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THE STATISTICAL PROCEDURE IN THE ICNAF SECRETARIAT

AND

HOW IT WILL BE AFFECTED BY THE FAO SPECIES ORDER

BY B. F. CALVIN DEBAIE

STATISTICS FOR THE ICNAF AREA WERE FIRST PUBLISHED BY THE SECRETARIAT IN THE SECOND ANNUAL REPORT OF THE COMMISSION FOR THE YEAR 1951-52. AT THAT TIME LANDINGS WERE BEING CONVERTED TO NOMINAL CATCH BY THE SECRETARIAT WITH ALL OPERATIONS AS TO TABULATING AND SORTING BEING PERFORMED ON A MANUAL BASIS. AS MEMBER COUNTRIES BECAME MORE FUNCTIONAL AND VERSATILE IN THEIR REPORTING OF FISHERY STATISTICS, THUS INCREASING THE VOLUME OF REPORTS AS WELL AS THE AMOUNT OF WORK REQUIRED BY THE SECRETARIAT IN PERFORMING THE GREAT TASK OF "CONVERTING" LANDINGS TO NOMINAL CATCH, IT HAD BEEN DECIDED TO TRANSFER THE TASK OF TABULATING AND SORTING TO ELECTRONIC DEVICES. THE IBM SYSTEM WAS INTRODUCED WITH THE PUBLICATION OF STATISTICAL BULLETIN, VOLUME 5 FOR THE YEAR 1955. MANY COMPLICATIONS WERE ENCOUNTERED IN THE IMPLEMENTATION OF THE IBM SYSTEM AT THAT TIME. FOR ONE THING, FACILITIES WERE NOT READILY AVAILABLE IN THE HALIFAX AREA AND IT WAS ESSENTIAL THAT THE PUNCHING OPERATION BE CARRIED OUT AT THE SECRETARIAT LEVEL WHILE THE SORTING AND TABULATING OPERATIONS BE PERFORMED BY IBM IN MONTREAL. THIS INCONVENIENCE WAS IN LATER YEARS OVERCOME WHEN A PRIVATE COMPANY IN HALIFAX DECIDED TO PUT ITS OPERATIONS ON THE IBM SYSTEM THUS ENABLING THE SECRETARIAT TO HAVE ITS SORTING AND TABULATING CARRIED OUT IN CLOSER PROXIMITY WHICH ELIMINATED THE SUPERVISING TIME REQUIRED BY THE STATISTICIAN WHICH INVOLVED TRAVELLING TO AND FROM MONTREAL. THIS CHANGE, HOWEVER, DID NOT SPEED UP THE OPERATION TOO MUCH SINCE THE AVAILABILITY OF THE TABULATING EQUIPMENT COULD ONLY BE OBTAINED WHEN IT WAS NOT IN USE BY THIS COMPANY. AS STATISTICS BY MEMBER COUNTRIES BECAME MORE REFINED, LANDINGS WERE REPORTED BY MEMBER COUNTRIES IN THE CONVERTED FORM OF NOMINAL CATCH. THESE CONVERTED STATISTICS RECEIVED FROM MEMBER COUNTRIES LESSENED THE ONEROUS DUTY OF "CONVERTING" BY THE SECRETARIAT AND IN ESSENCE THE INITIAL REASON FOR SETTING UP AN IBM SYSTEM FOR PRODUCING ICNAF STATISTICAL TABLES. IT WAS THEN DECIDED AT THE SECRETARIAT THAT THE REVERTING TO MANUAL METHODS OF PRODUCING STATISTICS WOULD BE MORE ECONOMICAL AND TIMELY AND WITH THE PUBLICATION OF VOLUME 9 OF THE STATISTICAL BULLETIN FOR THE YEAR 1959 THE IBM METHOD HAD BEEN DROPPED. IT SHOULD BE NOTED THAT THE "PUNCHED" CARDS SERVED NO OTHER PURPOSE THAN THE PREPARATION OF THE STATISTICAL BULLETIN SINCE THE CHANGING OF CODES FROM TIME TO TIME WITHIN THIS PERIOD MADE LITTLE OR NO CONTRIBUTION TOWARDS CONTINUITY AND THE POSSIBILITY OF THEIR BEING USED FOR SPECIAL RUNS. PUNCHED CARDS SERVING SPECIAL ANALYTICAL PURPOSES CAN, HOWEVER, BE PREPARED DIRECTLY FROM THE TABLES IN THEIR PRINTED FORM BY THOSE AGENCIES REQUIRING FURTHER USE OF THESE STATISTICS AND IT IS TO BE NOTED THAT ONE MEMBER COUNTRY IS ALREADY CONTEMPLATING PUNCHING ITS OWN IBM CARDS DIRECTLY FROM TABLE 4 OF THE STATISTICAL BULLETIN SO THAT THEY MAY BE USED ALONG WITH ITS NATIONAL SYSTEM.

UNDER THE PRESENT SET-UP THE SECRETARIAT PROVIDES FOR THREE STATISTICAL FORMS (APPENDED), NAMELY:

ICNAF STATISTICS 1	-	STATISTICS ON LANDINGS
ICNAF STATISTICS 2	-	STATISTICS ON SPECIES BREAK-DOWN
ICNAF STATISTICS 3	-	STATISTICS ON FISHING EFFORT

EUROPEAN MEMBER COUNTRIES ARE REQUIRED TO COMPLETE STATISTICAL FORMS 1 AND 3 (STATISTICS FORM 2 IS NOT CIRCULATED TO THOSE COUNTRIES WHICH CATCH SO FEW SPECIES THAT THEY CAN ALL BE ENTERED ON THE STATISTICS FORM 1) WHILE CANADA AND THE UNITED STATES ARE SUPPLIED WITH FORMS 1, 2 AND 3, WITH FORM 2 BEING COMPLETED WHEN A BREAK-DOWN OF SPECIES IS NOT POSSIBLE ON THE LIMITED SPACE ALLOCATED ON FORM 1. STATISTICAL FORM 1 PROVIDES THE DATA FOR THE PROPOSED NEW TABLE 4 (OLD TABLE 8) OF THE STATISTICAL BULLETIN, CONSEQUENTLY, THE ORDER OF ENTRIES ON IT, WITH THE PROPER SUB-TOTALS, FOLLOWS THE SAME SEQUENCE AS THIS TABLE. THIS ELIMINATES ANY FURTHER CALCULATING IN ORDER TO COMPLETE THE TABLE. THE ECOLOGICAL ORDER OF SPECIES INDICATED ON THE FORM ALSO FOLLOWS THAT REQUIRED IN STATISTICAL TABLE 4 WHICH IS IN ACCORDANCE WITH THE COMMISSION'S RECOMMENDATIONS. STATISTICAL FORM 1 ALSO PROVIDES THE DATA FOR TABLE 5 (OLD TABLE 9) OF THE STATISTICAL BULLETIN. THIS TABLE 5, WHICH ACCORDING TO THE RECOMMENDATIONS MADE AT THE 1962 ANNUAL MEETING IS TO BE IDENTICAL TO THE FORMER TABLE 9, WILL EVENTUALLY BECOME A SUMMARY OF AND BE IDENTICAL IN HEADINGS TO TABLE 4. STATISTICS FORMS 1 (EUROPEAN MEMBER COUNTRIES) AND A COMBINATION OF STATISTICS FORMS 1 AND 2 (CANADA AND U. S. A.) ARE USED TO COMPILER TABLES 1, 2 AND 3 (OLD TABLES 1, 2, 3, 4, 5, 6 AND 7). STATISTICS 3 FORM, WHICH STEMS FROM THE EARLY DAYS OF THE COMMISSION, WAS ORIGINALLY USED TO PREPARE ADVANCED REPORTS ON FISHING EFFORT FOR THE ANNUAL MEETINGS. IN RECENT YEARS THESE FORMS HAVE BEEN MERELY KEPT ON FILE AT THE SECRETARIAT BUT A DECISION IS TO BE TAKEN AT THE THIRTEENTH ANNUAL MEETING CONCERNING THE CONTINUING OF THIS REQUEST AND ITS METHOD OF PUBLICATION OR ITS EVENTUAL ELIMINATION. IN ORDER TO ENSURE THE COLLECTION OF TOTAL CATCH STATISTICS, AND IN ANTICIPATION OF FUTURE TRENDS IN THE FISHERIES, IT IS CONSIDERED THAT DATA ON INDUSTRIAL FISH, SUCH AS FISH MEAL, ARE REQUIRED IN ADDITION TO DISCARD DATA, BY SPECIES AND DIVISION. SUCH STATISTICS SHOULD EVENTUALLY APPEAR IN THE STATISTICAL BULLETIN TO PROVIDE A COMPLETE RECORD OF CATCHES RATHER THAN OF LANDINGS ONLY. IT WAS, THEREFORE, RECOMMENDED AT THE TWELFTH ANNUAL MEETING THAT THE NEW FORM FOR REPORTING DISCARDS AND INDUSTRIAL FISH -- ICNAF STATISTICS 4 (APPENDED) -- SHOULD BE USED BY ALL MEMBER COUNTRIES DURING THE YEAR 1963 AND THAT THE RESULTS BE REVIEWED AT THE 1964 ANNUAL MEETING.

IN PREPARING THESE TABLES FOR PRINTING PURPOSES, DRAFT SHEETS ARE DRAWN UP IN THE SAME GENERAL OUTLINE AS THAT OF THE STATISTICAL BULLETIN AND AS RECOMMENDED BY THE COMMITTEE ON RESEARCH AND STATISTICS. AFTER THE STATISTICAL FORMS HAVE BEEN SORTED AND ARRANGED IN A PRACTICAL AND SYSTEMATIC ORDER THE DATA

IS TRANSCRIBED DIRECTLY TO THE DRAFT SHEETS. THESE DRAFT SHEETS, SET UP IN A MANNER APPROVED BY THE PRINTER, ARE USED DIRECTLY BY THE KEY-BOARD OPERATOR IN THE PRINTING PLANT. THIS ELIMINATES THE TYPING OPERATION AT THE SECRETARIAT LEVEL AS WELL AS A SECOND CHECKING OPERATION BY THE STATISTICIAN BEFORE THE TABLES GO TO THE PRINTER. THE ELEMENT OF ERROR HAS BEEN SOMEWHAT ALLEVIATED BY THE EVASION OF THIS PROCESS SINCE THESE DRAFT TABLES HAVE INITIALLY BEEN BALANCED AT VARIOUS STAGES OF THEIR PREPARATION AS WELL AS ONE WITH THE OTHER. THIS PREPARATION OF THE DRAFT TABLES BY THE SECRETARIAT MIGHT WELL BE CONSIDERED COMPARABLE WITH THAT OF THE PRIMARY STAGE OF THE ELECTRONIC DATA PROCESSING METHOD WHICH REQUIRED CODING OF THE STATISTICAL FORMS AND THE ULTIMATE PUNCHING ON IBM CARDS EXCEPT THAT THE DRAFT SHEETS CAN BE USED IMMEDIATELY TO ANSWER URGENT REQUESTS FROM THE ASSESSMENT GROUP OR MEMBER COUNTRIES WHEREAS BEFORE THE IBM PUNCHED CARDS CAN BE OF MUCH VALUE THEY REQUIRE FURTHER MECHANICAL PROCESSING -- FACILITIES FOR WHICH ARE NOT ALWAYS READILY AVAILABLE IN THE IMMEDIATE LOCALITY. THERE IS A FURTHER ADVANTAGE OF THIS MANUAL METHOD OF PREPARING THE STATISTICAL TABLES IN THAT THE STATISTICIAN HAS FIRST HAND KNOWLEDGE OF THE STATISTICS OF EACH SUBMISSION AND THROUGH HIS FAMILIARITY WITH EACH COUNTRY AS WELL AS THROUGH HIS COLLATION OF VARIOUS OPERATIONS BY VARIOUS COUNTRIES HE IS ABLE TO MAKE A BETTER ANALYSIS OF THE DATA WHICH ULTIMATELY RESULTS IN BETTER STATISTICAL DECISIONS. HE IS ALSO ABLE TO GIVE INFORMATION IN ADVANCE OF PRINTING. THE ECOLOGICAL ORDER OF CLASSIFICATION OF SPECIES ON THE ICNAF FORMS RENDERS ITSELF MORE CONDUCTIVE TO BETTER OPERATION THAN DOES THE TAXONOMIC ORDER OF CLASSIFICATION OF SPECIES ON THE FAO COMMON REPORTING FORM BECAUSE THE FORMER HAS BEEN DESIGNED TO CONFORM TO THE ORDER OF TABLE 4 TO BE USED IN THE STATISTICAL BULLETIN. EACH SPECIES OR SPECIES GROUP IS TRANSCRIBED INTACT FROM STATISTICAL FORM 1 TO THE DRAFT OF TABLE 4. AS THE TAXONOMIC ORDER DOES NOT FOLLOW SUIT FOR TABLE 4 THE PRINCIPAL SPECIES WOULD HAVE TO BE SELECTED FROM VARIOUS SECTIONS OF THE STATISTICAL FORM WITH THE RESIDUAL OF SPECIES BEING SUB-GROUPED (AGAIN FROM DIFFERENT SECTIONS OF THE FORM) IN ORDER TO OBTAIN THE REQUIRED SUB-TOTALS OUTLINED IN TABLE 4 NAMELY, FLOUNDER, OTHER GROUND FISH, OTHER PELAGIC FISH, AND OTHERS. THIS, FROM THE SECRETARIAT POINT OF VIEW, WOULD BE MOST TIME CONSUMING AND FURTHERMORE WOULD SUBJECT THE PRESENT MANUAL PROCEDURE TO A WIDER RANGE OF ERRORS RESULTING IN UNTIMELY RECHECKING WHICH WOULD DEFINITELY INCREASE THE PRESENT WORK-LOAD. THIS HAS ALREADY BEEN EXPERIENCED BY THE SECRETARIAT IN COMPILING THE CANADA (M) STATISTICS FOR THE 1960 STATISTICAL BULLETIN WHICH IN THAT INSTANCE WERE REPORTED ON THE STANA 1 AND 2 FORMS. THE STANA FORMS SUBMITTED IN THE SAME EXPERIMENT BY ICELAND AND U. K. (INVOLVING ONLY 12-13 DIFFERENT SPECIES) DID NOT PRESENT AS GREAT A DETERRENT AS THOSE OF CANADA (M) WITH ITS 39 DIFFERENT SPECIES BUT WERE STILL SUBJECT TO THE SAME ELEMENT OF ERROR. IT SHOULD BE NOTED THAT THE COMPILING OF TABLE 4 ENTAILS THE MAJOR PREPARATION OF THE STATISTICAL BULLETIN AND THE TABLE COVERS APPROXIMATELY 50% OF ITS PRINTED PAGES. IT SHOULD WHEN CONSIDERING CANADA'S VIEWPOINT AT THE 1962 ANNUAL MEETING CONCERNING THE INTRODUCTION OF THE FAO SPECIES ORDER BE NOTED THAT OF THE 528 STATISTICAL FORMS 1 WHICH WERE RECEIVED AT THE SECRETARIAT FOR 1960, 234 (OR 44%) WERE SUBMITTED BY CANADA AND 41 (OR 7%) WERE SUBMITTED BY U. S. A. ACCOUNTING FOR OVER 50% OF STATISTICAL FORMS 1; AND OF THE 73 DIFFERENT SPECIES WHICH WERE REPORTED UPON IN THE STATISTICAL BULLETIN THESE TWO SUBMISSIONS TOOK INTO ACCOUNT 43 AND 65 DIFFERENT SPECIES (RESPECTIVELY). UNDER THE COMMON REPORTING METHOD, USING A TAXONOMIC ORDER OF SPECIES, IT WILL BE THE DUTY OF THE SECRETARIAT TO CONVERT THESE DATA TO AN ECOLOGICAL ORDER BEFORE THEY CAN BE TRANSCRIBED TO TABLE 4. IN TABLE 8 OF THE 1960 STATISTICAL BULLETIN THERE WERE 2521 LINE ITEMS OF WHICH CANADA ACCOUNTED FOR 1298 AND U. S. A. 333, A TOTAL OF 1631, OR 65% OF THE TOTAL LINE ITEMS. FIGURES INDICATE THAT CANADA'S SUBMISSION HAS INCREASED SOMEWHAT MORE IN 1961 (SEE TABLE APPENDED). WHILE CONSIDERING TABLE 4, WE, HOWEVER, SHOULD NOT OVERLOOK THE ECOLOGICAL ORDER OF TABLE 5. EVEN THOUGH IT MAY NOT HAVE AS MANY GROUPINGS AS TABLE 4 -- HERRING AND OTHER PELAGIC FISH ARE EXCLUDED -- THERE IS NEVERTHELESS AN IMMEDIATE TREND OF THINKING ON THE PART OF SOME SCIENTISTS AT LEAST, THAT THIS TABLE 5 SHOULD BE A SUMMARY OF TABLE 4. (THIS TOPIC IS EARMARKED FOR DISCUSSION AT THE 13TH ANNUAL MEETING.) THE TAXONOMIC ORDER OF SPECIES SHOULD NOT HAVE TOO MUCH EFFECT ON THE COMPILATION OF TABLES 1, 2 AND 3. IT WOULD INVOLVE, HOWEVER, THE REARRANGING OF THE SPECIES IN ORDER THAT THEY WOULD CONFORM WITH THE PRESENT ECOLOGICAL ORDER PRESENTED IN THESE TABLES.

IF THE TAXONOMIC ORDER OF SPECIES WERE INTRODUCED THROUGHOUT THE STATISTICAL BULLETIN IT WOULD IN ESSENCE EFFECT MAINLY TABLES 1 AND 3. TABLES 2, 4, AND 5 WOULD REQUIRE THAT HALIBUT AND FLOUNDER PRECEDE COD AND HADDOCK WITH THESE LATTER TO BE FOLLOWED BY HERRING AND REDFISH. OTHER GROUND FISH, OTHER PELAGIC FISH, OTHERS, AND TOTAL WOULD FOLLOW THESE HEADINGS IN THE CASE OF TABLES 4 AND 5 WHILE IN TABLE 2 THE AFOREMENTIONED HEADINGS WOULD BE PRECEDED BY TOTAL AND FOLLOWED BY OTHERS WITH OTHER PELAGIC FISH OMITTED. APART FROM THE FACT THAT THIS WOULD NOT BE IN CONFORMITY WITH THE ORIGINAL ARRANGEMENT AGREED BY THE COMMISSION AS THE MOST SUITABLE OF OUR STATISTICS IT WOULD CAUSE SOME INCONVENIENCES TO THE USER WHEN THE COMPARISONS OF DATA ARE BEING MADE WITH PREVIOUS STATISTICAL BULLETINS PRESENTED IN THE ECOLOGICAL ORDER.

COUNTRY	1960						1961			
	No. of Forms Submitted (1)			No. of Species Reported (2)	No. of Line Items in Statistical Table 4 (Old Table 8)	No. of Forms Submitted (1)			No. of Species Reported (2)	No. of Line Items in Statistical Table 4 (Old Table 8)
	STAT. 1	STAT. 2	STAT. 3			STAT. 1	STAT. 2	STAT. 3		
CANADA (M. & Q.)	160(3)	15(4)	2	39(5)	986(6)	285	55(7)	4	42(5)	
CANADA (H)	74	-	1	22(5)	312(6)	63	15	1	21(5)	
DENMARK (F)	13	-	-	5		11	-	-	8	
DENMARK (G)	-	6	-	6		7	-	-	5	
FRANCE (H)	32	9	1	2		20	18	1	5	
FRANCE (ST. P. ET M.)	13	13	-	8		8	5	1	10	
GERMANY	26	-	1	10		23	-	1	12	
GERMANY (E)	13	-	1	4		-	-	-	7	
ICELAND	9(3)	-	-	13		10(8)	-	-	5	
ITALY	12	-	-	4		2	2	1	4	
NORWAY	23	-	1	3		36	-	1	4	
POLAND	2	-	1	4		3	3	1	4	
PORTUGAL	47	-	1	1		48	-	1	1	
SPAIN	28	-	1	4		31	-	1	4	
U. S. S. R.	16	-	1	5		21	14	1	6	
U. K.	19(3)	19	1	12		20	-	1	9	
U. S. A.	41	77(9)	1	65		39	53(10)	2	66	
TOTAL	528	139(9)	13	73		627	165(11)	16	70	

- (1) ALL COUNTRIES, WITH THE EXCEPTION OF CANADA (M. & Q.) AND U. S. A., COULD EASILY HAVE REPORTED THEIR DATA ON STAT. 1 FORMS.
- (2) "SPECIES NOT STATED" IS NOT INCLUDED. FOR EUROPEAN COUNTRIES WHICH REPORT "FLOUNDER" THIS HAS BEEN COUNTED AS ONE SPECIES.
- (3) CANADA (H), ICELAND AND U. K. REPORTED ON STANA 1H FOR THE YEAR 1960. THE U. K. ALSO REPORTED ON STAT. 1.
- (4) CANADA (H) REPORTED ON STANA 2; ICELAND DID NOT USE EITHER STANA 2 OR STAT. 2; U. K. USED STAT. 2.
- (5) COMBINED TOTAL FOR CANADA (M. & Q.) AND CANADA (H) WAS 43 SPECIES IN 1960 AND 45 SPECIES IN 1961.
- (6) COMBINED TOTAL FOR CANADA (M. & Q.) AND CANADA (H) IS 1298 OR OVER ONE-HALF OF THE 2521 LINE ITEMS IN TABLE 4 (OLD TABLE 8). U. S. A. ACCOUNTS FOR 333 LINE ITEMS. ALL OTHER SUBMISSIONS ACCOUNTED FOR THE REMAINING 890 LINE ITEMS.
- (7) THIS INCLUDES 41 FORMS STAT. 2 FOR INSHORE FISHERIES WHICH POSSIBLY SHOULD HAVE BEEN REPORTED ON STAT. 1 FORMS.
- (8) ICELAND REPORTED ON STANA 1H FOR THE YEAR 1961.
- (9) THIS INCLUDES 23 FORMS STAT. 2 FOR "INSHORE FISHERIES" WHICH POSSIBLY SHOULD HAVE BEEN REPORTED ON STAT. 1 FORMS.
- (10) THIS INCLUDES 25 FORMS STAT. 2 FOR "INSHORE FISHERIES" WHICH POSSIBLY SHOULD HAVE BEEN REPORTED ON STAT. 1 FORMS.
- (11) THIS INCLUDES 66 FORMS STAT. 2 FOR "INSHORE FISHERIES" WHICH POSSIBLY SHOULD HAVE BEEN REPORTED ON STAT. 1 FORMS.

STATISTICS ON LANDINGS

COUNTRY	YEAR	DIVISION	VESSEL OR GEAR TYPE	TONNAGE CLASS					MAIN SPECIES SOUGHT					TOTAL			
				AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	HOT KNOWN								
EFFORT																	
1																	
2																	
3																	
LANDINGS																	
4																	
5																	
6																	
7																	
8																	
9																	
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ICNAF STATISTICS I FORM 15 USED TO COMPILE TABLE 4 IN THE STATISTICAL BULLETIN. TABLES 2 AND 5 ARE DERIVED FROM TABLE 4.

INSTRUCTIONS FOR COMPLETING ICNAF STATISTICS 1 FORM

1. ICNAF STATISTICS 1 FORM SHOULD BE COMPLETED FOR EACH TYPE AND SIZE OF VESSEL AND GEAR USED, FOR EACH DIVISION FISHED AND FOR EACH MAIN SPECIES SOUGHT.
2. LANDINGS SHOULD BE REPORTED IN METRIC TONS ROUND FRESH WEIGHT, TO THE NEAREST TON, AND A LIST OF THE CONVERSION FACTORS USED SHOULD BE ATTACHED.
3. IN THE SPACE PROVIDED AT THE TOP OF EACH FORM SUBMITTED YOU ARE REQUIRED TO STATE THE COUNTRY, YEAR, DIVISION, VESSEL OR GEAR TYPE, TONNAGE CLASS, AND MAIN SPECIES SOUGHT.
4. THE ABOVE ITEMS SHOULD BE COMPLETED AS FOLLOWS:

VESSEL OR GEAR TYPE: IDENTIFIED BY GEAR USED. SELECT FROM THE FOLLOWING LIST.

- | | |
|---------------------------|--|
| 1) OTTER TRAWL | 9) FIXED GEAR (WEIRS, TRAPS, POTS, ETC.) |
| 2) PAIR TRAWL | 10) LONG LINE |
| 3) BEAM TRAWL | 11) HAND LINE |
| 4) DANISH SEINE | 12) OTHER LINE |
| 5) RING NET (PURSE SEINE) | 13) DORY VESSEL |
| 6) BEACH SEINE | 14) DREDGE (SCALLOP, OYSTER) |
| 7) DRIFT GILL NET | 15) HARPOON |
| 8) BOTTOM GILL NET | 16) OTHERS (SPECIFY) |

TONNAGE CLASS: THE STANDARD ICNAF CLASSIFICATION IS 0-50, 51-150, 151-500, 501-900, 901-1800, 1801 - GROSS TONS.

MAIN SPECIES SOUGHT: THIS IS DEFINED AS THE SPECIES TOWARDS WHICH THE FISHING EFFORT WAS MAINLY DIRECTED, AS DETERMINED BY THE MANNER OR METHOD OF FISHING. IN MANY CASES THIS IS ONE SPECIES, E.G. COD OR REDFISH. THE WORD "MIXED" SHOULD BE INSERTED WHEN TWO OR MORE SPECIES ARE SOUGHT. THE WORD "UNKNOWN" SHOULD BE INSERTED WHEN THE MAIN SPECIES CANNOT BE DETERMINED.

5. EFFORT:
 - (A) INFORMATION SHOULD, WHEREVER POSSIBLE, BE GIVEN FOR "NUMBER OF DAYS FISHED", DEFINED AS THE NUMBER OF DAYS (24 HOUR PERIODS) ON WHICH ANY FISHING TOOK PLACE. ONLY WHERE SUCH INFORMATION IS NOT AVAILABLE SHOULD COUNTRIES REPORT INSTEAD THE "NUMBER OF DAYS ON GROUNDS".
 - (B) INFORMATION SHOULD, WHEREVER POSSIBLE, BE GIVEN FOR "NUMBER OF HOURS/HOOKS(1000)"; HOURS FISHED FOR OTTER TRAWLERS REPRESENT THE TOTAL NUMBER OF HOURS DURING WHICH THE TRAWL WAS ON BOTTOM AND FISHING (IF COUNTRIES ARE UNABLE TO REPORT SO PRECISELY THEY SHOULD GIVE THE NEAREST APPROXIMATION, WITH THE PRECISE DEFINITION OF THE APPROXIMATION USED); HOURS FISHED FOR DORY VESSELS IS THE PRODUCT "NUMBER OF HOURS THE DORY FLEET IS ABSENT FROM THE MOTHER VESSEL TIMES THE NUMBER OF DORIES"; THOUSANDS OF HOOKS IS THE NUMBER OF HOOKS FISHED CALCULATED TO THE NEAREST THOUSAND (THIS FIGURE SHOULD REFLECT THE PRODUCT..... "THE NUMBER OF SETS TIMES THE NUMBER OF HOOKS USED IN EACH SET"). ONLY WHERE SUCH INFORMATION IS NOT AVAILABLE SHOULD COUNTRIES REPORT INSTEAD THE "NUMBER OF DRAGS/SETS".
 - (C) THE ITEM ON LINE 3, "PERCENT ESTIMATED", CAN BE USED TO INDICATE TO WHAT EXTENT THE EFFORT DATA HAVE BEEN ESTIMATED.
6. THE SPACE PROVIDED IN LINES 14 TO 31 IS FOR REPORTING THE LANDINGS OF FLOUNDER, OTHER GROUND FISH, OTHER PELAGIC FISH AND OTHERS BY SPECIES, BY THOSE COUNTRIES NOT REQUIRED TO USE ICNAF STATISTICS 2 FORM.

ICN F STATISTICS 2
STATISTICS ON SPECIES BREAK-DOWN

LANDINGS IN METRIC TONS ROUND FRESH

COUNTRY	YEAR	DIVISION			VESSEL OR GEAR TYPE			TONNAGE CLASS			MAIN SPECIES SOUGHT			TOTAL							
		JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER		NOT KNOWN						
1																					
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ICNAF STATISTICS 2 FORM 15 USED TO COMPILE TABLES 1 AND 3 IN THE STATISTICAL BULLETIN.

INSTRUCTIONS FOR COMPLETING ICNAF STATISTICS 2 FORM

1. ICNAF STATISTICS 2 FORM SHOULD BE USED TO GIVE THE LANDINGS OF FLOUNDER, OTHER GROUND FISH, OTHER PELAGIC FISH AND OTHERS BY SPECIES. THE ORDER OF SPECIES SHOULD FOLLOW, AS MUCH AS POSSIBLE, THE SEQUENCE IN WHICH THEY ARE GIVEN IN TABLE 7 OF THE STATISTICAL BULLETIN. THIS FORM SHOULD BE COMPLETED WHENEVER LANDINGS OF THESE GROUPS ARE REPORTED ON ICNAF STATISTICS 1 FORM (BUT ONLY WHEN NOT GIVEN IN LINES 14 TO 31). THE CLASSIFICATION OF COUNTRY, YEAR, DIVISION, VESSEL OR GEAR TYPE, TONNAGE CLASS AND MAIN SPECIES SOUGHT WILL BE THE SAME AS ON THE STATISTICS 1 FORM.
2. LANDINGS SHOULD BE REPORTED IN METRIC TONS ROUND FRESH WEIGHT, TO THE NEAREST TON, AND A LIST OF THE CONVERSION FACTORS USED SHOULD BE ATTACHED.
3. ICNAF STATISTICS 2 FORM SHOULD NOT BE USED TO REPORT THOSE SPECIES ALREADY SHOWN ON ICNAF STATISTICS 1 FORM, NAMELY, COD, HADDOCK, REDFISH, HALIBUT AND HERRING.
4. COUNTRIES WHICH MAINTAIN THEIR INSHORE FISHERIES SEPARATELY SHOULD REPORT THESE LANDINGS IN ADDITION TO THEIR OFFSHORE FISHERIES ALONG WITH THE EFFORT DATA, IF AVAILABLE. THESE INSHORE FISHERIES SHOULD BE REPORTED BY SPECIES ON EITHER ICNAF STATISTICS 1 OR 2 FORMS WITH THE WORDS "INSHORE FISHERIES" WRITTEN IN THE BLANK SPACE PROVIDED IN THE UPPER RIGHT-HAND CORNER OF THE FORM. THE INFORMATION FOR THE "VESSEL OR GEAR TYPE" COLUMN COULD BE SELECTED FROM THE LIST GIVEN IN ITEM 4 OF THE INSTRUCTIONS ON THE ICNAF STATISTICS 1 FORM.

INTERNATIONAL COMMISSION FOR



THE NORTHWEST ATLANTIC FISHERIES

ICNAF STATISTICS 3

STATISTICS ON FISHING EFFORT

COUNTRY _____

YEAR _____

VESSEL CATEGORY	TONNAGE CLASS		SUBAREA	SUBAREA	SUBAREA	SUBAREA	SUBAREA	TOTAL
			1	2	3	4	5	
1		No. of VESSELS						
		AVERAGE GROSS TONNAGE						
		No. of TRIPS						
		No. of DAYS ABSENT						
2		No. of VESSELS						
		AVERAGE GROSS TONNAGE						
		No. of TRIPS						
		No. of DAYS ABSENT						
3		No. of VESSELS						
		AVERAGE GROSS TONNAGE						
		No. of TRIPS						
		No. of DAYS ABSENT						
4		No. of VESSELS						
		AVERAGE GROSS TONNAGE						
		No. of TRIPS						
		No. of DAYS ABSENT						
5		No. of VESSELS						
		AVERAGE GROSS TONNAGE						
		No. of TRIPS						
		No. of DAYS ABSENT						
6		No. of VESSELS						
		AVERAGE GROSS TONNAGE						
		No. of TRIPS						
		No. of DAYS ABSENT						
7		No. of VESSELS						
		AVERAGE GROSS TONNAGE						
		No. of TRIPS						
		No. of DAYS ABSENT						
8		No. of VESSELS						
		AVERAGE GROSS TONNAGE						
		No. of TRIPS						
		No. of DAYS ABSENT						
9		No. of VESSELS						
		AVERAGE GROSS TONNAGE						
		No. of TRIPS						
		No. of DAYS ABSENT						
10		No. of VESSELS						
		AVERAGE GROSS TONNAGE						
		No. of TRIPS						
		No. of DAYS ABSENT						

INDICATE THE METHOD USED TO CALCULATE THE AVERAGE FOR "AVERAGE GROSS TONNAGE".
 (STRAIGHT AVERAGE OR WEIGHTED AVERAGE).....

INSTRUCTIONS FOR COMPLETING ICNAF STATISTICS 3 FORM

"THAT THE PARTICIPATING GOVERNMENTS BE REQUESTED TO REPORT IN SUMMARY FORM INFORMATION ON THE NUMBER OF VESSELS OF VARIOUS TYPES AND SIZES FISHING IN THE CONVENTION AREA DURING EACH YEAR."
1953 (3RD ANNUAL MEETING)

"THE SUBCOMMITTEE NOTED THE USEFULNESS OF "SUMMARY STATISTICS FORM 3" FOR INTERPRETATION OF ICNAF STATISTICS. THOSE COUNTRIES NOT REPORTING ON THIS FORM ARE URGED TO DO SO."
1962 (12TH ANNUAL MEETING)

1. THIS FORM IS TO PROVIDE THE DATA REQUESTED IN THE RECOMMENDATIONS QUOTED ABOVE AND AT THE SAME TIME TO PROVIDE DATA ON NUMBER OF TRIPS AND DAYS ABSENT.
2. THE CLASSIFICATION OF VESSELS SHOULD CORRESPOND EXACTLY TO THE CLASSIFICATION USED IN REPORTING THE DETAILED STATISTICS IN FORM 1.
3. BECAUSE THE SAME VESSEL MAY FISH IN MORE THAN ONE SUBAREA, THE TOTAL NUMBER OF VESSELS FISHING IN THE CONVENTION AREA WILL NOT NECESSARILY BE THE TOTAL OF THE NUMBER OF VESSELS FISHING IN EACH SEPARATE SUBAREA. WHEN A TRIP IS SPENT PARTLY IN ONE SUBAREA AND PARTLY IN ANOTHER, AN APPROPRIATE FRACTION SHOULD BE ALLOCATED TO EACH SUBAREA, IN PROPORTION TO THE DAYS FISHED IN EACH SUBAREA, TO THE EFFECT THAT THE TOTAL NUMBER OF TRIPS AND OF DAYS ABSENT FOR THE CONVENTION AREA WILL BE THE TOTAL OF THE NUMBERS IN EACH SEPARATE SUBAREA.
4. "AVERAGE GROSS TONNAGE" REPRESENTS GROSS REGISTERED TONS; AVERAGES SHOULD BE GIVEN EITHER AS STRAIGHT (UNWEIGHTED) AVERAGES OR AS WEIGHTED AVERAGES, WITH COUNTRIES SPECIFYING WHICH MEASURE HAS BEEN TAKEN (THE WEIGHTING OF AVERAGES IS TO BE PERFORMED ON THE BASIS OF "NUMBER OF TRIPS").

I C N A F S T A T I S T I C S 4
 S T A T I S T I C S O N D I S C A R D S A N D I N D U S T R I A L F I S H

METRIC TONS ROUND FRESH

COUNTRY	VESSEL OR GEAR TYPE	DIVISION	YEAR	MONTH	TONNAGE CLASS	TOTAL NUMBER OF TRIPS TO THIS DIVISION ACCORDING TO ANNUAL STATISTICS					
						DISCARDED FISH		TOTAL WEIGHT		PERCENT	
SPECIES DISCARDED	METHOD OF HANDLING FISH ON BOARD	LANDINGS FOR WHICH DISCARDS HAVE BEEN RECORDED IN THE DIVISION	TOTAL LANDINGS IN THIS DIVISION ACCORDING TO ANNUAL STATISTICS	PERCENT		TOTAL WEIGHT		PERCENT		TOTAL WEIGHT	
				RECORDED	CALCULATED	RECORDED	CALCULATED	RECORDED	CALCULATED	RECORDED	CALCULATED
CGO											
HADDOCK											
REDFISH											
HALIBUT											
FLOUNDERS (SPECIFY)											
OTHERS (SPECIFY)											

RECORDING SYSTEM:

INSTRUCTIONS FOR COMPLETING ICNAF STATISTICS 4 FORM

1. ICNAF STATISTICS 4 FORM SHOULD, SO FAR AS POSSIBLE, BE COMPLETED FOR EACH TYPE AND SIZE OF VESSEL AND GEAR USED, FOR EACH DIVISION FISHED AND FOR EACH MONTH.
2. LANDINGS AND TOTAL WEIGHTS (BOTH RECORDED AND CALCULATED) SHOULD BE REPORTED IN METRIC TONS ROUND FRESH, TO THE NEAREST TON, AND A LIST OF CONVERSION FACTORS SHOULD BE ATTACHED.
3. IN THE SPACE PROVIDED AT THE TOP OF EACH FORM SUBMITTED YOU ARE REQUIRED TO STATE THE COUNTRY, DIVISION, YEAR, MONTH, VESSEL OR GEAR TYPE AND TONNAGE CLASS. YOU SHOULD ALSO INCLUDE UNDER "VESSEL OR GEAR TYPE" ANY SPECIAL EQUIPMENT SUCH AS FISHMEAL PLANTS, ETC.
4. "NUMBER OF TRIPS FOR WHICH DISCARDS HAVE BEEN RECORDED IN THE DIVISION" AND "TOTAL NUMBER OF TRIPS TO THIS DIVISION ACCORDING TO ANNUAL STATISTICS" SHOULD BE REPORTED BY MONTHS IF POSSIBLE, OTHERWISE AS TOTALS FOR THE YEAR.
5. "SPECIES DISCARDED" - SPECIES OF INTEREST OTHER THAN THE MAJOR SPECIES LISTED, SHOULD BE SPECIFIED UNDER "OTHERS".
6. "METHOD OF HANDLING FISH ON BOARD" - STATE WHETHER FISH IS STORED ON ICE, FILLETED, DEEP FROZEN, SALTED, ETC.
7. "MAXIMUM SIZE OF FISH NOT RETAINED FOR HUMAN CONSUMPTION" SHOULD BE OBTAINED EITHER BY SAMPLE MEASUREMENTS OR BY INQUIRY FROM SKIPPER AND REPORTED IN CENTIMETRES. SAMPLING FOR SIZES OF DISCARDS IS THE REAL NEED HERE.
8. "LANDINGS FOR WHICH DISCARDS HAVE BEEN RECORDED IN THE DIVISION" REPRESENTS THAT PART OF THE LANDINGS WHICH HAVE ACTUALLY BEEN SAMPLED FROM THE PARTICULAR VESSEL OR GEAR TYPE AND TONNAGE CLASS. "TOTAL LANDINGS IN THIS DIVISION ACCORDING TO ANNUAL STATISTICS" IS THAT WHICH HAVE BEEN ACTUALLY LANDED BY THE PARTICULAR VESSEL OR GEAR TYPE AND TONNAGE CLASS IN WHICH THE SAMPLING TOOK PLACE.
9. "DISCARDED FISH" AND "WHOLE FISH TURNED INTO INDUSTRIAL USE". THE QUANTITY OF FISH NOT LANDED FOR HUMAN CONSUMPTION SHOULD BE GIVEN BOTH BY WEIGHT (METRIC TONS ROUND FRESH) AND AS A PERCENTAGE (BY WEIGHT) OF THE TOTAL CATCH OF THAT SPECIES. "DISCARDED FISH" INCLUDES ALL FISH THROWN BACK INTO THE SEA OR USED AS BAIT IN THE LINE-FISHERIES. "INDUSTRIAL FISH" IS THAT PART OF THE CATCH CONVERTED INTO FISHMEAL, ANIMAL FOOD AND FISH FLOUR, ETC. THUS THE QUANTITIES OF "DISCARDED FISH" AND "INDUSTRIAL FISH" SHOULD TOGETHER CONSTITUTE THE WHOLE OF THE CATCH WHICH IS NOT AT PRESENT REPORTED IN THE STATISTICS OF LANDINGS.

THE COLUMNS "DISCARDED FISH" AND "WHOLE FISH TURNED INTO INDUSTRIAL USE" ARE FURTHER SUBDIVIDED INTO THAT PART OF THE "BY-CATCH" OF WHICH THE QUANTITY EITHER DISCARDED OR USED FOR INDUSTRIAL PURPOSES IS DIRECTLY RECORDED, AND THE TOTAL OF SUCH CATEGORIES AS MAY BE ESTIMATED (CALCULATED) BY RAISING FROM THE RECORDED QUANTITIES, IF THE LATTER IS BASED ON SAMPLES ONLY.

IT SHOULD BE NOTED THAT THE COLUMN "TOTAL LANDINGS IN THIS DIVISION ACCORDING TO ANNUAL STATISTICS" PLUS THE COLUMNS "TOTAL WEIGHT CALCULATED FOR DISCARDED FISH" AND/OR "TOTAL WEIGHT CALCULATED FOR WHOLE FISH TURNED INTO INDUSTRIAL USE" SHOULD EQUAL THE ACTUAL CATCH FOR THE DIVISION.
10. UNDER THE HEADING "RECORDING SYSTEM" SHOULD BE ENTERED A BRIEF DESCRIPTION OF HOW THE DATA ON DISCARDED AND/OR INDUSTRIAL FISH HAVE BEEN OBTAINED, I.E., WHETHER BY "OBSERVERS ON BOARD", OR "LOG BOOKS", ETC.