

International Commission for



the Northwest Atlantic Fisheries

Serial No. 5258

ICNAF Sum. Doc. 78/VI/23
(Addendum)

ANNUAL MEETING - JUNE 1978

Annual Return of Information on Discards, 1977

by

Assistant Executive Secretary

Subsequent to the compilation of 1977 data on the quantities of fish discarded at sea by trawlers, reports on discards were received from Cuba and United Kingdom. Cuba reported that all vessels which operated in the ICNAF Area in 1977 were equipped with fishmeal plants and consequently no fish were discarded. The report on discards by UK vessels in 1977 is reproduced overleaf.

* Executive Secretary, ICNAF, P. O. Box 638, Dartmouth, Nova Scotia,
Canada B2Y 3Y9

ANNUAL RETURN OF INFORMATION ON DISCARDS

(for reporting weights of whole fish thrown overboard at sea)

Year: 1977	Country: UK(England & Wales)	Gear: OTB 2	Tonnage Class: 1000-1999.9
Check (✓) method used to get information:			
<input type="checkbox"/> Logbook	<input checked="" type="checkbox"/> Port Interview		
<input type="checkbox"/> Boat Observer	<input type="checkbox"/> Other (specify)		

TOTAL WEIGHT FOR YEAR BY SPECIES AND/OR SPECIES GROUPS (metric tons round fresh)

Species	Div.: 2H		Div.: 2J		Div.: 3M		Div.: 3L		Div.:	
	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards
Cod										
Haddock										
Redfish	0.2	3.7	23.2	13.0	301.3	34.6	2.1	0.7		
S. hake										
R. hake										
Pollock										
A. plaice					12.2	11.4				
Witch										
Yellowtail										
G. halibut	14.6	0.8	516.6	16.3						
Other Flo.										
RN grenadier										
Other gro'fish										
Herring										
Mackerel										
Other Pelagics										
Argentine										
Capelin										
Other Fish										
Squids										
Shrimp										
Sampling Rate*		100		100		100		100		

Reported by: B. W. Jones

Discards Form (03/75)



Serial No. 5258

ICNAF Sum. Doc. 78/VI/23

ANNUAL MEETING - JUNE 1978

Annual Return of Information on Discards, 1977

by

Assistant Executive Secretary

1. Introduction

For several years ICNAF has attempted to collect information on quantities of fish discarded at sea from the trawl fisheries. At the 1976 Annual Meeting, the Subcommittee on Statistics and Sampling noted with great concern the scarcity of information provided for recent years, particularly following the Commission's adoption in 1974 of the requirement that information on discards be recorded in fishing logbooks.

At the 1977 Annual Meeting, the Subcommittee again noted the failure to obtain adequate information on discards. Following a lengthy discussion on the subject, it was agreed that discard data were very essential for assessment work and that they should be reported early in the year (prior to the April Assessments Meeting), together with the advance monthly nominal catch statistics for selected species. It was noted that the use of "observers" on commercial vessels might help to improve the collection of discard data and that improved procedures for completing fishing logbooks would assist to overcome these difficulties. In urging countries to make all efforts to provide adequate statistical information on discards, the Subcommittee recommended

"that the Secretariat circulate guidelines for improved discard statistics, requesting each country to appoint a scientist to investigate and report on the aspect of discarding in its fisheries in the Northwest Atlantic and to assist in the provision of adequate statistics on discards" (Redbook 1977, page 66).

2. CWP Consideration of Discards and Resultant Action by ICNAF Secretariat

The importance of collecting data on discards was discussed at some length by the CWP at its Ninth Session in August 1977 (Sum. Doc. 78/VI/2), and the relevant extract from its Report is at Appendix I. Subsequently, the Secretariat requested that each country should appoint a scientist to:

- a) investigate and report on the aspect of discarding in its fisheries;
- b) assist in the provision of statistics on discards for 1977; and
- c) ensure that the reports and statistics on discards were airmailed to reach the Secretariat by 15 April 1978.

A copy of the circular letter requesting information on discards for 1977 is at Appendix II, and a copy of the form is at Appendix III.

3. Reports of Information on Discards for 1977

- a) In response to the request for a descriptive report on the aspect of discarding, the only report received up to 12 May 1978 is presented in Res. Doc. 78/VI/67 on discarding in the Canadian (Nfld) offshore fishery:

STEVENSON, S. C. A descriptive report on the discarding of fish by the Canadian offshore fishery in ICNAF Subareas 2 and 3. ICNAF Res. Doc. 78/VI/67, Serial No. 5237.

- b) Statistics on discards in 1977 have been received from the following countries (to 12 May 1978):

(see over)

Canada (Nfld)	- offshore trawl fisheries in SA 2 to 4
Fed. Rep. Germany	- trawl fisheries in SA 1 and 4
France (M)	- trawl fisheries in SA 2 and 4
Italy	- fishery for squid in SA 5+6
Japan	- trawl fisheries in SA 2 to 6

All of the available data for 1977 are presented in Appendix IV in the same format as they were received. Data for 1976 are given in Sum. Doc. 78/VI/21.

Extract from

Report of Ninth Session of CWP, August 1977

5.5 Discards

- 5.5.1 The CWP appointed a task force (J. P. Wise, convener, E. G. Heyerdahl, J. Messtorff, P. Miyake, V. Nikolaev) to review and report on the problems relating to statistics on discarded catches. Subsequently, a second task force (V. M. Hodder, convener, V. Nikolaev, G. G. Newman, L. P. D. Gertenbach) investigated the possibility of improving the degree of standardization and harmonization among the forms now used by ICNAF, ICES and ICSEAF to obtain from national offices information on discards.
- 5.5.2 The CWP noted that complications in making assessments arise when portions of catches are discarded and that the problems of estimating discards continue to exist. These problems have generated many studies but few, if any, real solutions. The discard problem in the ICNAF Area is presented in CWP-9/5B, and CWP-9/5E calls attention to the problem in shrimp fisheries, where discards may far exceed the landed catch. The current activities of ICNAF, ICES, ICCAT and ICSEAF in attempting to collect statistics on discards are discussed in CWP-9/2B to CWP-9/2E.
- 5.5.3 Discards and their measurement are important because they represent removals from the total biomass as well as from stocks of particular interest. For this reason, discard estimates will be much more meaningful when they are accompanied by survival estimates, so that more precise estimates of mortality can be made.
- 5.5.4 Discards may be divided into two groups:
- a) Voluntary discards consist of unsaleable species, and fish of economically undesirable sizes.
 - b) Involuntary discards consist of non-quota species, over-quota quantities, and undersized (by regulation) individuals.
- Important quantities of involuntary discards are caused by regulation of fisheries. They can probably be markedly reduced by appropriate modification of regulations to deal more realistically with by-catch and minimum sizes of fish.
- 5.5.5 Estimates of the quantities of fish discarded and the sampling of discards are most effective when done at the time of fishing. The CWP noted that, with extensions of jurisdiction and the introduction of other management programs, the placing of log-books and technicians or observers on board of domestic and foreign vessels offers new opportunities for discard measurement.
- 5.5.6 The ICNAF Subcommittee on Statistics and Sampling had again considered the importance of adequate statistical information on discards at its 1977 Annual Meeting (CWP-9/5B). It recommended that guidelines for improved discard statistics be circulated by ICNAF following this CWP Session, at the same time requesting each member country to appoint a scientist to investigate and report on the discard aspect in its fisheries in the Northwest Atlantic, and to assist in the provision of adequate statistics on discards.
- 5.5.7 The CWP agreed that statistics on the discarded portions of the total (gross) catches should initially identify all of the regulated species, with the balance shown by broad species groups, for the trawl-net and seine-net fisheries, although it recognized that this problem also exists in other fisheries (e.g. the tuna pole-and-line fishery).

5.5.8 The discarded catch described in the preceding section should, when submitted in provisional form together with preliminary nominal catch data, be further broken down for each major fishing area (21, 27, 34, 37 and 47) by month and by subarea and/or division. It is expected that, at a later stage, these could be supplemented by

(a) target species (main species sought), (b) gear with specifications as appropriate, (c) size categories of the vessels, and (d) types of vessels (e.g. factory trawlers, etc.).

5.5.9 In considering the current requirements (including those that might be requested by coastal states and regional agencies in the near future) for reporting nominal catches and also discarded catches, the CWP expects that the information collected nationally (see Section 8, regarding fishing logbooks) would permit the reporting of statistics on discards in the same format as used now for nominal catch data presented on STATLANT B forms for each of the major fishing areas. The CWP noted that "nominal catch" is the best available estimate of the "retained catch".

5.5.10 Initially, however, the basic requirement for statistics on discarded catches for early assessment purposes would almost certainly be somewhat more restricted in detail than the statistics on nominal catches, pending the expected expansion in national collection, processing and reporting capabilities. The CWP therefore recommended (8)

that priorities should be established for the reporting of discard data by national offices in accordance with the requirements specified in Sections 5.5.7 to 5.5.9.

International Commission for



the Northwest Atlantic Fisheries

P. O. Box 638, Dartmouth, Nova Scotia, Canada B2Y 3Y9

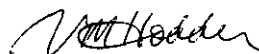
Circular Letter 78/4

11 January 1978

Annual Return of Information on Discards for 1977

1. At the 1977 Annual Meeting, STACRES expressed great concern about the continued inadequacy of information on discards (*Redbook* 1977, pages 41 and 66), despite the previous recommendations that statistics on discards be reported to the Secretariat annually and despite the fact that discard information is required to be recorded in logbooks (1974 Annu. Meet. Proc. No. 20, Appendix III, page 242). It was agreed that data on discards were essential for assessments and that such data be reported early in the year (prior to the April meeting of the Assessments Subcommittee). It was also stressed that countries should attempt to obtain length and age compositions of fish intended for discarding. STACRES noted that problems associated with discards would be discussed by the CWP at its ninth session, and recommended that the Secretariat continue its efforts to obtain from national offices the required information on discards.
2. The matter of statistics on discards was discussed by the Coordinating Working Party on Atlantic Fishery Statistics (CWP) at its Ninth Session in August 1977 (see Appendix I). Recognizing the importance of statistics on discards for the proper assessment of the stocks, the CWP recommended that priorities should be established for the reporting of discard data by national offices in accordance with specified requirements (see subsections 5.5.7 to 5.5.9 of Appendix I).
3. In view of the comments and proposals of the CWP on the problems associated with the national collection and reporting of data on discards, the specific needs of STACRES for the future reporting of data will require further discussion at the 1978 Annual Meeting. In the meantime, however, in accordance with the STACRES recommendation, "each country is requested to appoint a scientist to investigate and report on the aspect of discarding in its fisheries in the Northwest Atlantic and to assist in the provision of adequate statistics on discards".
4. In accordance with the recommendation given in the preceding paragraph, each country with fishing vessels operating in the Northwest Atlantic should forward a descriptive report on the aspect of discarding in its fishery to reach the Secretariat by 15 April 1978, so that a comprehensive review can be prepared for presentation to the 1978 Annual Meeting. Such a report should cover not only the otter trawl fishery but other fisheries in which discarding may be significant. It should be noted that the "discards" referred to here include not only the discarding of undesirable sizes of target species but also the discarding of undesirable species taken in the same catches.
5. Pending further consideration of the problem of discards, including the design of a more suitable form for use in reporting statistics on discards, by the Subcommittee on Statistics and Sampling and STACRES at the 1978 Annual Meeting, supplies of "Discards Form (03/75)" have been sent (to the persons underlined in the distribution list below) for use in reporting the quantities of fish discarded in the year 1977 (a sample of the form is at Appendix 2). The forms should be passed to the appropriate persons for completion in accordance with the instructions on the back of each form, and airmailed to reach the Secretariat by 15 April 1978.

Sincerely yours



V. M. Hodder
Assistant Executive Secretary

VMH/pw

(Distribution overleaf)

Distribution:

- Bulgaria - K.N. Gaydarov (2); P. Kolarov
- Canada - S.W. Bartlett; J.S. Beckett; J. Bergeron (2); D.R. Bollivar; P.J.G. Carrothers; L.J. Cowley (2); J.E. Creeper; E.H. Demone; Director, Biol. Station, St. John's; W.G. Doubleday; A.A. Etchegary; R.G. Halliday (3); E.A. Harvey (2); K. Henriksen; M. Hunter; H.D. Johnston; A. Lachance; R.D.S. MacDonald; D.A. MacLean; A.W. May; B.S. Muir; A.W.H. Needler; V.H. Nickerson; L.S. Parsons; B.A. Paul; A.T. Pinhorn (2); R.J. Prier (2); R.A. Prince; E.J. Sandeman; M. Sponigle; R.C. Stirling (2); W. Sutcliffe
- Cuba - G. Alvarez (2); A. Mari (2); A. Olachea (2); G. Utrera, Halifax; J. Varea (4)
- Denmark - Sv.Aa. Horsted; K. Hoydal; E. Lemche; K. Løkkegaard; E. Nolsøe
- France - R.C. Brossier; R. Chevalier; J.F. Groleau; D. Hery; R.H. Letaconoux; Mme G. Rossignol; Directeur des Pêches, Paris
- FRG - D. Booss; H. Dornheim; R.F. Illing; J. Messtorff; D. Sahrhage; A. Schumacher
- GDR - E. Fibig; F. Hartung; A. Junge; W. Lange; W. Mahnke; W. Ranke; B. Schreiber; Institut für Hochseefischerei, Rostock
- Iceland - H.G. Andersen, Washington; T. Asgeirsson (2); J. Jonsson
- Italy - Consultant to Commercial Office & Italian Embassy, Washington, D.C.; Consulate General, New York; L. De Leon (2); Federazione Nazionale delle Imprese di Pesca (6); Italian Embassy, Ottawa (2); Ministero della Marine Mercantile (2)
- Japan - K. Asomura; Distant Water Trawls Section, Tokyo and Shizuoka-prefecture; Y. Fukuda; M. Hazumi; K. Iino; Japanese Embassy, Rome; T. Matsumoto; F. Nagasaki; K. Nakajima (2); S. Ohkuchi; M. Yoshida, Halifax
- Norway - A. Aasbø; F. Bergesen, Jr, Washington; T. Gislesen; P.L. Mietle; K. Raasok; H. Rasmussen; G. Saetersdal; Ø. Ulltang
- Poland - E. Antczak, Halifax; R. Maj (3); W. Sonta (2); URZAD, Morski; E. Wisniewski (2); I. Wrzesniewski, New York
- Portugal - E.L. Cadima; J.C.E. Cardoso; M. Cunha, St. John's; A.S. Gaspar; R. Monteiro; M.L. Portugal; Direcçao-Geral Administracao Pescas; A.M. Tavares
- Romania - L. Popescu; V. Rotaru
- Spain - F.T. Alemany; V. Bermejo, St. John's; G. Larrañeta; E.C. Lopez-Veiga; R. Robles; A. Serrats; Agrupacion Nacional de Buques Congeladores; Commercial Attache, Embassy of Spain, Washington; Direccion General de Pesca Maritima; Instituto Español de Oceanografia
- USSR - A.S. Bogdanov (2); S.G. Fedorov; V.M. Kamentsev (2); N.A. Kotov; I.V. Nikanorov; V.A. Rikhter; A.S. Seliverstov; A.A. Volkov, Halifax; Library, VNIRO
- UK - Assoc. Fisheries & Foods Ltd; A.R. Burne; Fisheries Secretary, MAFF; Fisheries Secretary, Scotland; Fishing News; P.G. Jeffery; B.W. Jones (2); B.B. Parrish; G.A. Robinson; School of Env. Sciences; Mrs S. Watson
- FAO - L.K. Boerema; W.G. Clark; L.P.D. Gertenbach; J.A. Gulland
- ICES - H. Tambs-Lyche
- ICSEAF - R. Lagarde
- USA - V.C. Anthony; C.J. Blondin; Commander, AOL, USCG, New York; R.L. Edwards (12); Exec.Dir., New England Fish.Mgt. Council; W.G. Gordon (2); M.E. Hoinkes; Maritime Laws and Treaties Branch, USCG; D.A. Reifsnyder; R.W. Smith; L.L. Snead; S.R. Tupper; D.H. Wallace (2)

INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES

ANNUAL RETURN OF INFORMATION ON DISCARDS

(for reporting weights of whole fish thrown overboard at sea)

Year:	Country:	Gear:	Tonnage Class:
Check (✓) method used to get information:		<input type="checkbox"/> Logbook	<input type="checkbox"/> Port Interview
		<input type="checkbox"/> Boat Observer	<input type="checkbox"/> Other (specify) _____

TOTAL WEIGHT FOR YEAR BY SPECIES AND/OR SPECIES GROUPS (metric tons round fresh)

Species	Div.:		Div.:		Div.:		Div.:		Div.:	
	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards
Cod										
Haddock										
Redfish										
S. hake										
R. hake										
Pollock										
A. plaice										
Witch										
Yellowtail										
G. halibut										
Other Flo.										
RN grenadier										
Other gro'fish										
Herring										
Mackerel										
Other Pelagics										
Argentine										
Capelin										
Other Fish										
Squids										
Shrimp										
Sampling Rate* (%)										

*(see underlined overleaf)

Reported by:

Explanatory Notes and Instructions

1. STATLANT 21A and 21B provide statistics on the nominal catches - the sum of the live weight equivalent of the fish landed and of those whole fish turned into fish meal at sea on board factory vessels. However, for their assessment studies, scientists should know the actual catch - the nominal catch plus the quantities of fish thrown overboard at sea, i.e. the so-called "discarded fish". Estimates of the discarded portion of the catch may be obtained from various sources, e.g. logbook, boat observer, port interview, etc.
2. This form is provided for countries to report the quantities of discards (and the related nominal catches) for all TAC species and other species groups as indicated in the first column. Five columns are provided on each sheet for listing the information by ICNAF divisions (or subdivisions, where applicable). For each type of gear (and tonnage class, if possible) enter at the top of each column the division, and list for each species or species group the annual nominal catches and the estimated quantities discarded. The statistics provided should cover the entire fleet of vessels of the particular tonnage class and gear type. On the last line of each column (i.e. Sampling Rate) give an estimate of the fleet coverage (in percent). This should normally be the percentage of nominal catch sampled; if another estimation procedure is used, this should be reported below.

INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES

ANNUAL RETURN OF INFORMATION ON DISCARDS

(for reporting weights of whole fish thrown overboard at sea)

Year: 1977 Country: Canada (Nfld.) Gear: OTB-1 Tonnage Class: 151-500
 Check (✓) method used Logbook Port Interview
 to get information: Boat Observer Other (specify)

TOTAL WEIGHT FOR YEAR BY SPECIES AND/OR SPECIES GROUPS (metric tons round fresh)

Species	Div.: 3L		Div.: 3N		Div.: 30		Div.: 3FN		Div.: 3PS	
	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards
Cod					126		212		996	
Haddock									240	
Redfish						849		7156	9	
S. hake										
R. hake										
Pollock			3					104		
A. plaice	198	1	204	2	450	2	59	602	16	
Witch			44	7				272		
Yellowtail										
G. halibut							48	22		
Other Flo.								2		
RN grenadier										
Other gro'fish					122		24	297		
Herring										
Mackerel										
Other Pelagics										
Argentine										
Capelin										
Other Fish										
Squids										
Shrimp										
Sampling Rate*	1.13		.59		3.92		2.75		1.95	

Reported by: S. C. Stevenson

INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES

ANNUAL RETURN OF INFORMATION ON DISCARDS

(for reporting weights of whole fish thrown overboard at sea)

Year: 1977 Country: Canada (Nfld.) Gear: OTB-1 Tonnage Class: 151-500
 Check (✓) method used Logbook Port Interview
 to get information: Boat Observer Other (specify)

TOTAL WEIGHT FOR YEAR BY SPECIES AND/OR SPECIES GROUPS (metric tons round fresh)

Species	Div.: 4R		Div.: 4S		Div.: 4VN		Div.: 4VS	
	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards
Cod	3480	1	21		195		188	
Haddock								
Redfish					1654		2472	4
S. hake								
R. hake								
Pollock			4				2	
A. plaice	362	2			6		318	1
Witch	150				52			
Yellowtail								
G. halibut	122				65		13	
Other Flo.								
RN grenadier								
Other gro'fish	111		1		17		25	
Herring								
Mackerel								
Other Pelagics								
Argentine								
Capelin								
Other Fish								
Squids								
Shrimp								
Sampling Rate*	7.33		7.85		7.03		1.71	

Reported by: S. C. Stevenson

INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES

ANNUAL RETURN OF INFORMATION ON DISCARDS

(for reporting weights of whole fish thrown overboard at sea)

Year: 1977 Country: Canada (Nfld.) Gear: OTB-2 Tonnage Class: 151-500
 Check (✓) method used Logbook Port Interview
 to get information: Boat Observer Other (specify)

TOTAL WEIGHT FOR YEAR BY SPECIES AND/OR SPECIES GROUPS (metric tons round fresh)

Species	Div.: 3L Nominal Dis- catch cards	Div.: 3N Nominal Dis- catch cards	Div.: 3O Nominal Dis- catch cards	Div.: 3P Nominal Dis- catch cards	Div.: 4Vs Nominal Dis- catch cards
Cod	29	51	44	327	7
Haddock				7	
Redfish	23	20	8	944	34
S. hake					
R. hake					
Pollock					
A. plaice	77	2	134	7	482
Witch	9		223	4	536
Yellowtail			638	16	26
G. halibut					44
Other Flo.					4
RN Grenadier					
Other Gro'fish	2	5	8	35	
Herring					
Mackerel					
Other Pelagics					
Argentine					
Capelin					
Other Fish					
Squids					
Shrimp					
Sampling Rate*	54.09	45.68	37.27	12.20	53.80

Reported by: S. C. Stevenson

INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES

ANNUAL RETURN OF INFORMATION ON DISCARDS

(for reporting weights of whole fish thrown overboard at sea)

Year: 1977 Country: Canada (Nfld.) Gear: OTB-2 Tonnage Class: 501-900
 Check (✓) method used Logbook Port Interview
 to get information: Boat Observer Other (specify)

TOTAL WEIGHT FOR YEAR BY SPECIES AND/OR SPECIES GROUPS (metric tons round fresh)

Species	Div.: 2H Nominal Dis- catch cards	Div.: 2J Nominal Dis- catch cards	Div.: 2K Nominal Dis- catch cards	Div.: 3L Nominal Dis- catch cards	Div.: 3M Nominal Dis- catch cards
Cod	8	96	1	1010	2
Haddock				4801	23
Redfish		418		10	6883
S. hake			621		2939
R. hake					
Pollock					
A. plaice			4612	72	18924
Witch		4	3168	14	292
Yellowtail				2	2371
G. halibut		45	4	2132	37
Other Flo.					293
RN Grenadier					
Other Gro'fish		2	115		1049
Herring					
Mackerel					
Other Pelagics					
Argentine					
Capelin					
Other Fish					
Squids					
Shrimp	910	2	1023		
Sampling Rate*	9.90	27.30	26.30	48.60	1.76

Reported by: S. C. Stevenson

INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES

ANNUAL RETURN OF INFORMATION ON DISCARDS

(for reporting weights of whole fish thrown overboard at sea)

Year: 1977 Country: Canada (NEI.D.) Gear: OTB-2 Tonnage Class: 501-900
 Check (✓) method used Logbook Port Interview
 to get information: Boat Observer Other (specify)

TOTAL WEIGHT FOR YEAR BY SPECIES AND/OR SPECIES GROUPS (metric tons round fresh)

Species	Div.: 3N		Div.: 3O		Div.: 3EN		Div.: 3PS		Div.: 4R	
	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards
Cod	1189	12	852	3	26	1868	10	3135	2	
Haddock	1		6			237		5		
Redfish	116		695		25	669		236	2	
S. hake										
R. hake										
Pollock			2			67		1		
A. plaice	13,474	244	2827	51	2	2537	91	156	2	
Witch	330	1	2400	20	35	2670	28	565	1	
Yellowtail	6054	112	1021	12		197	2			
G. halibut			1		30	10		240		
Other Flo.										
RN grenadier										
Other gro'fish	99		203			557		78		
Herring										
Mackerel										
Other Pelagics										
Argentine										
Capelin										
Other Fish										
Squids										
Shrimp										
Sampling (%) Rate*	36.77		20.08		1.92	13.30		11.80		

Reported by: S. C. Stevenson

INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES

ANNUAL RETURN OF INFORMATION ON DISCARDS

(for reporting weights of whole fish thrown overboard at sea)

Year: 1977 Country: Canada (NEI.D.) Gear: OTB-2 Tonnage Class: 501-900
 Check (✓) method used Logbook Port Interview
 to get information: Boat Observer Other (specify)

TOTAL WEIGHT FOR YEAR BY SPECIES AND/OR SPECIES GROUPS (metric tons round fresh)

Species	Div.: 4VN		Div.: 4VS		Div.: 4VS		Div.: 4VS	
	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards
Cod			76					
Haddock								
Redfish	159							
S. hake								
R. hake								
Pollock								
A. plaice			155	1				
Witch	34		9					
Yellowtail								
G. halibut	25		1					
Other Flo.								
RN grenadier								
Other gro'fish			2					
Herring								
Mackerel								
Other Pelagics								
Argentine								
Capelin								
Other Fish								
Squids								
Shrimp								
Sampling (%) Rate*	5.70		12.50					

Reported by: S. C. Stevenson

INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES

ANNUAL RETURN OF INFORMATION ON DISCARDS

(for reporting weights of whole fish thrown overboard at sea)

Year: 1977 Country: France Gear: OTB (side) Tonnage Class: 6
 Check (✓) method used Logbook Port Interview
 to get information: Boat Observer Other (specify)

TOTAL WEIGHT FOR YEAR BY SPECIES AND/OR SPECIES GROUPS (metric tons round fresh)

Species	Div.: 2J		Div.: 3K		Div.: 3L		Div.: 3M		Div.: 3P	
	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards
Cod			2							
Haddock										
Redfish	1		3		2		1		1	
S. hake										
R. hake									4	
Pollock										
A. plaice										
Witch										
Yellowtail										
G. halibut										
Other Flo.										
RN grenadier										
Other gro'fish										
Other fish	1				4		1		2	
Herring										
Mackerel										
Other Pelagics										
Argentine										
Capelin										
Other Fish										
Squids										
Shrimp										
Sampling Rate*										

Reported by: _____

INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES

ANNUAL RETURN OF INFORMATION ON DISCARDS

(for reporting weights of whole fish thrown overboard at sea)

Year: 1977 Country: France Gear: OTB (stern) Tonnage Class: 6
 Check (✓) method used Logbook Port Interview
 to get information: Boat Observer Other (specify)

TOTAL WEIGHT FOR YEAR BY SPECIES AND/OR SPECIES GROUPS (metric tons round fresh)

Species	Div.: 2J		Div.: 3K		Div.: 3L		Div.: 3M		Div.: 4R	
	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards
Cod										
Haddock										
Redfish		2								71
S. hake										
R. hake										2
Pollock										
A. plaice										
Witch										
Yellowtail										
G. halibut										
Other Flo.										
RN grenadier										
Other gro'fish										
Other fish		1		5		3		3		19
Herring										
Mackerel										
Other Pelagics										
Argentine										
Capelin										
Other Fish										
Squids										
Shrimp										
Sampling Rate*										

Reported by: _____

INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES

ANNUAL RETURN OF INFORMATION ON DISCARDS (PRELIMINARY)

(for reporting weights of whole fish thrown overboard at sea)

Year: 1977 Country: Germany, Fed. Rep. Gear: Otter trawl Tonnage Class: >2000 GRT
 Check (✓) method used Logbook Port Interview
 to get information: Boat Observer Other (specify)

TOTAL WEIGHT FOR YEAR BY SPECIES AND/OR SPECIES GROUPS (metric tons round fresh)

Species	Div.: 1D		Div.: 1E		Div.: 1F		Div.: 4W		Div.: 4X	
	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards
Cod										
Haddock										
Redfish	0		1		11					0
S. hake								0		
R. hake										
Pollock										
A. plaice										
Witch										
Yellowtail										
G. halibut										
Other Plo.										
RN grenadier										
Other gro'fish										
Shark							10		16	
Herring										
Mackerel										
Other Pelagics										
Argentine										
Capelin										
Other Fish										
Squids							13		1	
Shrimp										
Sampling (%)	100		100		100		100		100	
Rate*										

Reported by: Captains of the Fishing Vessels

INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES

ANNUAL RETURN OF INFORMATION ON DISCARDS

(for reporting weights of whole fish thrown overboard at sea)

Year: 1977 Country: ITALY Gear: OTB Tonnage Class: >500 GRT
 Check (✓) method used Logbook Port Interview
 to get information: Boat Observer Other (specify)

TOTAL WEIGHT FOR YEAR BY SPECIES AND/OR SPECIES GROUPS (metric tons round fresh)

Species	Div.: 5 + 6		Div.: 1		Div.: 2		Div.: 3		Div.: 4	
	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards
Cod										
Haddock										
Redfish										
S. hake										
R. hake										
Pollock										
A. plaice										
Witch										
Yellowtail										
G. halibut										
Other Plo.										
RN grenadier										
Other gro'fish										
Herring										
Mackerel										
Other Pelagics										
Argentine										
Capelin										
Other Fish										
Squids										
Shrimp										
Sampling (%)										
Rate*										

Reported by: FEDERPESCA

INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES

ANNUAL RETURN OF INFORMATION ON DISCARDS

(for reporting weights of whole fish thrown overboard at sea)

Year: 1977 Country: JAPAN Gear: TRVAL Tonnage Class: 1000 - 1999 M/T
 Check (✓) method used Logbook Port Interview
 to get information: Boat Observer Other (specify)

TOTAL WEIGHT FOR YEAR BY SPECIES AND/OR SPECIES GROUPS (metric tons round fresh)

Species	Div.: 2J Nominal Dis- catch cards	Div.: 3K Nominal Dis- catch cards	Div.: 3L Nominal Dis- catch cards	Div.: 3M Nominal Dis- catch cards	Div.: 3N Nominal Dis- catch cards
Cod			14.9		14.1
Haddock					
Redfish	3.9		82.5	36.6	101.1
S. hake					
R. hake					
Pollock					
A. plaice					
Witch					
Yellowtail					
G. halibut					
Other Plo.					
RN Grenadier					
Other gro'fish					
Herring					
Mackerel					
Other Pelagics					
Argentine					
Capelin	113.4		41.3	904.5	0.1
Other Fish					
Squids					
Shrimp					
Sampling Rate*					

Reported by: JAPAN FISHERY AGENCY

INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES

ANNUAL RETURN OF INFORMATION ON DISCARDS

(for reporting weights of whole fish thrown overboard at sea)

Year: 1977 Country: JAPAN Gear: TRVAL Tonnage Class: 1000 - 1999 M/T
 Check (✓) method used Logbook Port Interview
 to get information: Boat Observer Other (specify)

TOTAL WEIGHT FOR YEAR BY SPECIES AND/OR SPECIES GROUPS (metric tons round fresh)

Species	Div.: 4VS Nominal Dis- catch cards	Div.: 4W Nominal Dis- catch cards	Div.: 4X Nominal Dis- catch cards	Div.: Nominal Dis- catch cards
Cod				
Haddock				
Redfish				
S. hake		0.5	0.2	
R. hake				
Pollock				
A. plaice				
Witch				
Yellowtail				
G. halibut				
Other Plo.		0.3	0.1	
RN Grenadier				
Other gro'fish				
Herring				
Mackerel				
Other Pelagics				
Argentine		384.2	573.4	
Capelin				
Other Fish		0.4	0.6	
Squids		274.4	297.4	
Shrimp				
Sampling Rate*				

Reported by: JAPAN FISHERY AGENCY

INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES

ANNUAL RETURN OF INFORMATION ON DISCARDS

(for reporting weights of whole fish thrown overboard at sea)

Year: 1977	Country: JAPAN	Gear: TRAWL	Tonnage Class: 1000 - 1999 M/T
Check (✓) method used <input checked="" type="checkbox"/> Logbook <input type="checkbox"/> Port Interview			
to get information: <input type="checkbox"/> Boat Observer <input type="checkbox"/> Other (specify)			

TOTAL WEIGHT FOR YEAR BY SPECIES AND/OR SPECIES GROUPS (metric tons round fresh)

Species	Div.: 5A Nominal Dis- catch cards	Div.: 5B Nominal Dis- catch cards	Div.: 5C Nominal Dis- catch cards	Div.: 5E Nominal Dis- catch cards	Div.: 5Z Nominal Dis- catch cards
Cod					
Haddock		0.1			
Redfish		0.1			
S. hake	7.1	7.8	12.0	1.1	1.0
R. hake					
Pollock					
A. plaice					
Witch					
Yellowtail	0.4	0.8		0.1	0.3
G. halibut					
Other Flo.	0.1	1.1			
RN Grenadier					
Other Gro'fish	0.8	4.2	17.3	3.2	1.0
Herring				0.1	
Mackerel	3.2	7.0		1.1	7.0
Other Pelagics	133.5	2.0	187.3	49.8	197.4
Argentine					
Capelin					
Other Fish	7.9	8.7	119.4	30.7	46.4
Squids	632.5	1,504.6	878.9	224.7	557.9
Shrimp					
Sampling (%)					

Reported by: JAPAN FISHERY AGENCY

INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES

ANNUAL RETURN OF INFORMATION ON DISCARDS

(for reporting weights of whole fish thrown overboard at sea)

Year: 1977	Country: JAPAN	Gear: TRAWL	Tonnage Class: 2000 - 2999 M/T
Check (✓) method used <input checked="" type="checkbox"/> Logbook <input type="checkbox"/> Port Interview			
to get information: <input type="checkbox"/> Boat Observer <input type="checkbox"/> Other (specify)			

TOTAL WEIGHT FOR YEAR BY SPECIES AND/OR SPECIES GROUPS (metric tons round fresh)

Species	Div.: 2J Nominal Dis- catch cards	Div.: 3K Nominal Dis- catch cards	Div.: 3L Nominal Dis- catch cards	Div.: 3M Nominal Dis- catch cards	Div.: 3O Nominal Dis- catch cards
Cod					0.2
Haddock					
Redfish				4.2	
S. hake					0.4
R. hake					
Pollock					
A. plaice					0.1
Witch					
Yellowtail					
G. halibut					
Other Flo.					
RN Grenadier					
Other Gro'fish					
Herring					
Mackerel					
Other Pelagics					
Argentine					
Capelin	475.9	281.3	170.4	2.3	2,803.8
Other Fish					3.9
Squids					40.5
Shrimp					
Sampling (%)					

Reported by: JAPAN FISHERY AGENCY

INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES

ANNUAL RETURN OF INFORMATION ON DISCARDS

(for reporting weights of whole fish thrown overboard at sea)

Year: 1977 Country: JAPAN Gear: TRAWL Tonnage Class: 2000 - 2999 M/T
 Check (✓) method used Logbook Port Interview
 to get information: Boat Observer Other (specify) _____

TOTAL WEIGHT FOR YEAR BY SPECIES AND/OR SPECIES GROUPS (metric tons round fresh)

Species	Div.: 6A		Div.: 6B		Div.: 6C		Div.: 5Za		Div.: 5Zb	
	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards
Cod										
Haddock										
Redfish										
S. hake		1.5		35.5		19.1			0.8	3.4
R. hake										
Pollock										
A. plaice				0.5		0.3				0.3
Witch										
Yellowtail										
G. halibut										
Other Flo.			0.5		1.5					
BN grenadier										
Other gro'fish		0.3		7.1		0.2	19.3		1.1	4.8
Herring								1.0		0.2
Mackerel		2.3		14.3					0.1	0.5
Other Pelagics	289.4	2.5	161.3	1.0	197.4	20.5	68.2	0.1	385.2	1.4
Argentine										
Capelin										
Other Fish	2.3	1.3	16.3	100.1	11.9	275.8	2.0	1.2	29.6	1.0
Squids	1,683.4	0.1	4,552.8	15.3	1,185.9				367.2	959.3
Shrimp										
Sampling Rate*										

Reported by: JAPAN FISHERY AGENCY

INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES

ANNUAL RETURN OF INFORMATION ON DISCARDS

(for reporting weights of whole fish thrown overboard at sea)

Year: 1977 Country: JAPAN Gear: TRAWL Tonnage Class: 2000 - 2999 M/T
 Check (✓) method used Logbook Port Interview
 to get information: Boat Observer Other (specify) _____

TOTAL WEIGHT FOR YEAR BY SPECIES AND/OR SPECIES GROUPS (metric tons round fresh)

Species	Div.: 4VS		Div.: 4W		Div.: 4X		Div.: 4Y		Div.: 4Z	
	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards	Nominal catch	Dis-cards
Cod		0.1				0.4				
Haddock		0.4				0.3		0.3		
Redfish	1.5		0.3	0.3						
S. hake	0.2	1.6	6.7	1.1						
R. hake										
Pollock										
A. plaice				0.2						
Witch										
Yellowtail										
G. halibut										
Other Flo.										
BN grenadier										
Other gro'fish			1.5			0.1				
Herring										
Mackerel				0.2						
Other Pelagics										
Argentine	2.6		342.4			818.6				
Capelin										
Other Fish			0.6			0.8				
Squids	158.6	1,878.6	6.2	306.0	0.1					
Shrimp										
Sampling Rate*										

Reported by: JAPAN FISHERY AGENCY