Appendix Tables

APPENDIX TABLE 1. List of common names used to refer to species and their corresponding scientific names. (E and W after common names indicate species which occur in commercial concentrations only in the eastern or western North Atlantic respectively.)

Common Name	Scientific Name
Atlantic cod	*Gadus morhua*
Haddock	*Melanogrammus aeglefinus*
Pollock (saithe)	*Pollachius virens*
Atlantic herring	*Clupea harengus*
Atlantic mackerel	*Scomber scombrus*
Capelin	*Mallotus villosus*
Pollack (E)	*Pollachius pollachius*
European hake (E)	*Merluccius merluccius*
Silver hake (W)	*Merluccius bilinearis*
White hake (W)	*Urophycis tenuis*
Red hake (W)	*Urophycis chuss*
Roundnose grenadier	*Corphaenoides rupestris*
Whiting (E)	*Merlangius merlangus*
Blue Whiting (E)	*Micromesistius poutassou*
Norway pout (E)	*Trisopterus esmarki*
Blue ling (E)	*Molva dipterygia*
Atlantic halibut	*Hippoglossus hippoglossus*
Greenland halibut	*Reinhardtius hippoglossoides*
Witch flounder	*Glyptocephalus cynoglossus*
American plaice	*Hippoglossoides platessoides*
European plaice (E)	*Pleuronectes platessa*
European flounder (E)	*Platichthys flesus*
Common sole (E)	*Solea vulgaris*
Lemon sole (E)	*Microstomus kitt*
Yellowtail flounder (W)	*Limanda ferruginea*
Megrims (E)	*Lepidorhombus* spp.
Atlantic argentine	*Argentina silus*
Redfish	*Sebastes* spp.
Wolffish	*Anarhichas* spp.
Anglerfish	Lophiidae
Sand lance	Ammodytidae
Ocean pout (W)	*Macrozoarces americanus*
Tuna	*Thunnus* spp.
Swordfish	*Xiphias gladius*
Jack & Horse mackerels (E)	*Trachurus* spp.
Sprat (E)	*Sprattus sprattus*
Anchovy (E)	*Engraulis encrasicholus*
Atlantic menhaden (W)	*Brevoortia tyrannus*
Atlantic butterfish (W)	*Peprilus triacanthus*
River herring	*Alosa* spp.
Squid (Canadian zone)	*Illex illecebrosus*
Squid (USA zone)	also *Loligo pealei*
Shrimp (northern)	*Pandalus borealis*
Norway lobster (E)	*Nephrops norwegicus*
Sea scallop (W)	*Placopecten magellanicus*

APPENDIX TABLE 2. Abbreviations referred to in this paper.

Abbreviation	Meaning
ACFM	Advisory Committee on Fishery Management of ICES
CAFSAC	Canadian Atlantic Fisheries Scientific Advisory Committee
CFP	Common Fisheries Policy of the EU
DFO	Department of Fisheries and Oceans, Canada
EU	European Union (prior to 1993 called the European (Economic) Community – EC or EEC)
F	Instantaneous rate of Fishing Mortality
$F_{subscript}$	Biological reference points ($F_{0.1}$, F_{max}, etc.)
FAO	Food and Agriculture Organization of the United Nations
FRCC	Fisheries Resource Conservation Council, Canada
FRG	Federal Republic of Germany
GDR	German Democratic Republic
GRT	Gross Registered Tonnage
ICES	International Council for the Exploration of the Sea
ICNAF	International Commission for the Northwest Atlantic Fisheries
IQ	Individual catch Quota, sometimes called boat quota
ITQ	Individual Transferable catch Quota
MFCMA	Magnuson Fishery Conservation and Management Act, USA
MSP	Maximum Spawning Potential (defined as spawning potential of virgin stock in USA legislation)
MSY	Maximum Sustainable Yield
NAFO	Northwest Atlantic Fisheries Organization
NEAFC	Northeast Atlantic Fisheries Commission (Convention)
NEFMC	New England Fishery Management Council, USA
NMFS	National Marine Fisheries Service, USA
OY	Optimum Yield
STACRES	Standing Committee for Research and Statistics, ICNAF
TAC	Total Allowable Catch
UK	United Kingdom of Great Britain and Northern Ireland
USA	United States of America
USSR	Union of Soviet Socialist Republics

APPENDIX TABLE 3. Geographic names for the stocks of the six primary species analyzed in this paper and the statistical areas which define their distribution for stock assessment purposes. Stocks are arranged by the management regime to which they are assigned in this paper (Footnote 1), and sources of stock assessment data are indicated (Footnote 2). The first age used in calculation of stock parameters for the present analysis is given.

Regime/ Species[1]	Geographic Name	Statistical Areas	First Age	Data Source[2]
Norway cod	Northeast Arctic	ICES Subareas I & II	4	a
Norway haddock	Northeast Arctic	ICES Subareas I & II	3	a
Norway pollock	Northeast Arctic	ICES Subareas I & II	2	a
Norway herring	Norwegian spring spawning	Depending on distribution	3	b
Norway mackerel	North Sea	Depending on distribution	2	b
Norway capelin	Barents Sea	ICES Subareas I & II (east)	–[3]	b
EU cod *includes*:	North Sea	ICES Subarea IV	1	b
	West of Scotland	ICES Div. VIa	1	b
	Irish Sea	ICES Div. VIIa	1	b
	English Channel	ICES Div. VIId	1	b
	Celtic Sea	ICES Div. VIIf,g	1	b
EU haddock *includes*:	North Sea	ICES Subarea IV	1	b
	West of Scotland	ICES Div. VIa	1	b
EU pollock *includes*:	North Sea	ICES Subarea IV & Div. IIIa	2	b
	West of Scotland	ICES Subarea VI	2	b
EU herring *includes*:	North Sea	ICES Subarea IV & Div. VIId	1	b

APPENDIX TABLE 3. (Continued). Geographic names for the stocks of the six primary species analyzed in this paper and the statistical areas which define their distribution for stock assessment purposes. Stocks are arranged by the management regime to which they are assigned in this paper (Footnote 1), and sources of stock assessment data are indicated (Footnote 2). The first age used in calculation of stock parameters for the present analysis is given.

Regime/ Species[1]	Geographic Name	Statistical Areas	First Age	Data Source[2]
	West of Scotland	ICES Div. VIa (north)	1	b
	Clyde	ICES Div. VIa (Clyde)	2	c
	West of Ireland	ICES Div. VIa (south) & VII b,c	2	c
	Irish Sea	ICES Div. VIIa	1	b
	Celtic Sea	ICES Div. VIIf,g,j	1	c
EC mackerel	Western	Depending on Distribution	1	a
Faroe cod	–	ICES Div. Vb	2	b
Faroe haddock	–	ICES Div. Vb	2	b
Faroe pollock	–	ICES Div. Vb	3	b
Iceland cod	–	ICES Div. Va	4	d
Iceland haddock	–	ICES Div. Va	3	d
Iceland pollock	–	ICES Div. Va	4	d
Iceland herring *includes*:	spring spawning	ICES Div. Va	1	d
	summer spawning	ICES Div. Va	1	d
Iceland capelin	–	ICES Div. Va & Subarea II (west), XIV	–[3]	a,d
Greenland cod *includes*:	East Greenland	ICES Subarea XIV	5	a*
	West Greenland	NAFO Subarea 1	3	e
Canada cod[4] *includes*:	Labrador–East Newfoundland	NAFO Div. 2J+3KL	4	e
	St. Pierre Bank	NAFO Subdiv. 3Ps	4	f
	Southern Gulf of St. Lawrence	NAFO Subdiv. 4Vn (Jan–Apr) +Div. 4T	4	f
	Eastern Scotian Shelf	NAFO Div. 4VsW	2	f
	Southwestern Nova Scotia	NAFO Div. 4X	3	f
Canada haddock *includes*:	Eastern Scotian Shelf	NAFO Div. 4TVW	3	f
	Southwestern Nova Scotia	NAFO Div. 4X	3	f
Canada pollock	Scotian Shelf	NAFO Div. 4VWX+5Zc	3	f
Canada herring *includes*:	Newfoundland bay stocks	NAFO Div. 3KLPs	2	f
	West Coast of Newfoundland	NAFO Div. 4R	3	f
	Southern Gulf of St. Lawrence	Depending on distribution	–[5]	f
	Southwestern Nova Scotia	NAFO Div. 4WX	1	f
Canada capelin *includes*:	Labrador–Northeast Newfoundland	NAFO Subarea 2 + 3K	–[3]	f
	Northern Grand Bank	NAFO Div. 3L	–[3]	e
NAFO cod	Grand Bank	NAFO Div. 3NO	3	e
NAFO capelin	Southern Grand Bank	NAFO Div. 3NO	–[3]	e
USA cod	Georges Bank	NAFO Div. 5Z + Subarea 6	2	g
USA haddock	Georges Bank	NAFO Div. 5Z + Subarea 6	2	h
USA herring *includes*:	Gulf of Maine	NAFO Div. 5Y	2	h
	Georges Bank	NAFO Div. 5Z	2	h
USA mackerel	Northwest Atlantic	NAFO Subarea 2–6	1	i

[1] "includes" indicates cases where stock assessment results were combined for two or more stocks to give single estimates of parameters for each species in each zone. Catch, biomass and recruitment estimates were summed across stocks. Fishing mortalities were averaged using population numbers as a weighting factor.

[2] Stock assessment data were from the following sources (dates of most recent reports consulted are given, data for early years were obtained from previous reports in same series):

a,b & c) ICES Working Group Reports for 1993, 1992 and 1991 respectively (a* – 1989 ICES WG for stocks of cod at East Greenland)
d) Icelandic Hafrannsóknastofnun Fjölrit No. 29, 1992 (except spring spawning herring from Jakobsson, J. 1980. *ICES Rapp. P.-V. Réun.* **177**: 23–42)
e) NAFO SCR Documents 1992
f) CAFSAC Research Documents 1992
g,h & i) USA Stock Assessment Workshop Reports, 15th, 13th and 12th Workshops respectively. Northeast Fisheries Science Center Reference Documents 93-07, 92-02 and 91-03 respectively.

[3] Capelin biomass estimates are for the sexually maturing component of the stock for Northeast Atlantic stocks and roughly comparable for Northwest Atlantic stocks.

[4] Canada cod "others" – excludes Labrador–East Newfoundland stock.

[5] Age 2 for spring spawners and age 3 for autumn spawners.

APPENDIX TABLE 4. Minimum mesh size regulations in the Northeast Atlantic pertaining to cod, haddock and pollock, established under international conventions to 1976.

Authority	Year in Effect	Area of Application	Gear/Materials Affected	Mesh Size (mm)
1937 Convention	– (Convention did not come into effect)	Northern Norway and Barents Sea (north of 66°N, east of 0°E)	Trawls, seines or other nets towed or hauled at or near the bottom of the sea - of any material, measured wet.	105
		All other waters	Trawls, seines or other nets towed or hauled at or near the bottom of the sea – of any material, measured wet	70
1946 Convention	– (Original provisions did not come into effect)	Northern Norway and Barents Sea (north of 66°N, east of 0°E)	Trawls, seines or other nets towed or hauled at or near the bottom of the sea – of any material, measured wet	110
		Icelandic waters (62°–68°N, 10°-28°W)	Trawls, seines or other nets towed or hauled at or near the bottom of the sea – of any material, measured wet	110
		All other waters	Trawls, seines or other nets towed or hauled at or near the bottom of the sea – of any material, measured wet	80
Permanent Commission (created under 1946 Convention)	1954	Northern Norway, Barents Sea and Icelandic waters (coordinates as above)	Trawls or other nets towed or hauled at or near the bottom of the sea – of any material measured wet, except seine nets	110 [1,2,3]
			Seine nets	100
		All other waters	Trawls or other nets towed or hauled at or near the bottom of the sea – of any material measured wet, except seine nets	75 [1]
			Seine nets	70
Permanent Commission (inherited by NEAFC under 1959 Convention)	1964	Northern Norway, Barents Sea, Icelandic and eastern Greenland waters (north of 66°N from Norwegian coast to 10°W, south to 62°N, west to 28°W, south to 59°N, thence west to 44°W)	Seine nets	100
			Such part of any trawl net as is made of cotton, hemp, polyamide and polyester fibres	110
			Such part of any trawl net as is made of any other material	120
		Other waters	Seine net or such part of any trawl net as is made of single twine and contains no manila or sisal	70
			Such part of any trawl net as is made of double twine and contains no manila or sisal	75
			Such part of any trawl net as is made of manila or sisal	80
NEAFC	1966	NEAFC Region 3 (36°–48°N) (Not part of 1946 Convention Area).	Seine or part of trawl net	60
NEAFC	1967	NEAFC Region 1 except at Faroe Islands (N.B. extends large mesh area south to 62°N from 66°N along Norwegian coast)[4]	Seine net	110 [5]
			Such part of any trawl net as is made of cotton, hemp, polyamide or polyester fibres	120
			Such part of any trawl net as if made of any other material	130
		Faroe Islands (essentially ICES fishing area Vb)	Seine net	95 [6]
			Such part of any trawl net as is made of manila or sisal	100 [6]
			Such part of any trawl net as is made of any other material	95 [6]
		NEAFC Regions 2 and 3		No change

APPENDIX TABLE 4. (Continued). Minimum mesh size regulations in the Northeast Atlantic pertaining to cod, haddock and pollock, established under international conventions to 1976.

Authority	Year in Effect	Area of Application	Gear/Materials Affected	Mesh Size (mm)
	1969	NEAFC Region 3	Seine net, or such part of any trawl net as is made of single twine and contains no manila or sisal	60
			Such part of any trawl net as is made of double twine and contains no manila or sisal	65
			Such part of any trawl net as is made of manila or sisal	70
	1971		Mesh regulations for all areas extended to include midwater trawls	

[1] Agreed in 1955 that "light trawls", i.e. those of single twine and containing no manila or sisal could have a mesh size 5 mm smaller.

[2] Agreed in 1961 that the 5 mm differential for "light trawls" be replaced by a 10 mm differential for trawl nets with codends of cotton, hemp, polyamide or polyester.

[3] Effective 1 January 1963, mesh size in northern Norway and Barents Sea increased to 120 mm.

[4] Agreed in 1970 to move boundary between Regions 1 and 2 from 62°N to 64°N to exempt pollock fishery at 62°–64°N from large mesh regulations.

[5] Effective at Iceland and east Greenland in 1968.

[6] Revised to 110 mm for trawls of manila or sisal and 100 mm for other nets in 1970. Made identical to rest of Region 1 (i.e. 130 mm manila equivalent) in 1974.

APPENDIX TABLE 5. Minimum fish size regulations in the Northeast Atlantic for primary species (cod, haddock, pollock, herring, mackerel and capelin), established under international conventions to 1976. (Fish size is total length.)

Authority	Year in Effect	Species	Size Limit (cm)	Application
1937 Convention	– (Convention did not come into effect)	cod haddock	24 24	Cannot carry on board, land or sell fish of smaller size caught in Convention Area
1946 Convention	1954	cod haddock	30 27	Cannot carry on board, land or sell fish of smaller size caught in the Convention Area
Permanent Commission (created under 1946 Convention)	1954			Exemption: 10% by weight of each industrial landing may consist of undersized fish of species subject to size regulations
	1963	cod haddock	34 31	In waters for which a minimum mesh size of 110 mm applies, i.e. northern waters (see Appendix Table 4)
NEAFC	1964			Size limits of Permanent Commission carried forward to NEAFC Convention Area north of 48°N (the southern limit of 1946 Convention)
	1967			Larger size limits for cod and haddock applicable in northern part of Convention Area extended to the area between 66°N and 62°N off Norway, and thus apply to all of NEAFC Region 1 except at Faroe Islands
	1969			Larger size limits for cod and haddock extended to include Faroe Islands (i.e. to apply to all of Region 1)
	1970			Decided to move boundary between Regions 1 and 2 from 62°N to 64°N
	1974	mackerel	30	Applies to industrial fishery for North Sea stock (ICES Subarea IV + Div. IIIa), tolerance of 20% by weight of undersized mackerel
	1975	herring	20	West of Scotland stock (ICES Div. VIa), tolerance of 10% by weight of undersized herring
	1976	mackerel	30	Extended to West of Scotland (ICES Div. VIa) the regulation applying in IIIa and IV
	1976	herring	20	Applies to human consumption fishery in North Sea (ICES Subarea IV) (and Skagerrak), tolerance of 10% by weight of under sized herring (industrial fishing for herring was banned in 1975)
	1976	pollock	35	Region 1, tolerance of 10% by weight of undersized pollock until December 1977
			30	Region 2, except Skagerrak, tolerance of 10% by weight of undersized pollock until December 1977

APPENDIX TABLE 6. Catch controls in the Northeast Atlantic in the pre-200 mile jurisdiction period.

In Effect	Agreement	Parties
1971–73	Norwegian spring spawning herring - catches restricted to proportions of 1969 levels, decreasing in successive agreements.	Iceland, Norway USSR
1974	Norwegian spring spawning herring – fishing prohibited (except 20% of 1969 catch of small and fat herring could still be taken for human consumption or bait by each Contracting Party).	NEAFC
1975	Norwegian spring spawning herring – prohibition continued and exemptions reduced to 10% of 1969 catch levels.	NEAFC
1976	Norwegian spring spawning herring – prohibition continued and exemptions limited to gillnet catches within national baselines for personal consumption and own use as bait.	NEAFC
1971	North Sea herring (ICES Subarea IV & Div. IIIa) – fishing prohibited in May and from 20 August to 30 September inclusive with allowance during closure for directed fishery catches of 1 000 tons per Contracting Party for human consumption or bait, and by-catch allowance of 10% by weight in other fisheries.	NEAFC
1972	North Sea herring – fishing prohibited from 1 April to 15 June inclusive with allowance during closure for directed fishery catches of 1 250 tons per Contracting Party (Faroe and Denmark treated separately) for human consumption or bait, and by-catch allowance of 10% by weight in other fisheries.	NEAFC
1973	North Sea herring – fishing prohibited from 1 February to 15 June, except that in February and March Contracting Parties could take catches for human consumption and bait equal to the highest catches taken for these purposes in the same months in the years 1969–72. Those benefitting from this provision could take an additional 1 250 tons during the remaining closed period, those who did not could take 2 500 tons, in directed human consumption and bait fisheries. By-catch allowance of 10% by weight in other fisheries.	NEAFC
1974	North Sea herring – 1973 closure regulations extended to also apply in 1974.	NEAFC
1974–75	Celtic Sea herring (ICES Div. VIIg, h and part of VIIa) – fishing prohibited from 1 April 1974 to 31 March 1975 except for exemptions, allocated by Contracting Party, totalling 32 000 tons (equivalent to catch allocations).	NEAFC
1974–76	Demersal stocks at Faroe Islands (ICES Div. Vb) – restricted catches and established specific national catch limits for cod and haddock, and restricted GRT of trawlers fishing in the area; established subareas seasonally closed to trawling.	Belgium, Denmark France, FRG, Norway, Poland, UK
1974	North-East Arctic cod (ICES Subareas I & II) – established specific national catch limits for Contracting Parties and an allowance for others.	Norway, UK, USSR
1975	TACs and national allocations established for the following stocks (for the calendar year 1975 unless otherwise stated): – North Sea herring (1 July 1974–30 June 1975) – Celtic Sea herring (1 April 1975–31 March 1976) – North Sea cod (ICES Subarea IV) – North Sea haddock (ICES Subarea IV) – North Sea whiting (ICES Subarea IV) – North Sea sole (ICES Subarea IV) – North Sea plaice (ICES Subarea IV) – English Channel sole (ICES Div. VIId, e) – English Channel plaice (ICES Div. VIId, e) – Bristol Channel sole (ICES Div. VIIf) – Bristol Channel plaice (ICES Div. VIIf) – Irish Sea sole (ICES Div. VIIa) – Irish Sea plaice (ICES Div. VIIa) – West of Scotland herring (ICES Div. VIa) – Northeast Arctic cod (ICES Subareas I & II) Catch restrictions also imposed on the North Sea (ICES Subarea IV & Div. IIIa) mackerel industrial fishery – catches in January–June period restricted to 2 500–10 000 tons per Contracting Party depending on historical catches during this period.	NEAFC
1976	TACs and allocations established for 1976 for all stocks[1] for which such regulations were established for 1975, with the following addition: – North Sea sprat (ICES Subarea IV) Catch restrictions on mackerel industrial fishery extended to include West of Scotland (ICES Div. VIa) – catches in Div. IIa, IIIa & Subarea IV in January–June period restricted to 2 500–12 000 tons per Contracting Party depending on historical catches during this period. Northeast Arctic haddock (ICES Subareas I & II) directed fishery to cease when Northeast Arctic cod allocations taken.	NEAFC

[1] Objections to North Sea herring regulations for the latter half of 1975 and for 1976 prevented these from coming into effect.

APPENDIX TABLE 7. Minimum mesh size regulations in the Northwest Atlantic pertaining to cod, haddock and pollock, established under ICNAF[1].

Year in Effect	Area of Application	Gear/Materials/Species Affected	Mesh Size (mm)
1953	Subarea 5 (Gulf of Maine and Georges Bank)	Trawl nets of any material, measured wet, when fishing **for haddock** (10% or 5 000 lb. by-catch exemption for small mesh gear). Equivalent dry measurement permitted from 1954.	114
1957	Subarea 3 (Grand Banks)	Trawl nets of manila, measured wet after use or the equivalent size when measured dry before use or when constructed of other materials, when fishing **for cod or haddock** (10% or 5 000 lb. by-catch exemption for small mesh gear).	102
	Subareas 4 and 5 (Gulf of St. Lawrence, Scotian Shelf, Gulf of Maine and Georges Bank)	As for Subarea 3	114
1968	Subarea 1 (West Greenland)	When fishing for **cod, haddock** and five other species: – seine net – such part of any trawl net as is made of cotton, hemp, polyamide or polyester fibres – such part of any trawl net as is made of manila or any other material not mentioned above – (measured wet after use or equivalent when measured dry before use, no by-catch exemptions).	 110 120 130
	Subareas 2–5 (Labrador to Georges Bank)	When fishing for **cod or haddock** (all Subareas), **pollock** (in Subarea 3 only) and up to seven other species: – seine net – such part of any trawl net as is made of cotton, hemp, polyamide or polyester fibres – such part of any trawl net as is made of manila or any other material not mentioned above – (measured wet after use or equivalent when measured dry before use, no exemptions in Subarea 2, exemption for small mesh redfish fishery in Div. NOP of Subarea 3, general small mesh fisheries exemption in Subareas 4 and 5, by-catch exemptions all 10% or 5 000 lb).	 100 105 114
1971[2]	Subareas 2 and 3 (Labrador and Grand Banks)	Mesh size increase only, equivalents remain and exemptions unchanged.	130 manila equivalent
1974	Subareas 4 and 5 (Gulf of St. Lawrence, Scotian Shelf, Gulf of Maine and Georges Bank)	Mesh size increase applies to codend only, other netting can be 114 mm, equivalents remain and exemptions unchanged.	130 manila equivalent

[1] ICNAF Comm. Doc. 79/12, Ser. No. 5441 provides a key to regulations reported in ICNAF Annual Proceedings.
[2] 1972 for Poland, Portugal and Spain, and for Canada in Subarea 3.

APPENDIX TABLE 8. Catch controls in the Northwest Atlantic introduced by ICNAF by species and stock area (defined by ICNAF Divisions and Subdivisions), by year of introduction.

Year in Effect[1]	Subarea 1	Subarea 2	Subarea 3	Subarea 4	Subarea 5
1970				Haddock 4X	Haddock 5
1971					Yellowtail Flounder 5 (E of 69°W) Yellowtail Flounder 5 (W of 69°W) + 6
1972				Haddock 4W Herring 4XWb	Herring 5Y Herring 5Z+6
1973		Cod 2J .....plus	Cod 3KL Cod 3Ps Cod 3NO American plaice 3LNO Yellowtail flounder 3LNO	Cod 4VsW	Cod 5Y Cod 5Z Silver hake 5Y Silver hake 5Ze Silver hake 5ZW + 6 Red hake 5ZW + 6 Other flatfish 5 + 6 Mackerel 5 + 6
				Pollock 4X .....plus	Pollock 5 Redfish 5
1974	Cod 1	Cod 2GH Witch flounder 2J .....plus ..... American plaice 2 .....plus ..... Greenland halibut 2 ....plus..... Redfish 2 .....plus ..... Roundnose grenadier 2 ....plus ..... Capelin 2 .....plus	Cod 3M Witch flounder 3KL Witch flounder 3NO Witch flounder 3Ps American plaice 3K American plaice 3M American plaice 3Ps Greenland halibut 3KL Redfish 3K Redfish 3M Redfish 3LN Redfish 3O Redfish 3P Roundnose grenadier 3 Capelin 3K Capelin 3LNOPs	Cod 4TVn Cod 4Vn (May–Dec) Haddock 4VW[2] Silver hake 4VWX Pollock 4VWX .....plus..... Flatfish 4VWX Redfish 4VWX Argentine 4VWX Herring 4VWa Mackerel 4VWX	2nd Tier TAC 5 + 6 Red hake 5Ze Argentine 5 Other finfish 5 + 6 Pollock 5[3]
1975	Roundnose grenadier 0 + 1		Mackerel 3 ...plus ..... Squid spp. 3 ...plus ..... Capelin 3L[5] Capelin 3NO[5] Capelin 3Ps[5]	Mackerel 4[4] Squid spp. 4 Cod 4X	Squid spp. 5 + 6
1976	Greenland halibut 0 + 1		*Illex* squid 3.....plus	*Illex* squid4[6]	*Illex* squid 5 + 6[7] *Loligo* squid 5 + 6[7]
1977	Shrimp 1				River herring 5 + 6 Butterfish 5 + 6

[1] Not all TACs came into effect at beginning of the year cited. From 1974 onwards various resolutions were adopted to have regulations take effect prior to the date of entry into force under the provisions of the Convention.
[2] Replacing haddock 4W.
[3] Replacing pollock 4X+5.
[4] Replacing mackerel 4VWX.
[5] Replacing capelin 3LNOPs.
[6] Replacing squid spp. 3+4.
[7] Replacing squid spp. 5+6.

APPENDIX TABLE 9. Minimum mesh size regulations pertaining to cod, haddock and pollock in Canadian waters from 1977.

Year in Effect	Area of Application	Ancillary Information	Mesh Size (mm)
–[1]	Newfoundland	Cod trap nets	
		– walls	89
		– leader	177
1977	All	ICNAF trawl regulations retained (See App. Table 7).	130 manila equivalent
1982	All	Differentials for netting material and for seine nets removed. All species included unless specifically exempted.	130
1984	All	Groundfish gillnet mesh size standardized. (Previously varied between 127 mm and 152 mm depending on Province from which fishing occurred.)	140
1991 (March)	Div. 4VsWX+ Subarea 5	Differentials introduced based on type of mesh in codend:	
		– square mesh netting	140
		– diamond mesh netting	155
1991 (July)	Div. 4VsWX+ Subarea 5	– square mesh netting	130
		– diamond mesh netting	145
1994	All	All mesh size regulations revoked; replaced by specifications in annual "conservation harvesting plans" for each fleet sector.	–

[1] The minimum mesh size for netting in cod traps was set at 3 1/2 inches (89 mm) in 1919 or possibly earlier.

APPENDIX TABLE 10. Catch controls established in Canadian Atlantic fishing zones.

Year in Effect	Stocks	Remarks
1972	Herring – Southern Gulf of St. Lawrence	Included Div. 4T and southwest Newfoundland fishing areas
1974	Herring – St. Mary's Bay	Southeast coast of Newfoundland
1974	Herring – Placentia and Fortune Bays	Southeast coast of Newfoundland
1976	Herring – East coast of Newfoundland Cod – West coast of Newfoundland Redfish – Gulf of St. Lawrence	Defined by bays Div. 4RS – 3Pn Div. 4RST
1977	Herring – West coast of Newfoundland American plaice – Southern Gulf of St. Lawrence Witch flounder – Northern Gulf of St. Lawrence	Div. 4R Div. 4T Div. 4RS
1982	Cod – 4X total Greenland halibut – Gulf of St. Lawrence White hake – Southern Gulf of St. Lawrence	Previously only offshore area Div. 4RST Div. 4T
1983	Greenland halibut – Div. 2GH Greenland halibut – Div. 2J3KL	Previously managed as a single unit – Subarea 2 & Div. 3KL
1987	Haddock – Grand Banks Haddock – St. Pierre Bank Pollock – St. Pierre Bank	Div. 3LNO Subdiv. 3Ps Subdiv. 3Ps
1988	Atlantic halibut – Gulf of St. Lawrence Atlantic halibut – Atlantic coast	Div. 4RST Div. 3NOPs + VWX +Subarea 5
1989	Haddock – Southern Gulf of St. Lawrence	Div. 4T added to Div. 4VW management area
1990	Pollock – Div. 4VWX + 5Zc	Redefined management unit to exclude USA waters
1991	(Yellowtail flounder – Georges Bank)	Deregulated
1993	Redfish – Units 1, 2 and 3	Previous management units Div. 4RST, Div. 3P and Div. 4VWX rearranged into Unit 1 – Div. 4RST + Subdiv. 3Pn (Jan–May) + Subdiv. 4Vn (Jan–May), Unit 2 – Subdiv. 3Pn (Jun–Dec) + Subdiv. 4Vn (Jun–Dec) + Subdiv. 3Ps + Subdiv. 4Vs +Div. 4W (statistical areas f g j), Unit 3 – Div. 4W (statistical areas d e h k l) + Div. 4X
1994	Flatfish – Div. 4VW Flatfish – Div. 4X+5Y	Previously managed as a single unit, Div. 4VWX, and included American plaice, yellowtail flounder and witch flounder. Div. 5Y added and winter flounder added in Div. 4X+5Y management area
1995	Witch Flounder – Div. 4RST	Div. 4T added to management area.

APPENDIX TABLE 11. Species and stocks in EU waters[1] subject to TAC regulation in 1992, typical of the period from 1987 subsequent to the accessions of Spain and Portugal. (Council Reg. (EEC) No. 3882/91, OJ No. L367, 31-12-91.)

Species	Stock Areas
Herring	IIIa; IIIb, c, d (EU zone); IIa (EU zone), IVa, b; IVc, VIId; Vb (EU zone), VIa north, VIb; VIa south, VIIb, c; VIa Clyde; VIIa; VIIe, f; VIIg, h, j, k; (10 stocks).
Sprat	IIIa; IIIb, c, d (EU zone); IIa (EU zone), IV (EU zone); VIId, e; (4 stocks).
Anchovy	VIII; IX, X, Morocco; (2 stocks).
Capelin	IIb (1 stock).
Cod	IIb; IIIa Skagerrak; IIIa Kattegat; IIIb, c, d (EU zone); IIa (EU zone), IV; Vb (EU zone), VI, XII, XIV; VIIa; VII b, c, d, e, f, g, h, j, k, VIII, X, Morocco; (8 stocks).
Haddock	IIIa, IIIb, c, d (EU zone); IIa (EU zone), IV; Vb (EU zone), VI, XII, XIV; VII, VIII, IX, X, Morocco; (4 stocks).
Pollock (Saithe)	IIa (EU zone), IIIa, IIIb, c, d (EU zone), IV; Vb (EU zone), VI, XII, XIV; VII, VIII, IX, X, Morocco; (3 stocks).
Pollack	Vb (EU zone), VI, XII, XIV; VII; VIIIa, b; VIIIc; VIIId; VIIIe; IX, X, Morocco; (7 stocks).
Norway pout	IIa (EU zone), IIIa, IV (EU zone); (1 stock).
Blue whiting	IIa (EU zone), IV (EU zone); Vb (EU zone), VI, VII; VIIIa, b, d; VIIIe; VIIIc, IX, X, Morocco; (5 stocks).
Whiting	IIIa; IIa (EU zone), IV; Vb (EU zone), VI, XII, XIV; VIIa; VII b, c, d, e, f, g h, j, k; VIII; IX, X, Morocco; (7 stocks).
Hake	IIIa, IIIb, c, d (EU zone); IIa (EU zone), IV (EU zone); Vb (EU zone), VI, VII, XII, XIV; VIIIa, b, d, e; VIIIc, IX, X, Morroco; (5 stocks).
Jack and horse mackerels	IIa (EU zone), IV (EU zone); Vb (EU zone), VI, VII, VIIIa, b, d, e, XII, XIV; VIIIc, IX; (3 stocks).
Mackerel	IIa (EU zone), IIIa, IIIb, c, d (EU zone), IV; II (excl. EU zone), Vb (EU zone), VI, VII, VIIIa, b, d, e, XII, XIV; VIIIc, IX, X, Morocco; (3 stocks).
European plaice	IIIa Skagerrak; IIIa Kattegat; IIIb, c, d (EU zone); IIa (EU zone), IV; Vb (EU zone), VI, XII, XIV; VIIa; VIIb, c; VIId, e; VIIf, g; VIIh, j, k; VIII, IX, X, Morocco; (11 stocks).
Common sole	IIIa, IIIb, c, d (EU zone); II, IV; Vb (EU zone), VI, XII, XIV; VIIa; VIIb, c; VIId; VIIe; VIIf, g; VIIh, j, k; VIIIa, b; VIIIc, d, e, IX, X, Morocco; (11 stocks).
Megrims	Vb (EU zone), VI, XII, XIV; VII; VIIIa, b, d, e; VIIIc, IX, X, Morocco; (4 stocks).
Anglerfishes	Vb (EU zone), VI, XII, XIV; VII; VIIIa, b, d; VIIIe; VIIIc, IX, X, Morocco; (5 stocks).

[1] Also in Svalbard zone (IIb) for capelin and cod. See Norway section.

APPENDIX TABLE 12. Minimum mesh size regulations pertaining to cod, haddock and pollock in EU waters from 1977 (excluding Skagerrak and Kattegat for which mesh regulations were established under Norway–Sweden–EU agreement).

Year in Effect	Area of Application	Ancillary Information	Mesh Size (mm)[1]
1977		Member governments were expected to retain NEAFC regulations in effect until replaced by EU regulations. Temporary EU regulations also in effect in October 1980–October 1981	
1983[2]	**Region 1**	EU Region 1 is EU waters within NEAFC Region 1 and in NAFO Area off West Greenland (Subarea 1) and off St. Pierre and Miquelon (in Subarea 3)	
	– NAFO Subarea 1, ICES XIV, V	Greenland waters and small parts of ICES V which lie inside EU zone	130
	– other parts of the Region		120
	Region 2	Equates to NEAFC Region 2	
	– Irish Sea	ICES VIIa – single twine nets – double twine nets	 70 75
	– English Channel	ICES VIId,e	75
	– other parts of the Region		80
	Region 3	Equates to NEAFC Region 3	65
1987[3]	**Region 1**	Equates to NEAFC Region 1 (Greenland and St. Pierre and Miquelon waters no longer under EU jurisdiction)	
	– ICES Vb (EU Zone)	Standardized with mesh size to be phased in for Region 2	90
	– other parts of the Region		130
	Region 2		
	– Irish Sea	ICES VIIa (Distinction between single and double twine dropped)	70
	– English Channel	ICES VIId, e	75
	– West of Scotland and Ireland	ICES VI, VIIb, c, f, g, h, j, k	80
	– North Sea	ICES IV, the adjacent part of IIa lying south of 64°N, and a small western part of IIIa	85
	– other parts of the Region		90
	Region 3		65
1989[3,4]	**Region 2**	(Regions 1 and 3 regulations unchanged)	
	– Irish Sea	ICES VIIa	70
	– English Channel and west of Ireland	ICES VI south of 56°N, VII excluding VIIa	80
	– other parts of the Region		90
1992[5]	**Regions 1 and 2**		
	– west of Ireland, Irish Sea and English Channel	ICES VI south of 56°N, VII	80
	– other parts of the Regions	Mesh size specified as diamond mesh, but upper half of the trawl may comprise a section (panel or window) of square mesh netting of 90 mm	100
	Region 3		65

[1] Mesh sizes are irrespective of material of construction in all cases.
[2] Council Reg. (EEC) No. 171/83, OJ No. L24, 27-1-83.
[3] Council Reg. (EEC) No. 3094/86, OJ No. L288, 11-10-86.
[4] Council Reg. (EEC) No. 2968/87, OJ No. L280, 3-10-87.
[5] Council Reg. (EEC) No. 345/92, OJ No. L42, 18-2-92.

APPENDIX TABLE 13. Minimum fish size regulations pertaining to primary species (cod, haddock, pollock, herring, mackerel and capelin) in EU waters from 1977 (excluding Skagerrak and Kattegat for which size regulations were established under Norway–Sweden–EU agreement). (See Appendix Table 12 for definitions of Regions. Fish size is total length.)

Year in Effect	Species	Size Limit (cm)	Ancillary Information
1977			Member governments were expected to retain NEAFC regulations in effect until replaced by EU regulations. Temporary EU regulations also in effect in October 1980–October 1981 which were closely similar to those subsequently introduced in permanent legislation in 1983.
1983[1]			All undersized fish must be immediately discarded at sea (exemptions noted below).
	Cod	34	Region 1, except 40 cm off Greenland and in ICES area V.
		30	Regions 2 and 3, except 45 cm in Irish Sea between October and December. By-catch of cod 30–45 cm of 10% by weight allowed during this period.
	Haddock	31	Region 1
		27	Regions 2 and 3
	Pollock	35	Region 1
		30	Regions 2 and 3
	Herring	20	Regions 1, 2 and 3. By-catches of 10% by weight allowed.
	Mackerel	30	Applicable only to North Sea. By-catches of 15% by weight allowed, reduced to 10% after 1983.
	Capelin	–	
1987[2] (* indicates effective date of 1989)			Discarding requirements and exemptions as in 1983.
	Cod	35	Region 1 (Greenland no longer EU waters).
		35*	Regions 2 and 3. Irish Sea 45 cm provision rescinded after 1987.
	Haddock	30	Region 1
		30*	Regions 2 and 3
	Pollock	35	Regions 1 and 3
		35*	Region 2
	Herring, mackerel and capelin		No change
1992[3]	Mackerel	20	Regions 1, 2 and 3, except North Sea.
		30	North Sea
	Other primary species		No change

[1] Council Regs. (EEC) No. 171/83, OJ No. L24, 27-1-83; No. 2931/83, OJ No. L288, 21-10-83.
[2] Council Regs. (EEC) No. 3094/86, OJ No. L288, 11-10-86; No. 2024/88, OJ No. L179, 9-7-88.
[3] Council Regs. (EEC) No. 345/92, OJ No. L42, 18-2-92.

APPENDIX TABLE 14. Minimum trawl mesh size regulations pertaining to herring, mackerel and capelin in EU waters from 1977 (excluding Skagerrak and Kattegat for which size regulations were established under Norway-Sweden–EU agreement). (See Appendix Table 12 for definitions of Regions.)

Year in Effect	Region	Ancillary Information	Mesh Size (mm)[1]
1977		Member governments were expected to retain NEAFC regulations in effect until replaced by EU regulations. Temporary EU regulations also in effect in October 1980–October 1981 which were identical to those subsequently introduced in permanent legislation in 1983.	
1983[2]	Region 1	herring, mackerel, capelin	16
	Region 2	herring	16 (32 from 1-1-84)
		mackerel – North Sea (Skagerrak and Kattegat)	32
		mackerel – other parts of the Region	16
		capelin	16
	Region 3	herring, mackerel	40
		capelin	–
1992[3]	Regions 1 and 2	herring, mackerel	32
	Region 3	herring, mackerel	40
	All Regions	capelin	–

[1] Mesh sizes are irrespective of material of construction in all cases.
[2] Council Regs. (EEC) No. 171/83, OJ No. L24, 27-1-83; No. 2931/83, OJ No. L288, 21-10-83.
[3] Council Regs. (EEC) No. 345/92, OJ No. L42, 18-2-92; No. 1465/92, OJ No. L155, 6-6-92; No. 3919/92, OJ No. L397, 31-12-92; No. 3676/93, OJ No. 314, 31-12-93; No. 3362/94, OJ No. L363, 31-12-94; No. 1909/95, OJ No. L184, 3-8-95.

APPENDIX TABLE 15. Minimum mesh size regulations for Icelandic waters pertaining to cod, haddock and pollock after 1975. (Mesh sizes are irrespective of material used for construction.)

Year	Fishing Method		Mesh Size (mm)
1976	bottom trawling and Danish seining		135
1977	bottom trawling except for redfish		155
	Danish seining		170
1978	midwater trawling for cod, haddock and pollock		155
1979	Danish seining		155
1978[1]	Cod gillnets	winter	178
		summer	152
1984	Danish seining	Faxaflói Bay	155
		Other Areas	135

[1] Previously 178 mm in winter, 140 mm in summer. Revised to 152 mm all year in 1993.

APPENDIX TABLE 16. Minimum mesh size regulations in the Norwegian zone pertaining to cod, haddock and pollock from 1977 (excluding Skagerrak and Kattegat for which mesh regulations established under Norway–Sweden–EU agreement).

Year in Effect	Area of Application	Ancillary Information	Mesh Size (mm)
1977	All areas	NEAFC regulations were continued in effect (see App. Table 4)	
1981	North of 64°N	Trawls of cotton, hemp, polyamide or polyester	125
		Trawls of any other material	135
		Danish seines	125
	South of 64°N	All nets irrespective of material	90
1983	North of 64°N	Trawls of cotton, hemp, polyamide or polyester	135
		Trawls of any other material	145
		Danish seines	135
	South of 64°N	No change	
1987	North of 64°N	Danish seines of hemp, cotton, polyamide or polyester	125
		Danish seines of any other material	135
		(Trawl nets – no change)	
	South of 64°N	All nets irrespective of material	100

APPENDIX TABLE 17. Minimum fish size regulations pertaining to primary species (cod, haddock, pollock, herring, mackerel and capelin) in the Norwegian zone from 1977 (excluding Skagerrak and Kattegat for which mesh regulations established under Norway–Sweden–EU agreement). (Fish size is total length.)

Year in Effect	Species	Size Limit (cm)	Ancillary Information
1977			NEAFC regulations in effect (see App. Table 5).
1981	Cod	42	NEAFC Region 1. By-catch of 15% by number of undersized cod allowed.
	Haddock	39	NEAFC Region 1. By-catch of 15% by number of undersized haddock allowed.
1983	Pollock	32–40	Size limit varied with latitude, 40 cm in north, 37 cm, 35 cm, 32 cm off southern Norway. By-catch of 10% by weight of undersized pollock allowed in coastal zone.
1990	Cod	47	NEAFC Region 1. By-catch of 15% by number of undersized cod allowed.
	Haddock	44	NEAFC Region 1. By-catch of 15% by number of undersized haddock allowed.
	Cod and Haddock		Size limits in NEAFC Region 2 unchanged from those of NEAFC (30 cm and 27 cm respectively) and thus remained consistent with those of EU until latter increased minimum sizes in 1989.
	Herring		NEAFC limit of 20 cm in human consumption fisheries in North Sea retained, consistent with EU regulations. A minimum size of 25 cm was introduced in 1975 for Norwegian spring–spawning herring. By-catch of 10% by weight of undersized herring allowed.
	Mackerel		NEAFC limit of 30 cm retained but applied to all North Sea catches. This coincided with EU regulation. By-catch of 15% by weight of undersized mackerel allowed. (EU limit reduced to 10% from 1984.)
	Capelin		Size limits were established at 11 cm in Barents Sea in 1978 and at 12 cm for the Jan Mayen zone (consistent with Icelandic regulation). By-catch of 10% by number of undersized capelin allowed. There were no capelin size limits established in NEAFC regulation.
	Prohibition on discard		It is prohibited to discard catches of various fish species including cod, haddock, pollock, herring and mackerel.

APPENDIX TABLE 18. Minimum mesh size regulations pertaining to cod, haddock and pollock in USA waters from 1977. (Data sources: NEFMC management plans and amendments, U.S. Federal Register.)

Year in Effect	Area of Application	Ancillary Information	Mesh size[1] (mm)
1977	Entire zone	Applicable when fishing for cod, haddock, and yellowtail flounder, with trawl nets	
		– codend	130
		– body of net	114
1978	Entire zone	Bottom gillnets	140
1982	Large mesh area – S.W. Gulf of Maine and Georges Bank	Trawl and seine nets	
		– codend (until 31 December 1982)	130
		– codend (from 1 January 1983)	140
		– body of net	114
		Bottom gillnets	140
1986	Large mesh areas – Gulf of Maine and Georges Bank	Trawl and seine nets	
		– codend	140
		– body of net[2]	–
	Large mesh areas, and rest of zone in November–February period	Bottom gillnets	140
1994	Large mesh areas – Gulf of Maine and Georges Bank	Trawl, seine and bottom gillnets	152
	Large mesh areas – Southern New England and Nantucket Lightship ground	Trawl, seine and bottom gillnets	140

[1] Mesh sizes are irrespective of material of construction in all cases.
[2] Codend defined as last 75 meshes of net in 1987 and 140 mm mesh regulation extended to include the whole net effective 1 January 1990.

APPENDIX TABLE 19. Minimum fish size regulations pertaining to cod, haddock and pollock fished commercially in USA waters from 1977. (Fish size is total length. Different conditions applied to recreational fishing. Data sources: NEFMC management plans and amendments, U.S. Federal Register.)

Year in Effect	Species	Size Limit inches (cm)	Ancillary Information
1977	Cod and Haddock	16 (40.6)	By-catch limit of 10% by weight of each species for commercial fishing vessels.
1982	Cod and Haddock	17 (43.2)	No undersized fish could be retained on board, landed or possessed.
1986	Cod, Haddock and Pollock	17 (43.2)	No undersized fish could be landed or possessed.
1987	Cod, Haddock and Pollock	19 (48.3)	No undersized fish could be landed or possessed.