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DEPARTMENT OF AGRICULTURE [NI]
AQUATIC SCIENCE DIVISION
FISHERIES RESEARCH LABORATORY

CRUISE REPORT: LF-06-91

NW IRISH SEA SCALLOP STOCKS 06 to 08 March 1991

PERSONNEL

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Mrs A HAYES ASO
S POLLOCK TASSO

OBJECTIVES

1. To trial and work up the replacement set of Scallop dredges.
2. To survey the ground sampled on earlier cruises.
3. Attempt to collect the following data:
 - a. catch per unit effort (number caught per hour dredging).
 - b. age composition.
 - c. shell length data.
4. Bring shell samples from selected stations back to the Laboratory for future growth measurements.
5. Collect samples of scallop abductor muscle tissue for chemical and metal analysis (refer to Dr M Service for details of this).

NARRATIVE

Due to the operational requirement for extended testing of the new sonar unit, the ship time allocated to the Scallop Stock cruise was reduced from 5 days to 2.5 days.

The MRV Lough Foyle left Belfast on Wednesday 6th March at 11:30. During the first day stations 1, 2, 12 and 13 were dredged [figure 1] in the area off Islandmagee. On the 7th March station 21 was dredged twice, and stations 7, 16, 17, 18, & 19 were dredged once in the area off Donaghadee, as was station 7, in the area off Portavogie. On the 8th March station 12 was again dredged off Islandmagee, and station 4 in outer Belfast Lough was dredged twice.

METHODS

The gears used during the cruise were beams, with four 2-foot

scallop dredges of the design currently used in the commercial fishery. Catches were sorted and all Scallops were retained. The Scallops were aged, weighed and measured [shell length and height]. Selected age classes [normally 6 year olds] had their abductor muscles removed for future chemical and metal analysis. All shell samples were retained for detailed morphometric analysis on return to Coleraine.

RESULTS

The new set of four dredges was towed from the starboard trawl warp on the first day of the cruise, and the catch per unit effort [cpue] varied from 0.75 Scallops per dredge per hour at station 1, to 3.75 at station 12 [table 1]. On the second day the new dredge set was again towed from the starboard trawl warp, and from tow 6 onwards the old dredge set was deployed from the port trawl warp, to compare the efficiencies of the two dredge sets. Adjustments were made to the dredge springs on the new set at the end of tow 6 and again at the end of tow 7. The cpue values ranged from 1.53 Scallops per dredge per hour at station 21 to 7.63 at station 18.

On the third and last day of the cruise, the towing arrangements for both dredge sets remained the same, except due to the possibility of underwater obstruction at station 4, only one dredge set was deployed during tows 14 and 15. The new set was retained on deck during these tows. By the end of the second day of the cruise, the new dredge set appeared to be working as well as the original set.

On the last day the new set was foul during tow 13, and tow 15 [station 4] was over clean ground where the four dredges deployed [the old set] filled with trash and broken shell, but caught no Scallops. The cpue values were 4.71 at station 12 and 6.71 at station 4.

Due to reduced time allocated to the cruise, no further testing of the new dredge set was possible. The cruise ended when the MRV Lough Foyle docked in Belfast on the afternoon of Friday 8th March 1991.

Master

AMH

Scientist-in charge

W Mc Curdy

Table 1. Scallop Catch Rates for Cruise LF-06-91

| Date | Tow No. | Station No. | Time (mins) | Scallop catches | | Total Scallop Catch | Scallop catch per unit effort (No./Dredge/Hour) |
|---------|---------|-------------|-------------|-----------------|-------------|---------------------|--|
| | | | | New Dredges | Old Dredges | | |
| 07/3/91 | 1 | 1 | 45 | 5 | - | 5 | 1.67 |
| | 2 | 1 | 60 | 3 | - | 3 | 0.75 |
| | 3 | 12 | 48 | 12 | - | 12 | 3.75 |
| | 4 | 13 | 45 | 4 | - | 4 | 1.33 |
| 07/3/91 | 5 | 21 | 59 | 6 | - | 6 | 1.53 |
| | 6 | 21 | 62 | 2 | 11 | 13 | 1.57 |
| | 7 | 16 | 63 | 4 | 17 | 21 | 2.50 |
| | 8 | 19 | 61 | 0 | 24 | 24 | 2.95 |
| | 9 | 18 | 60 | 29 | 32 | 61 | 7.63 |
| | 10 | 17 | 55 | 11 | 17 | 28 | 3.82 |
| | 11 | 7 | 68 | - | 7 | 7 | 1.54 |
| | 12 | 12 | 40 | 9 | 7 | 16 | 3.00 |
| 08/3/91 | 13 | 12 | 70 | foul | 22 | 22 | 4.71 |
| | 14 | 4 | 38 | - | 17 | 17 | 6.71 |
| | 15 | 4 | 50 | - | 0 | 0 | 0.00 |

- not used.

Table 2 Age Distribution of Scallops caught during Cruise LF-06-91.

| Tow No. | Station No. | Number of Scallops caught at age: | | | | | | | | | | Total aged # |
|---------|-------------|-----------------------------------|---|---|---|---|----|----|---|---|----|--------------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 9+ | |
| 1 | 1 | - | - | - | - | - | 2 | 2 | - | 1 | - | 5 |
| 2 | 2 | - | - | - | - | - | - | - | - | 1 | 2 | 3 |
| 3 | 12 | - | - | - | - | 1 | 2 | 2 | 1 | 2 | 4 | 12 |
| 4 | 13 | - | - | - | - | - | 1 | - | 1 | 1 | 1 | 4 |
| 5 | 21 | - | - | - | - | - | - | 2 | 1 | - | 3 | 6 |
| 6 | 21 | - | - | - | - | - | 5 | 3 | - | - | 3 | 11 |
| 7 | 16 | - | - | - | - | - | 8 | 5 | 2 | 1 | 5 | 21 |
| 8 | 19 | - | - | 3 | 1 | 1 | 8 | 3 | 6 | - | 2 | 24 |
| 9 | 18 | - | 1 | 7 | 4 | 3 | 13 | 10 | 8 | 5 | 5 | 56 |
| 10 | 17 | - | - | - | - | - | 13 | 7 | 3 | 1 | 4 | 28 |
| 11 | 7 | - | - | - | - | 2 | 1 | 1 | 1 | 1 | 1 | 7 |
| 12 | 12 | - | - | - | 2 | 1 | 3 | 3 | 2 | 1 | 4 | 16 |
| 13 | 12 | - | - | - | - | 2 | 7 | 3 | 5 | 2 | 3 | 22 |
| 14 | 4 | - | - | - | 2 | - | 1 | 2 | - | - | 11 | 16 |
| 15 | 4 | - | - | - | - | - | - | - | - | - | - | - |

does not include Scallops too badly damaged to be aged.

