPNV Epidemiology

Gaidoid samples from Annat Bay (50 whiting, 50 norway pout) were frozen whole for viral analysis back at the lab for FC1188.

J Drewery
16 August 2004