

ANNUAL MEETING - JUNE 1965Breakdown of Catch by Type of Gear in the
Newfoundland Inshore Cod Fishery, 1963

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The breakdown of the catch of cod by the various types of gears employed in the Newfoundland inshore cod fishery has always been recognized as a major problem in any catch and effort study dealing with the inshore cod fishery. There are basically six types of gear used in the inshore cod fishery in Newfoundland: trap, gillnet, linetrawl, longline, handline and jigger. All of these have been traditional gears in use for many years. Cotton gillnets were used for a number of years but have been replaced more recently by nylon gillnets and these have become widely accepted, being used instead of some of the traditional gears in a number of areas.

Each of these gears has its own characteristics in relation to the stock of fish on which it is fishing. The age and length distributions and growth rates of the fish caught by these gears are different and the catch per unit of effort varies from gear to gear. Also the manner in which the catches from the different gears vary with the amount of fishing effort, the magnitude and frequency of recruitment and the changes in hydrographical conditions is different for each gear. For these reasons, a breakdown of the catch by type of gear is essential to any study of the inshore cod fishery.

During the past 10 years, research has been carried out by the staff of the Fisheries Research Board of Canada, Biological Station, St. John's, Nfld. on the Newfoundland inshore cod fishery in a number of settlements and an attempt has been made in recent years to separate the catch by the various gears. In addition to this, the Federal Department of Fisheries (Newfoundland) began a programme in 1963 whereby its Fisheries Officers visited various settlements along the Newfoundland coast and obtained estimates of the breakdown of the inshore cod catch by the various gears. These settlements are shown in Fig. 1. These estimates and the figures from the Fisheries Research Board studies form the basis for the values in Table 1, showing the breakdown of the inshore cod catches by the various gears in 1963.

Table 1 shows that in 3K and 3L by far the greatest percentage of cod was landed by codtraps in 1963, whereas in 3PS and 4R the percentage from codtraps was only slightly greater than that landed by gillnets. In 3PN all the fish was caught by longline. Longline and linetrawl gears were combined in the compilation of this table since they are essentially the same gear and there was some doubt as to whether the Fisheries Officers were distinguishing between the two gears in some areas. Codtraps were especially important during the months of May, June and July in 3K and 3L and May and June in 3PS and 4R whereas gillnets and longlines were used more extensively during the months of August-November in 3K, 3L and 3PN. Gillnets were only used to any extent during June in 4R. In 3K and 3PS handline and jigger gears were relatively unimportant in the 1963 fishery, whereas in 3L handline gear was used fairly extensively in August and September (especially around Bonavista) and jigger gear in October and November. Although the samples for 4R are small, there is an indication that jigger and handline gears are important contributors to the fall fishery in this area. The catch of cod was greatest during June and July in 3K, 3L and 3PS and June, July and August in 4R coinciding with the great influx of cod into the range of the codtrap during this period. In 3PN

the greatest catches of cod were secured in March, probably corresponding with the time that the greatest amounts of Gulf of St. Lawrence cod from north of the Laurentian Channel have migrated into 3PN. Catches are still large but gradually declining in April and May as the Gulf cod migrate back into the Gulf. Catches in 3PN are at their summer-autumn level by June by which time the fishery presumably depends on the resident fish of 3PN.

The authors are indebted to the Federal Department of Fisheries (Newfoundland) and to their Fisheries Officers for supplying the bulk of the information for this study.

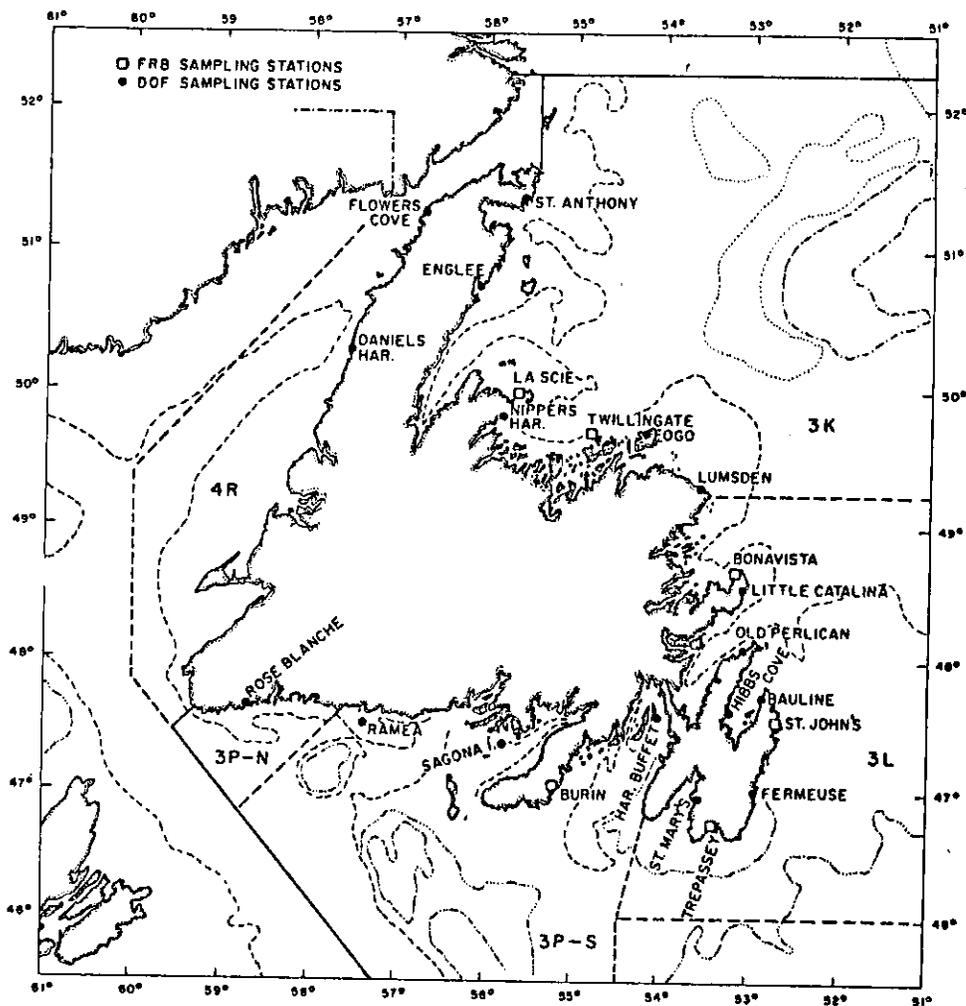


Fig. 1. Map of Newfoundland showing the settlements sampled for this study.

TABLE 1. PERCENTAGE OF COD LANDED IN EACH MONTH BY EACH TYPE OF GEAR IN THE NEWFOUNDLAND INSHORE COD FISHERY, 1963. THE TOTAL AMOUNT LANDED IN EACH MONTH AND THE AMOUNT ON WHICH THE BREAKDOWN BY GEAR IS BASED ARE SHOWN FOR COMPARISON. (T, CODTRAP; GN, GILLNET; HL, HANDLINE; J, JIGGER; LL, LONGLINE). LONGLINE INCLUDES LINETRAWL (LONGLINE HAULED BY HAND) AND LONGLINES HAULED BY ENGINE POWER WITH A GURDY.

MONTH	3K					3L					3PS													
	AMOUNT LANDED ('000 LB.)	AMOUNT SAMPLED ('000 LB.)	T	GN	HL	J	LL	AMOUNT LANDED ('000 LB.)	AMOUNT SAMPLED ('000 LB.)	T	GN	HL	J	LL	AMOUNT LANDED ('000 LB.)	AMOUNT SAMPLED ('000 LB.)	T	GN	HL	J	LL			
JANUARY								32							316									
FEBRUARY								18							345									
MARCH								6							1,567									
APRIL								124							2,076									
MAY	1,280	479	73	8	5	11	3	3,893	952	45	15	-	-	40	4,491	578	-	88	-	-	-	-	12	
JUNE	33,957	4,859	84	6	2	1	7	37,928	7,529	63	14	16	1	6	20,085	2,458	61	15	-	-	-	5	19	
JULY	39,689	6,064	78	7	3	2	10	75,692	12,459	73	14	8	1	4	19,114	1,293	32	40	5	-	-	8	15	
AUGUST	12,697	2,008	23	54	4	2	17	18,840	3,470	7	33	35	1	24	6,523	604	-	53	2	-	-	3	42	
SEPTEMBER	9,658	1,658	-	65	9	5	21	11,455	2,850	-	20	30	1	49	4,090	260	-	15	7	-	-	11	67	
OCTOBER	5,947	789	-	47	14	9	30	7,985	905	-	32	11	28	29	6,096	300	-	-	-	-	-	6	86	
NOVEMBER	1,214	71	-	-	-	-	100	2,154	396	-	30	1	45	24	816	125	-	1	2	-	-	10	87	
DECEMBER	14	-	-	-	-	-	100*	401	3	-	-	-	-	100	370	12	-	-	-	-	-	-	14	86
TOTAL YEAR 104,456		15,928	60	21	4	3	12	158,528	28,564	51	18	15	3	13	65,769	5,630	34	30	2	-	-	7	27	

* ASSUMED VALUE

CONT'D.....

TABLE 1. (CONT'D)

MONTH	3PN					4R								
	AMOUNT LANDED ('000 LB.)	AMOUNT SAMPLED ('000 LB.)	T	GN	HL	J	LL	AMOUNT LANDED ('000 LB.)	AMOUNT SAMPLED ('000 LB.)	T	GN	HL	J	LL
JANUARY	360	-	-	-	-	-	-	75	-	-	-	-	-	-
FEBRUARY	830	-	-	-	-	-	-	13	-	-	-	-	-	-
MARCH	3,033	2,447	-	-	-	-	100	33	-	-	-	-	-	-
APRIL	1,935	1,518	-	-	-	-	100	237	-	-	-	-	-	-
MAY	1,065	-	-	-	-	-	100*	863	-	-	-	-	-	-
JUNE	525	188	-	-	-	-	100	23,067	1,150	49	36	-	13	2
JULY	738	309	-	-	-	-	100	15,046	144	61	6	-	19	14
AUGUST	537	254	-	-	-	-	100	12,670	26	-	-	-	5	95
SEPTEMBER	499	150	-	-	-	-	100	4,501	32	-	-	-	50	50
OCTOBER	642	220	-	-	-	-	100	1,788	17	-	-	-	75	25
NOVEMBER	399	91	-	-	-	-	100	281	4	-	-	-	100	-
DECEMBER	397	116	-	-	-	-	100	60	-	-	-	-	100*	-
TOTAL YEAR	10,842	5,293	-	-	-	-	100	58,634	1,373	48	30	1	14	7

* ASSUMED VALUE