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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 of 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 samples 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 minilogger 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	Loch Sunart	Annat Bay	Rubha Reidh	Eigg	Loch Slapin	Loch Hourn	Bloody Bay	Loch 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

