

International Commission for



the Northwest Atlantic Fisheries

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A note concerning the Canadian Atlantic fishery statistical system

by

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Fisheries & Marine Service  
Halifax, Nova Scotia

The overall responsibility for the provision of Canadian Atlantic fishery statistical data is vested in the Fishery and Marine Service of the Department of the Environment. The responsibility center designated within the Fisheries and Marine Service for the Newfoundland Region, headquartered in St. John's, is the Economics and Intelligence Branch, and for the Maritime Provinces, (Nova Scotia, New Brunswick and Prince Edward Island) headquartered in Halifax, is the Fisheries Intelligence Branch. The officer in charge of the Fisheries Intelligence Branch, Halifax, is designated as the coordinator of all Canadian Atlantic Fishery statistics for domestic and international purposes.

The Canadian Fisheries Act and the regulations associated with the Act outlines the statistical reporting requirements of those engaged in the fishing industry. Basically, the Act states that firms must report all fish caught, processed, prices paid, numbers of fishing craft, numbers of employees, etc. Data is acquired from the fishing industry on a number of monthly and annual documents which are completed either by the fishing skipper or the processing firm and collected by a fishery officer or forwarded directly to the office responsible. The source documents (approximately 20 types) are broadly divided into five categories to provide socio-economic and biological data: (1) purchase slips to provide the species, size, quantity, value, area of capture, port landed, gear used, name of boat; (2) product schedules to determine products produced, stocks, exports and sales; (3) census and licensing forms to maintain data on number of fishermen, fisheries engaged in, size and type of fishing vessels, gear and

equipment and capital expenditure; (4) price report forms and (5) various vessel logs to determine catch/effort/discard data. (It is compulsory for Canadian vessels in excess of 25 G.R.T. to maintain log books.)

These documents basically ensure that statistical data is available for all catches by boat, describe the boat type, the area of catch and landing, the product and value derived. The system is not without shortcomings. Quality control is sometimes difficult and the accuracy is to some extent dependent upon the value of the species caught and the socio-economic conditions existing in various areas. In general the accuracy of the catch data derived from weighouts exceeds 90%.

To ensure that the necessary source documents are received by the Fisheries and Marine Service Data Offices, general fishery officers in the various landing ports are responsible for submitting data, maintaining contact with the fleet and with plants and clarifying data received. In a few instances where the work load is significant, full time statistical officers are employed to provide the required statistical material and conduct to sampling.

The source documents, once received in one of the two regional offices, are edited, coded, entered on cards or tape and prepared for electronic data processing. The staff in the two statistical offices total 40 man years. About 80 per cent of this staff is engaged directly in duties involving the production of statistical series. The remainder are involved in quasi statistical duties associated with resource management, surveillance, public information and short term studies.

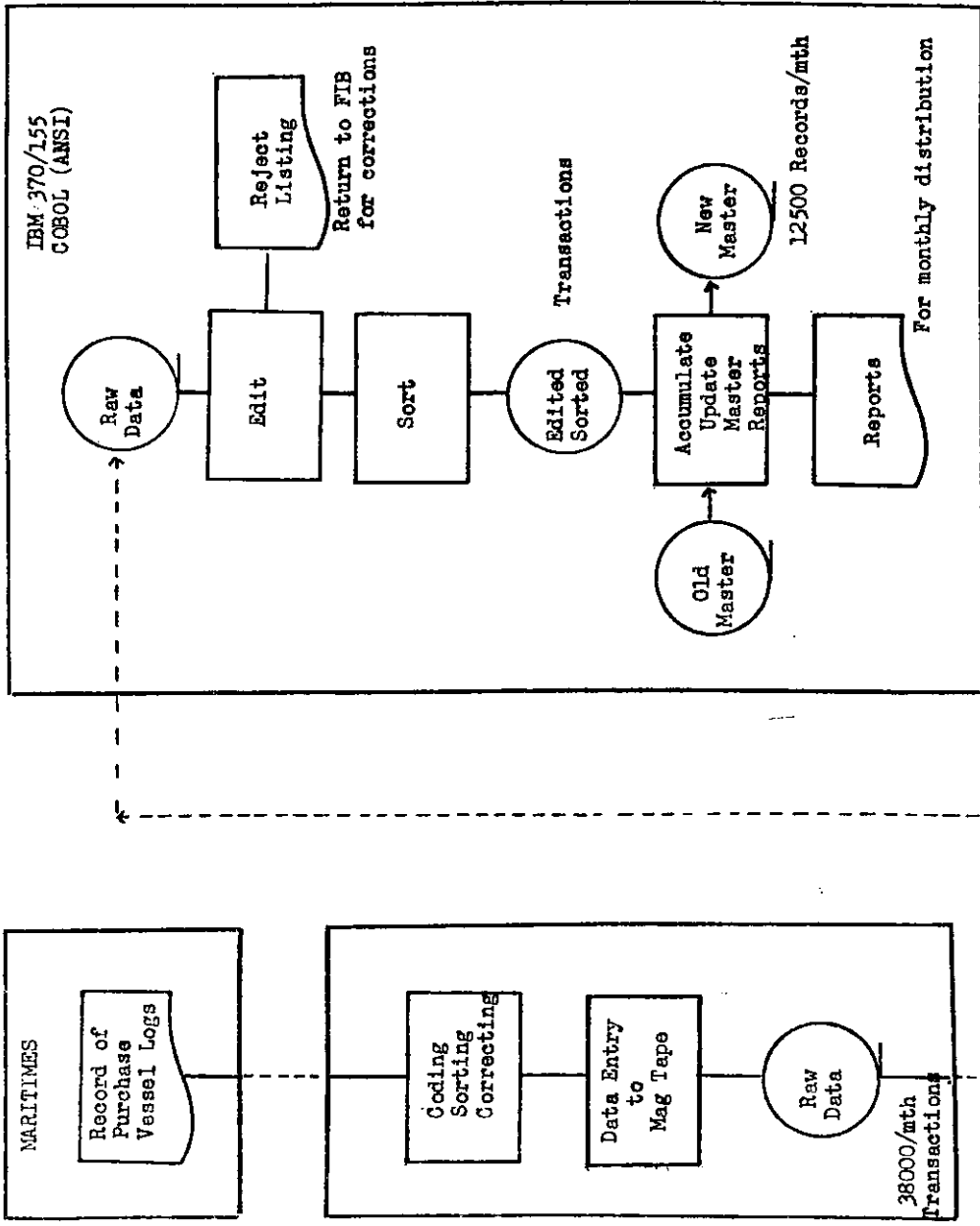
For many years, those standardized statistical series involving large quantities of data have been computerized. The series which are currently computerized refer to specialized research tables, annual submissions to international agencies, series on species landed by community, district and season for resource management purposes, tabulations with respect to catch by specific vessel types and categories and tables concerning species and gear types under quota management. The statistical units do not own or operate their own computer facilities. Data is merely edited, coded, and entered on punch cards or magnetic tapes and then tabulated on computers on a time rental basis. The units do, however, employ computer systems analysts to administer the system and provide alterations as required.

The basic publications of the statistical services of the Fisheries and Marine Service are few. Various weekly, monthly, and annual statistical series referring to landings, quota reports, prices paid, products produced and stocks held are released to the industry, the news media, to Provincial Governments, and to interested agencies and groups. Most of the official publication of the data is by Statistics Canada (The Canadian Government Statistical Bureau) in its monthly and annual fisheries statistical publications.

For the purposes of domestic current and planned resource management procedures and as requested by one international commission, various refinements have been made in the Canadian Atlantic fishery statistical reporting system during the past year. Planned future changes will involve the integration of sampling for size and age into the standardized series, the provision of more feedback to the suppliers of the basic information, the introduction of a grid system (not larger than 1<sup>0</sup> square) for area of capture data, and the tabulation and release of catch/effort data on a monthly basis.

As a trial during 1974 it is proposed to implement an automated system to extract information from various files residing on magnetic tapes at a central computer site. This system would collect queries during the day concerning landings, catch/effort, etc., process the material during the night and supply the originator with the requested data at a terminal, printed at a remote computer, or mailed.

WEIGHT AND VALUE TABULATING SYSTEMS FOR FISH LANDED IN THE MARITIMES (CANADA)



SELECTED SAMPLES OF  
FORMS UTILIZED

### FISHERMAN'S SALES SLIP

NAME OF BUYER	
ADDRESS OF BUYER	
NAME OF SELLER	
ADDRESS OF SELLER	DATE SAILED
PLACE FISH BOUGHT	DATE LANDED
NAME OF BOAT	C.F.V. NO.
GEAR USED	ICNAF DIV.

QUANTITY	SPECIES AND SIZES	PRICE	AMOUNT

F-860 (REV 1971) Δ

## ENUMERATION OF FISHERMEN AND FISHING CRAFT, 19 DÉNOMBREMENT DES PÊCHEURS ET DES EMBARCATIONS DE PÊCHE, 19

Name of fisherman  
Nom du pêcheur \_\_\_\_\_

District \_\_\_\_\_ Address  
Adresse \_\_\_\_\_

PART I - GENERAL INFORMATION 1 <sup>re</sup> PARTIE - RENSEIGNEMENTS GÉNÉRAUX	PART III - LARGE CRAFT (10 tons and over) 3 <sup>e</sup> PARTIE - GRANDES EMBARCATIONS (10 tonnes et plus)																																																																																									
<p>1. Extent of employment in fishing: (check <input checked="" type="checkbox"/>) Temps de l'occupation à la pêche (cocher <input checked="" type="checkbox"/>)</p> <p>Full time - <i>A plein temps</i> ..... <input type="checkbox"/></p> <p>Part time - <i>A temps partiel</i> ..... <input type="checkbox"/></p> <p>Occasional - <i>Irrégulier</i> ..... <input type="checkbox"/></p> <p>2. Fisheries engaged in: (check <input checked="" type="checkbox"/>) Pêche de (cocher <input checked="" type="checkbox"/>)</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;"></th> <th style="width: 15%; text-align: center;">In-shore Côtière</th> <th style="width: 15%; text-align: center;">Off-shore Hauturière</th> </tr> </thead> <tbody> <tr><td>Clams - <i>Coques</i> .....</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>Crabs - <i>Crabes</i> .....</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>Groundfish - <i>Poissons de fond</i> .....</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>Herring - <i>Harengs</i> .....</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>Irish Moss - <i>Mousse d'Irlande</i> .....</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>Lobster - <i>Homards</i> .....</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>Mackerel - <i>Maquereaux</i> .....</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>Oysters - <i>Huîtres</i> .....</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>Salmon - <i>Saumons</i> .....</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>Scallops - <i>Pétoncles</i> .....</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>Shrimp - <i>Crevettes</i> .....</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>Smelts - <i>Éperlans</i> .....</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>Swordfish - <i>Espadons</i> .....</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>Other - <i>Autres</i> .....</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> </tbody> </table>		In-shore Côtière	Off-shore Hauturière	Clams - <i>Coques</i> .....	<input type="checkbox"/>	<input type="checkbox"/>	Crabs - <i>Crabes</i> .....	<input type="checkbox"/>	<input type="checkbox"/>	Groundfish - <i>Poissons de fond</i> .....	<input type="checkbox"/>	<input type="checkbox"/>	Herring - <i>Harengs</i> .....	<input type="checkbox"/>	<input type="checkbox"/>	Irish Moss - <i>Mousse d'Irlande</i> .....	<input type="checkbox"/>	<input type="checkbox"/>	Lobster - <i>Homards</i> .....	<input type="checkbox"/>	<input type="checkbox"/>	Mackerel - <i>Maquereaux</i> .....	<input type="checkbox"/>	<input type="checkbox"/>	Oysters - <i>Huîtres</i> .....	<input type="checkbox"/>	<input type="checkbox"/>	Salmon - <i>Saumons</i> .....	<input type="checkbox"/>	<input type="checkbox"/>	Scallops - <i>Pétoncles</i> .....	<input type="checkbox"/>	<input type="checkbox"/>	Shrimp - <i>Crevettes</i> .....	<input type="checkbox"/>	<input type="checkbox"/>	Smelts - <i>Éperlans</i> .....	<input type="checkbox"/>	<input type="checkbox"/>	Swordfish - <i>Espadons</i> .....	<input type="checkbox"/>	<input type="checkbox"/>	Other - <i>Autres</i> .....	<input type="checkbox"/>	<input type="checkbox"/>	<p>Name of vessel Nom du bateau _____</p> <p>Registry No. No d'immatriculation _____ Year Built Année de construction _____</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Length o.a. 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196 4 VESSEL ADVANCE TYPE OF GEAR 35 Yankee CAPTAIN W. Gray TOTAL CREW 8 (including captain)  
 TRIP NO. 12 DATE SAILED Sept. 10th 2:00 p.m. DATE RETURNED Sept. 17th 7:30 a.m. PORT SOLD Hatifax BUYER J. Smith


MONTH AND DATE	POSITION		DEPTH	EFFORT		ESTIMATED CATCH (LBS.)										REMARKS				
	LAT.	LONG.		TOWS OR SETS	HRS. OR DAYS FISHED	SAVED	DISCARDED	REMARKS												
	LORAN OR DECCA READING	FATH.			PLAICE FLOUNDER	YELLOW TAIL	WITCH BRANCO	W. GROUND SQUID	BLACK SCALLOP	OTHER FISH	W. GROUND SQUID	BLACK SCALLOP	OTHER FISH	W. GROUND SQUID	BLACK SCALLOP	OTHER FISH	W. GROUND SQUID	BLACK SCALLOP	OTHER FISH	
Sept. 11	1H1 2550	1H2 3425	40-50	2	3	1000	1000													
Sept. 12	1H1 2550	1H2 3480	30-38	11	16%	4000	2000													
Sept. 13	1H1 2440	1H2 3440	30-40	8	12	3000	2000													
Sept. 14	1H1 2490	1H2 3390	110	6	15	13000														
Sept. 15	1H1 2575	1H2 3460	34-38	12	18	4000	4000													
Sept. 16	1H1 2575	1H2 3460	35-37	9	14	7000	10000													

FISHING  
 GROUNDING  
 BROUGHT  
 TO SHIP

NOTE: (1) For "Fishing Effort" record number of hauls and total hours net on bottom.  
 (2) "FLOUNDERS" should include: Plaice (PL), Witch or Greysie (WIT), Yellowtail (YEL) and inshore winter flounder (W.FL).  
 (3) "OTHER GFSH" should include: Pollock, Cusk, Hake, Catfish and Skate.  
 (4) Record Quantities discarded at sea for main species.

USE NEW SHEET EACH TRIP

CONFIDENTIAL


 Environment Canada  
 Environnement Canada  
 Fisheries and Marine  
 Pêches et sciences de la mer