

P17/6

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FRV *Clupea*

Cruise 1405C

REPORT

3–22 October 2005

Ports

Loading: 22 September deck gear, 29 September lab gear, Fraserburgh

Personnel change-over: 7 and 8 October, Lerwick/Fraserburgh

Half Landing: 8 October, Fraserburgh

Unloading: 22 October, Fraserburgh

Personnel

I M Gibb	(In Charge)
F C Neat	3-7 October
M O'Sullivan	8-22 October
M Perutz	

Project: 20 days MF0756

Fishing Gear

Jackson Rockhopper Trawl BT158 with live fish liner

Other Equipment

CTD
Minilogger
4 x Fish Tanks

Objectives

1. To externally tag recently settled juvenile cod for investigations of their movements.
2. To internally tag adult cod and haddock with Data Storage Tags for investigations of movement and temperature experience.

Out-turn Days Per Project: 20 days; MF0756

Report

All heavy gear was loaded onto the vessel on Thursday 22 September and scientific equipment loaded on 29 September. Staff joined the boat at 1000 on Monday 3 October and made final adjustments to the set-up of the laboratory prior to sailing. The vessel sailed at 1100 but had to return to port at 1140 due to an oil leak on the anchor winch. The vessel sailed again at 1400 and made passage for east Shetland. Fishing tows were conducted on

the east side of Shetland over the next two days before passage was made to the west side. Trawling continued in the Scalloway area over the next two days before passage was made back to Lerwick, through Yell Sound on 7 October. F.Neat left the vessel that evening to return to Aberdeen. The vessel departed Lerwick at 0600 on 8 October to make passage to Fraserburgh, where M O'Sullivan joined the vessel. The half landing was scheduled for 9 October with the vessel remaining in Fraserburgh. Due to strong southerly winds, *Clupea* worked in the Moray Firth over the next two days finding juvenile cod off Whitehills, Lossiemouth and on Smith Bank, finally returning to Fraserburgh during the evening of 11 October. The vessel sailed from Fraserburgh on 12 October for St Andrews and worked in St Andrews bay for the next two days tagging juvenile cod and then proceeding to Montrose with a consignment of live cod for the FBU. Tagging continued in the St Andrews Bay and Bell Rock area over the next two days before the vessel made a passage back to Fraserburgh on 17 October, due to strong SE winds. Tagging resumed in the Moray Firth from 18 October through to the end of the cruise. The vessel docked at Fraserburgh on the 21 October and unloaded all gear on 22 October.

Trawl survey

A total of 75 hauls of 5-65 minute duration were made throughout the cruise. The distribution of hauls and proportional number of cod per hour are shown in Figure 1. Tow positions were chosen in consultation with the skipper and from cruise records from previous inshore surveys. A minilogger attached to the headline recorded water temperature and depth every 30 seconds throughout each tow.

Tagging

A total of 1973 juvenile cod and eight angler fish were tagged with T-bar tags throughout the cruise. 19 haddock, four angler fish and one cod were also tagged with DST tags. Details of all tagging are shown in Table 1.

Biological sampling

A total of 434 cod were sampled for length and weight; otoliths (sagittae and lapillae) were removed and stored for future age and possible chemical analyses. Genetic samples (N=106) were removed from subsets of the fish sampled. Length frequency data on all species was also collected from one haul in each sampling area.

Hydro stations

A total of three CTD dips were conducted during the cruise, at corresponding DST release positions.

I M Gibb
27 January 2006

Seen in Draft: A Nicol, OIC *Clupea*

TABLE 1

Tagging

Species/ Tag Type	AREA			TOTALS
	Moray Firth	Shetland	Tay	
COD T-Bar	969	7	997	1973
ANGLER T-Bar	1	7	-	8
HAD DST	1	18	-	19
COD DST		1	-	1
ANG DST		4	-	4

Figure 1 Number and location of cod catches during Cruise 1405c. Circles represent catch rates from 0-1759 cod.hr⁻¹.

