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Summary of Information on Discards and Industrial Fish
(ICNAF Statistics Form 4)
for the year 1970

by the Assistant Executive Secretary

Discards

Table 1 is a summary of information on quantities of fish discarded at sea by otter trawlers from data submitted by Canada (M), Canada (N), France (M), Germany (FR), Portugal, Spain and USA on Statistics Form 4 (UK and Denmark reported that no data were available), and these data are compared with nominal catch statistics of finfish for the particular "main species" and "gear and tonnage class" groupings of Table 5 in ICNAF Statistical Bulletin Vol. 20 for the year 1970. It is thus assumed that the discard data reported on Statistics Form 4 pertain to the nominal catch data reported on Statlant 21B.

Germany (FR) reported discards by principal species and a "mixed" category, France (M) reported discards for cod and redfish, Portugal for cod and "others", Spain for cod, haddock and "others", and Japan for mackerel. Canada, in reporting discard information for certain "main species" and "gear and tonnage class" groupings only, listed discards for some commercial species, and, while it is normal practice to discard all or nearly all of such species as silver hake, argentines, sculpins, lumpfish, sea robins, anglers, ellpouts, skates, etc., no indication of the quantities of these species discarded was given.

The available data for the ICNAF Statistical Area indicate that discards of cod, haddock and redfish were small (1-2%), whereas discards of flounders and "others" were 9% and 10% respectively, the former mostly yellowtails in Subarea 5 and the latter (species unknown) mostly in Subareas 1-3 by the cod-fishing fleets.

Industrial Fish

Table 2 is a summary of information on quantities of fish converted to fish meal at sea by otter trawlers from data submitted by Germany (FR), Portugal, Poland and USSR on Statistics Form 4, and these data are shown in relation to nominal catch statistics of finfish for 1970.

Germany (FR) reported industrial fish by principal species and a "mixed" category, Portugal for cod and "others", Poland for a "mixed" category with herring as the principal species used for fish meal, and USSR by species for all vessels combined. Nearly all of the USSR data of fish converted into fish meal consisted of species in the "Other Fish" and "Other Groundfish" groups and of unsorted fish.

For the ICNAF Statistical Area the available data indicate that negligible quantities of cod, haddock, redfish and flounders were converted to fish meal at sea, but that 16% of "other" fish, mostly in Subareas 4, 5 and 6, were classed as industrial.

From Table 2 it is noted that Germany (FR) and Portugal reported, under "others", quantities of industrial fish which exceed the nominal catches, and these are indicated by the percentage "100+". Notes for the completion of Statlant 21A and 21B Forms indicate that quantities of fish converted to fish meal should be included in the nominal catch. Such does not appear to be the case in Subareas 1, 2 and 3,

where industrial fish catches exceed nominal catches. The question then arises as to whether or not the quantities shown under "Industrial Fish" for cod and redfish are included in the Nominal Catches of those species.

Abbreviations and Symbols used in the Tables

Species:	Red	= redfish
	Flo	= flounders
	Her	= herring
	Mix	= mixed
	Mac	= mackerel
	SH	= silver hake
	OF	= other fish
Gear:	OT	= otter trawl
	OTSI	= otter trawl, side
	OTST	= otter trawl, stern
	PT	= pair trawl
Tonnage Class:	7	= over 1800
	6	= 901-1800
	5	= 501-900
	4	= 151-500
	3	= 51-150
	2	= 0-50
Country:	Can(M)	= Canada (Maritimes and Quebec)
	Can(N)	= Canada (Newfoundland)
	Fr(M)	= France (Metropolitan)
	Ger(FR)	= Germany, Federal Republic
	Port	= Portugal
	USSR	= Union of Socialist Soviet Republics
Source of Information:	USA	= United States of America
	Log	= logbook
	Int	= port interview
	Cap	= captains' reports
Symbols:	-	= magnitude indicated to be less than one-half the unit used
	?	= quantities discarded or turned into fish meal might be included in quantities shown under "others"

Note: The nominal catches given under "Others" in Tables 1 and 2 included all "finfish" species except cod, haddock, redfish and flounders.

Table 1. Summary of information on quantities of fish (metric tons) discarded at sea in relation to nominal catch for the year 1970.

Sub-area	Main Species	Country	Gear and Tonnage Class	COD			HADDOCK			REDFISH			FLOUNDERS			OTHERS				Source of Information	Sampling Rate (%)
				Nominal Catch	Dis-cards	Rate (%)	Nominal Catch	Dis-cards	Rate (%)	Nominal Catch	Dis-cards	Rate (%)	Nominal Catch	Dis-cards	Rate (%)	Nominal Catch	Dis-cards	Rate (%)	Prin. Species		
1	Cod	Fr(M)	OTSI 6	3238	31	1	-	-	-	-	13	100	-	-	-	10	?	?	Mix	Cap	100
	"	"	OTST 6	1502	-	-	-	-	-	-	1	100	-	-	-	-	-	-	-	Cap	100
	"	Ger(FR)	OTST 5-7	40667	30	1	-	-	-	3592	-	-	13	-	-	245	26	10	Mix	Cap	100
	"	Port	OTSI 6	801	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Log	100
	"	"	OTST 7	2677	46	2	-	-	-	-	-	-	-	-	-	-	-	-	-	Log	100
	"	Spain	OT 6	1303	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Log	86
	"	"	PT 4	17499	36	-	5	1	17	-	-	-	-	-	-	-	-	-	-	Log	80
	Total Reported			67687	144	-	5	1	17	3592	14	-	13	-	-	255	386	60		Log	
	Total All Countries			111443			6			4101			1802			14898					
2	Cod	Fr(M)	OTSI 6	8726	264	3	-	-	-	-	36	100	-	-	-	6	?	?	Mix	Cap	100
	"	"	OTST 6	7084	21	-	-	-	-	-	13	100	-	-	-	6	?	?	Mix	Cap	100
	"	Ger(FR)	OTST 6-7	50007	634	1	-	-	-	408	83	17	13	-	-	92	223	71	Mix	Cap	100
	"	Port	OTSI 6	25024	930	4	-	-	-	-	-	-	-	-	-	-	-	-	-	Log	100
	"	"	OTST 7	16989	198	1	-	-	-	-	-	-	-	-	-	-	-	-	-	Log	100
	"	Spain	OT 6	10469	53	1	-	-	-	-	-	-	-	-	-	-	-	-	-	Log	86
	"	"	PT 4	214	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Log	80
	Total Reported			118513	2100	2	-	-	-	408	132	24	13	-	-	104	1323	93			
	Total All Countries			216569			2			6960			11870			3481					
3	Cod	Can(N)	OTSI 4	1381	-	-	56	-	-	104	-	-	1154	-	-	28	-	-	Mix	Log	9
	"	"	OTST 5	8341	-	-	454	-	-	26	-	-	3480	200	6	170	-	-	Mix	Log	2
	"	Fr(M)	OTSI 6	9075	96	1	-	-	-	-	406	100	-	-	-	132	?	?	Cap	Cap	100
	"	"	OTST 7	2795	-	-	-	-	-	-	23	100	-	-	-	18	?	?	Mix	Cap	100
	"	Ger(FR)	OTST 6-7	11856	-	-	-	-	-	31	35	53	-	-	-	8	15	65	Mix	Cap	100
	"	Port	OTSI 6	57983	1934	3	-	-	-	-	-	-	-	-	-	-	2037	100	Mix	Log	100
	"	"	OTST 7	7554	67	1	-	-	-	-	-	-	-	-	-	-	56	100	Mix	Log	100
	"	Spain	OT 6	18091	43	-	18	-	-	-	-	-	-	-	-	387	1128	74	Mix	Log	86
	"	"	PT 4	146447	720	-	3093	103	3	-	-	-	-	-	-	497	3167	86	Mix	Log	80
	Red	Can(N)	OTSI 3	21	-	-	16	-	-	357	10	3	10	-	-	-	-	-	Mix	Log	100
	"	"	OTSI 4	571	-	-	87	-	-	8380	-	-	191	-	-	58	-	-	Mix	Log	14
	Flo	Can(M)	OT 4	870	?	-	16	-	-	115	-	-	7953	230	3	125	?	?	Mix	Log	2
	"	Can(N)	OTSI 4	986	-	-	16	-	-	46	-	-	7259	-	-	25	-	-	Mix	Log	17
	"	"	OTST 5	8542	-	-	284	-	-	157	-	-	61368	983	2	889	-	-	Mix	Log	2
	Mix	Japan	OT 7	50	-	-	6	-	-	2586	-	-	3	-	-	835	67	7	Mac	Cap	100
	Total Reported			274563	2860	1	4030	103	2	11802	474	4	81418	1413	2	3172	6528	67			
	Total All Countries			528457			7117			78201			162215			181011					

Table 1. Continued

Sub- area	Main Species	Country	Gear and Tonnage Class	COD			HADDOCK			REDFISH			FLOUNDERS			OTHERS				Source of Infor- mation	Sam- pling Rate (%)
				Nominal Catch	Dis- cards	Rate (%)	Nominal Catch	Dis- cards	Rate (%)	Nominal Catch	Dis- cards	Rate (%)	Nominal Catch	Dis- cards	Rate (%)	Nominal Catch	Dis- cards	Rate (%)	Prin. Species		
4	Cod	Can(M)	OT 2	9782	412	4	258	?	?	222	?	?	1417	1	-	362	?	?	Mix	Log	4
	"	"	OT 3	6980	473	6	333	?	?	599	?	?	1759	?	?	336	?	?	Mix	Log	8
	"	"	OT 4	13440	1192	8	1059	?	?	816	?	?	1835	?	?	923	?	?	Mix	Log	13
	"	Can(N)	OTSI 4	7448	-	-	126	-	-	693	-	-	657	-	-	81	-	-	Mix	Log	17
	"	"	OTSI 5	2636	-	-	23	-	-	62	-	-	120	1	1	9	-	-	Mix	Log	70
	"	Fr(M)	OTSI 6	30294	696	2	-	?	?	-	207	100	13	-	-	65	?	?	Mix	Cap	100
	"	"	OTST 6	3414	3	-	-	?	?	-	?	?	-	?	?	7	?	?	Mix	Cap	100
	"	Port	OTSI 6	18582	328	2	-	?	?	-	?	?	-	?	?	-	255	?	Mix	Log	100
	"	"	OTST 7	2274	-	-	-	?	?	-	?	?	-	?	?	-	-	-	Mix	Log	100
	"	Spain	OT 6	18477	47	-	9	?	?	-	?	?	-	?	?	-	-	-	Mix	Log	86
	"	"	PT 4	48154	155	-	2598	122	4	-	?	?	-	?	?	41	322	89	Mix	Log	80
	Red	Can(M)	OT 2	214	?	?	-	?	?	2419	71	3	174	?	?	20	?	?	Mix	Log	5
	"	"	OT 3	1340	43	3	15	?	?	21762	2380	10	949	13	1	282	?	?	Mix	Log	2
	"	Can(N)	OTSI 4	1322	-	-	7	-	-	25240	-	-	484	-	-	157	?	?	Mix	Log	16
	"	"	OTST 5	233	-	-	4	-	-	4650	-	-	202	3	1	15	-	-	Mix	Log	73
	Flo	Can(M)	OT 2	492	?	?	168	?	?	40	?	?	2911	239	8	758	?	?	Mix	Log	14
	"	"	OT 3	1558	?	?	21	?	?	80	?	?	2387	329	12	242	?	?	Mix	Log	16
	"	"	OT 4	1137	?	?	125	?	?	489	?	?	4963	621	11	138	?	?	Mix	Log	2
	"	Can(N)	OTSI 4	48	-	-	-	-	-	6	-	-	71	-	-	2	-	-	Mix	Log	100
	"	"	OTST 5	45	-	-	-	-	-	57	-	-	390	6	2	6	-	-	Mix	Log	50
	Her	Ger(FR)	OTST 6-7	1	-	-	-	-	-	-	-	-	-	-	-	5935	-	-	Mix	Cap	100
	Mix	Japan	OTST 6-7	153	?	?	13	?	?	968	?	?	9	-	-	3607	7	-	Mac	Cap	100
	Total Reported			168024	3349	2	4759	122	3	58103	2658	4	18341	1213	6	13650	1550	10			
	Total All Countries			262096			27992			119167			41454			661785					
5	Cod	Spain	OT 4	7249	1	-	845	61	7	-	?	?	-	?	?	69	109	61	Mix	Log	80
	Flo	USA	OT 2-4	4180	?	-	2026	?	-	4	?	-	32328	10129	24	2704	?	?	Mix	Int	18
	Her	Ger(FR)	OTST 6-7	14	-	-	-	-	-	2	-	-	-	-	-	91720	1577	2	Mix	Cap	100
	Mix	Japan	OT 6-7	15	?	-	1	?	-	19	?	-	119	1	1	5173	285	5	Mac	Cap	100
	Total Reported			11458	1	-	2872	61	2	25	?	?	32447	10130	24	99666	1971	2			
	Total All Countries			33368			12852			15958			54922			456181					
6	Flo	USA	OT 2-4	21	?	-	1	?	-	-	?	-	1460	60	4	433	?	?	Mix	Int	31
	Her	Ger(FR)	OTST 6-7	-	-	-	-	-	-	-	-	-	-	-	-	401	-	-	Mix	Cap	100
	Total Reported			21	-	-	-	-	-	-	-	-	1460	60	4	834	-	-			
	Total All Countries			508			2			-			9055			42719					
ALL	Totals Reported			640266	8454	1	11667	287	2	73930	3278	2	133692	12816	9	117681	11758	10			
	Totals All Countries			1152441			47971			224387			281318			1744550					

Table 2. Summary of information on quantities of fish converted to fish meal at sea in relation to nominal catch for the year 1970.

Sub-area	Main Species	Country	Gear and Tonnage Class	COD			HADDOCK			REDFISH			FLOUNDERS			OTHERS				Source of Information	Sampling Rate (%)
				Nominal Catch	Dis-cards	Rate (%)	Nominal Catch	Dis-cards	Rate (%)	Nominal Catch	Dis-cards	Rate (%)	Nominal Catch	Dis-cards	Rate (%)	Dis-cards	Rate (%)	Dis-cards	Rate (%)		
1	Cod	Ger(FR)	OTST 5-7	40667	1560	4	-	-	-	3592	395	11	13	-	-	245	646	100+	Mix	Cap	100
	"	Port	OTSI 6	801	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Log	100
	"	"	OTST 7	2677	63	2	-	-	-	-	-	-	-	-	-	-	3	100+	Mix	Log	100
	Mix	USSR	OTST 7	849	-	-	-	-	-	231	-	-	576	-	-	6155	665	11	Mix	NK	NK
2	Cod	Ger(FR)	OTST 6-7	50007	900	2	-	-	-	408	192	47	13	-	-	92	476	100+	Mix	Cap	100
	"	Port	OTSI 6	25024	69	-	-	-	-	-	-	-	-	-	-	-	3	100+	Mix	Log	100
	"	"	OTST 7	16989	605	4	-	-	-	-	-	-	-	-	-	-	97	100+	Mix	Log	100
	Mix	USSR	OTST 7	49829	-	-	-	-	-	4296	-	-	8765	-	-	2533	1557	61	Mix	NK	NK
3	Cod	Ger(FR)	OTST 6-7	11856	312	3	-	-	-	31	42	100+	-	-	-	8	72	100+	Mix	Cap	100
	"	Port	OTSI 6	57983	172	-	-	-	-	-	-	-	-	-	-	-	25	100+	Mix	Log	100
	"	"	OTST 7	7554	292	4	-	-	-	-	-	-	-	-	-	-	37	100+	Mix	Log	100
	Mix	USSR	OT 4-7	59997	-	-	-	157	-	58278	-	-	37116	-	-	30163	5946	20	Mix	NK	NK
4	Cod	Port	OTSI 6	18582	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Log	100
	"	"	OTST 7	2274	32	1	-	-	-	-	-	-	-	-	-	-	-	-	-	Log	100
	Her	Ger(FR)	OTST 6-7	1	-	-	-	-	-	-	-	-	-	-	-	6055	375	6	Her	Cap	100
	Mix	Poland	OTST 7	344	?	-	-	-	-	20	-	-	6	-	-	1588	365	23	Her	Int	33
5	"	USSR	OT 4-7	2531	-	-	672	-	13218	-	-	-	5705	-	-	260693	17843	7	SH	NK	NK
	Her	Ger(FR)	OTST 6-7	14	-	-	-	-	2	-	-	-	-	-	-	91720	2812	3	Her	Cap	100
	Mix	Poland	OTST 7	339	?	-	15	?	30	?	-	-	8	-	-	64908	21570	33	Her	Int	33
	"	"	OTSI 5	302	?	-	-	-	-	-	-	-	-	-	-	36138	3130	9	Her	Int	33
6	"	USSR	OT 4-7	364	-	-	103	-	-	-	-	-	4445	-	-	160224	13639	8	OF	NK	NK
	Mix	Poland	OTST 7	61	?	-	-	-	-	-	-	-	-	-	-	24750	4990	20	Her	Int	33
	"	"	OTSI 5	82	?	-	-	-	-	-	-	-	-	-	-	20488	370	2	Her	Int	33
	ALL	Totals Reported		349127	4129	1	947	-	80106	629	1	56647	-	-	-	705760	74621	16			
	Totals All Countries		1152441			47971		224387				281318			1744550						

