

Stock-by-Stock Research Vessel Surveys Reported During 1990–2000

NAFO Secretariat

The Scientific Council at its meeting in June 1990 agreed to compile an inventory and information on research vessel surveys conducted with respect to stocks assessed by the Scientific Council (SCS Doc. 90/22). This inventory was judged to be a useful reference and very helpful for the establishment of other inventories. During its meeting in June 1991 the Council agreed that the Designated Experts for the stocks should update the information annually (*NAFO Sci. Coun. Rep.*, 1991, p. 37) for review by STACFIS. In 1991 and the subsequent years through the decade, the inventory has been compiled annually and presented to the Scientific Council in the form of Scientific Council Summary Documents (SCS Doc.) (SCS Doc. 91/8, 92/22, 93/18, 94/18, 95/17, 96/15, 97/13, 98/18, 00/28).

A review of the annual inventories showed that there often were revisions and updates from one year to the next, and consequently readers of the SCS Document series may experience difficulties in interpreting the information. The Secretariat therefore took the initiative to compile a decadal publication. Noting this represented the best interpretation of the available information, Designated Experts responsible for stock assessments were requested to verify the accuracy of this compilation.

The following tabulations were compiled by the Secretariat in order to provide a comprehensive overview of surveys during the 1990–2000 decade used for stock assessments by the Scientific Council. Information supplied in the SCS Documents mentioned above were collated and edited as needed, and the SCR Documents cited in them were checked and corrections made to the tables when necessary.

In a few cases, the information supplied by the Designated Experts in the document series was not clear and document citations were not listed. In such cases the best representative interpretations by the Secretariat are presented in these Tables. It was also noted data on different stocks were collected in the same surveys but often the surveys were not referred to in a consistent way. These were re-tabulated to achieve best consistency.

This paper is compiled in the format designed by the Scientific Council in 1990s. Stock-by-Stock tabulations are listed with the northernmost stock first and progress southward from Subarea 0 to 4. The following is the sequence of presentation:

- Greenland halibut in Subarea 0 + Divisions 1B–1F
- Greenland halibut in Division 1A
- Roundnose grenadier in Subareas 0 and 1
- Cod in Subarea 1
- Redfish in Subarea 1
- Other Finfish in Subarea 1
- Cod in Division 3M
- Redfish in Division 3M
- American plaice in Division 3M
- Cod in Divisions 3N and 3O
- Redfish in Divisions 3L and 3N
- American plaice in Divisions 3L, 3N and 3O
- Yellowtail flounder in Divisions 3L, 3N and 3O
- Witch flounder in Divisions 3N and 3O
- Capelin in Divisions 3N and 3O
- Groundfish (Cod in Subdivision 3Ps)
- Roundnose grenadier in Subareas 2 and 3
- Roughhead grenadier in Subareas 2 and 3
- Cod in Divisions 2J, 3K and 3L

Witch flounder in Divisions 2J + 3KL
Greenland halibut in Subarea 2 and Divisions 3K and 3L
Short-finned Squid in Subareas 3 and 4
Silver hake in Divisions 4V, 4W and 4X
Elasmobranchs in Subareas 2–6
Short-finned Squid in Subareas 5 and 6
Shrimp in Divisions 3LNO
Shrimp in Division 3M
Shrimp in Subareas 0 and 1
Shrimp in Denmark Strait

References to pertinent documents are noted in the tables and a complete list of documents cited is listed at the end.

Stock name: Greenland halibut in Subarea 0 + Divisions 1B-1F

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
Joint Japan/ Greenland survey	1A-1D	Apr-May	1987-89	Stratified-random bottom trawl	Greenland halibut	61	-	-	400-1500 m	N	Y	N	Y	N	Japan/ Greenland	SCR 90/39
		Jun Aug-Sep	1990			90	N	35	400-1500 m	Y	Y	Y	Y	Y	Japan/ Greenland	SCR 91/50
		Aug-Sep Nov	1991			90	N	?	400-1500 m	Y	Y	N	Y	N	Japan/ Greenland	SCR 92/48
		Aug Nov-Dec	1992			139	N	?	400-1500 m	Y	Y	N	Y	N	Japan/ Greenland	SCR 93/58
	1B-D	Aug-Sep	1993		87	N	30	400-1500 m	Y	Y	Y	Y	Y	Japan/ Greenland	SCR 94/31	
		Aug	1994		80	N	?	400-1500 m	N	N	Y	Y	Y	Japan/ Greenland	SCR 95/23	
	1A-1D	Aug	1995		91	N	?	400-1500 m	N	Y	Y	Y	Y	Japan/ Greenland	SCR 96/29	
Greenland deep-sea	1CD	Sep-Oct	1997	Stratified-random bottom trawl	Greenland halibut	63	N	?	400-1500 m	Y	Y	Y	Y	Y	Greenland	SCR 98/25
			1998			56	N	?	400-1500 m	Y	Y	Y	Y	Y	Greenland	SCR 99/30
			1999		Greenland halibut Roundnose grenadier	38	N	?	400-1500 m	Y	Y	Y	Y	Y	Greenland	SCR 00/10
Inshore longline survey	1A	Aug	1989	Tagging-longline	Greenland halibut	35	-	-	350-800 m	-	-	-	Y	-	Greenland	
		Jul-Aug	1993	Longline		52	Y	10	200-1500 m	Y	N	Y	Y	Y	Greenland	

Greenland halibut in Subarea 0 + Divisions 1B-1F (continued)

Offshore Exploratory longline fishery	1BCD	Nov	1989	Stratified-random longline		13	-		400-1600 m	-	-	-	Y	-	Faroes	SCR 90/38
Deepwater longline	1DE	May-Jun	1992	Longline	Greenland halibut	52	Y	-	300-2200 m	N	N	Y	Y	Y	Greenland/ Norway	SCR 93/53
	1AB	Aug	1993			44	Y	30	400-1400 m	Y	N	Y	Y	Y	Greenland /Norway	SCR 94/10
USSR survey	0 + 1	Sep-Nov	1979-87	Stratified-random bottom trawl	Greenland halibut		Y	70	200-1300 m	Y	Y	Y	Y	Y	USSR	SCR 88/41
	0B	Sep-Nov	1990	Stratified-random bottom trawl and longline	Greenland halibut	66/61	Y	35	200-1500 m	Y	Y	Y	Y	Y	USSR	SCR 91/66
		Oct-Nov	1991	Stratified-random bottom trawl	Greenland halibut	59	N	?	200-1500 m	Y	Y		Y	-	Russia	SCR 92/22
		Nov	1992	Stratified-random bottom trawl	Roundnose grenadier	26	Y	?	500-1500 m	Y	Y	Y	Y	Y	Russia	SCR 93/12
Joint USSR/GDR (EEC-DEU) trawl survey	0B, 1B, 1C, 1D	Oct-Nov	1989-90	Stratified-random bottom trawl	Greenland halibut	116	Y	90	200-1500 m	Y	Y	Y	Y	Y	USSR/ GDR (EEC- DEU)	SCR 91/21
West Greenland trawl survey	1A-1F	Jul-Sep	1988-92	Stratified-random bottom trawl	Greenland halibut	206	N	?	0-600 m	Y	Y	N	Y	N	Greenland	SCR 93/52
	1A-1F Disko Bay	Jul-Sep	1993		Greenland halibut	187	N	5	0-600 m	Y	Y	N	Y	N	Greenland /Denmark	SCR 94/9
			1994		Shrimp Groundfish	176	N	5	0-600 m	N	N	Y	Y	Y	Greenland	SCR 95/19
			1995		Shrimp	194	N	?	50-600 m	Y	Y	Y	Y	Y	Greenland	SCR 96/67
			1996		Shrimp Groundfish	199	N	?	0-600 m	Y	Y	Y	Y	Y	Greenland	SCR 97/39

Greenland halibut in Subarea 0 + Divisions 1B-1F (continued)

West Greenland trawl survey	1A-1F Disko Bay	Jul-Sep	1997	Stratified-random bottom trawl	Shrimp Groundfish	278	N	?	0-600 m	Y	Y	Y	Y	Y	Greenland	SCR 98/40
			1998			233	N	?	0-600 m	Y	Y	Y	Y	Y	Greenland	SCR 99/27
			1999			245	N	?	0-600 m	Y	Y	Y	Y	Y	Greenland	SCR 00/22

Stock name: Greenland halibut in Division 1A

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
Longline survey	1A inshore	Jul-Aug	1993	Longline	Greenland halibut	52	Y	10	200-1100 m	Y	N	Y	Y	Y	Greenland	
			1994			73	Y	?	200-800 m	N	N	Y	Y	Y	Greenland	SCR 95/67
	Ilulissat Uummannaq Upernavik (2 a year)	Jul-Aug	1996	Fixed stations Longliners	Greenland halibut	30 in each location (60 a year)	Y	?	200-900 m	N	N	Y	Y	Y	Greenland	SCR 96/68 97/78
	Disko Bay Uummannaq Upernavik	Jul-Aug	1997-99	Fixed stations longliners	Greenland halibut	30 in each location (60 a year)	Y	?	200-900 m	N	N	Y	Y	Y	Greenland	SCR 98/44 99/48 00/29 00/47
Bottom trawl survey	1A offshore Disko Bay inshore	Jul-Sep	1988-94	Stratified-random bottom trawl	Northern shrimp Groundfish	176	N	?	0-600 m	Y	Y	Y	Y	Y	Greenland	SCR 95/19

Stock name: Roundnose Grenadier in Subareas 0 and 1

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock					Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF	Individual weights		
										Abundance	bio-mass					
Joint Japan/ Greenland bottom trawl survey	SA 1	Apr-May	1987-89	Stratified-random bottom trawl	Greenland halibut	61	-	?	400-1500 m	Y	Y	N	Y	Y	Japan/ Greenland	SCR 90/39
	1A-D	Jun Aug-Sep	1990		Greenland halibut Roundnose grenadier	75/88	N	35	400-1500 m	Y	Y	Y	Y	Y	Japan/ Greenland	SCR 91/50
		Aug-Sep	1991			108	N	Much less than 100	1-1500 m	Y	Y	N	Y	N	Japan/ Greenland	SCR 92/48
		Aug	1992			90	N	?	400-1500 m	Y	Y	N	Y	N	Japan/ Greenland	SCR 93/58
	1C-D	Nov-Dec	1992			49	N	?	400-1500 m	Y	Y	N	Y	N	Japan/ Greenland	SCR 93/58
	1B-D	Aug-Sep	1993			87	N	?	400-1500 m	Y	Y	N	Y	N	Japan/ Greenland	SCR 94/31
		Aug	1994			80	N	?	400-1500 m	Y	Y	N	Y	N	Japan/ Greenland	SCR 95/23
		1A-D	Aug	1995		91	N	?	400-1500 m	N	Y	N	Y	N	Japan/ Greenland	SCR 96/29
Greenland Deep-sea	1CD	Sep-Oct	1997	Stratified-random bottom trawl	Greenland halibut Roundnose grenadier	63	N	?	400-1500 m	Y	Y	N	Y	N	Greenland	SCR 98/25
		1998	56			N	?	400-1500 m	Y	Y	N	Y	N	Greenland	SCR 99/30	

Roundnose Grenadier in Subareas 0 and 1 (continued)

Greenland Deep-sea	1CD	Sep-Oct	1999	Stratified-random bottom trawl	Greenland halibut Roundnose grenadier	38	N	?	400-1500 m	Y	Y	N	Y	N	Greenland	SCR 00/10
USSR Greenland halibut survey	SA 0	Sep-Oct	1979-89	Stratified-random bottom trawl	Greenland halibut	?		?	to 1500 m	N	N	Y	Y	Y	USSR	SCR 90/06
	0+1	Sep-Nov	1990	Stratified-random bottom trawl	Roundnose grenadier Greenland halibut	-	-	-	to 1500 m	-	-	Y	Y	-	USSR	SCR 91/8
Russian Greenland halibut survey	SA 0B	Nov	1991		Greenland halibut	59	N	Much less than 100	200-1500 m	Y	Y	N	Y	N	Russia	SCR 92/9 92/22
			1992		Greenland halibut Roundnose grenadier	26	Y	?	500-1500 m	Y	Y	Y	Y	Y	Russia	SCR 93/12
Joint USSR/GDR (EEC-DEU) trawl survey	0B, 1B-D	Oct-Nov	1989-90	Stratified-random bottom trawl	Greenland halibut Roundnose grenadier	66	Y	90	200-1500 m	Y	Y	Y	Y	Y	USSR/GDR (EEC-DEU)	SCR 91/21 91/66

Stock name: Cod in Subarea 1

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
West Greenland Groundfish Survey	1BCDEF	Nov-Dec	1982-89	Stratified-random bottom trawl	Cod	140		100	0-600 m	Y	Y	Y	Y	Y	Federal Republic of Germany	SCR 91/76
			1990	Stratified-random bottom trawl	Cod	111	Y	70	0-600 m	Y	Y	Y	Y	Y	Federal Republic of Germany	
West Greenland trawl survey	1B, 1D 1F	Jul-Aug	1989-90	Bottom trawl Stomach sampling, mid-water trawl for 0-group	Cod/other Demersal	51	N	50	45-430 m	N	N	N	Y	Y	Federal Republic of Germany	SCR 91/35 91/76
West Greenland Longline Survey	1BCDE	Oct-Nov	1987-90	Stratified-random longline	Cod	123		30	0-300 m	Y	N	Y	Y	Y	Greenland	
West Greenland Young cod survey	1BDF	Jul	1985-89	Gillnet	Cod	208		20	0-35 m	Y	N	Y	Y	Y	Greenland	
			1990	Gillnets with different mesh sizes	Cod	171	Y	30	0-40 m	Y	N	Y	Y	Y	Greenland	SCR 91/64
			Jun-Jul	1986-94	Gillnets	Cod	170	Y		0-20 m	Y	N	Y	Y	Y	Greenland
West Greenland shrimp survey	1ABCD	Jul-Aug	1988-91	Stratified-random bottom shrimp trawl	Shrimp	140		?	150-600 m	N	N	?	Y	Y	Greenland	
Greenland trawl survey	1A-1F	Jul-Sep	1988-93	Stratified-random bottom trawl	Cod	187	N	5	0-600 m	Y	Y	N	Y	N	Greenland	SCR 94/9
Japanese Groundfish survey	1C, 1D	Apr-May	1987-90	Stratified-random bottom trawl	Greenland halibut Roundnose grenadier	61		10	400-1500 m	Y	Y	N	Y	N	Japan	

Stock name: Redfish in Subarea 1

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
Groundfish survey off West Greenland	1B-1F	Oct-Nov	1982-90	Stratified-random bottom trawl	Cod	111		100	0-600 m	Y	Y	Y	Y	N	EU-Germany	SCR 91/36
			1991		97											SCR 92/40
			1992		47	N	50	0-400 m	Y	Y	N	Y	Y	SCR 93/26		
			1993		55	N	90% for cod, other finfish unknown	0-400 m	Y	Y	N		N	SCR 94/7		
			1994		78	N	90% for cod, other finfish unknown	0-400 m	Y	Y	N		N	SCR 95/3		
			1995		Cod, redfish, other finfish	35 (incomplete coverage)	N	80	0-400 m	Y	Y	N	Y	N		SCR 96/6
			1996			55	N	80	0-400 m	Y	Y	N	Y	N		SCR 97/5
			1997			45	N	80	0-400 m	Y	Y	N	Y	N		SCR 98/21
			1998			63	N	80	0-400 m	Y	Y	N	Y	Y		SCR 99/20
			1999			63	N	80	0-400 m	Y	Y	N	Y	N		SCR 00/28
West Greenland Joint Japan/ Greenland groundfish survey	1ABCD	May-Jun Aug/Sep	1987-90	Stratified-random bottom trawl	Greenland halibut	61		Continental slope	400-1600 m	N	Y	N	N	N	Japan/ Greenland	SCR 91/50

Redfish in Subarea 1 (continued)

West Greenland Joint Japan/ Greenland groundfish survey	SA 1 – 1A-D	Aug-Sep Nov	1991	Stratified-random bottom trawl	Redfish	100 90	N	40	0-1500 m	N	Y	N	Y	N	Greenland/ Japan	SCR 92/48
	1A-D	Aug Nov-Dec	1992	Stratified-random bottom trawl	Groundfishes	96 49	N	?	400-1500 m	Y	Y	N	Y	N	Japan/ Greenland	SCR 93/58
Greenland/Japan Joint B.T.S.	1B-1D *1A not covered due to ice	Aug-Sep	1993	Stratified-random bottom trawl	Groundfishes	87	N	?	400-1500 m	Y	Y	N	Y	N	Greenland/ Japan	SCR 94/31
	1B-1D	Aug	1994			80	N		400-1500 m	Y	Y	N	Y	N	Japan/ Greenland	SCR 95/23
	1A-1D	Aug	1995			91	N	80	600-1500 m	Y	Y	N	Y	N	Greenland/ Japan	SCR 96/29
Greenland bottom trawl	1C-D	Sep-Oct	1997	Stratified-random bottom trawl	Greenland halibut	63	N	80	600-1500 m	Y	Y	N	Y	N	Greenland	SCR 98/25
			1998			56	N	80	600-1500 m	Y	Y	N	Y	N	Greenland	SCR 99/30
			1999			36	N	80	600-1500 m	Y	Y	N	Y	N	Greenland	SCR 00/10
West Greenland shrimp survey	1A-E + Subarea 0 (part)	Jul-Aug	1988-90	Stratified-random shrimp bottom trawl	Shrimp	135		Offshore 61°52'N- 72°30'N	150-600 m	N	N	N	Y	N	Greenland	
	SA 1, 1A Disko Bay (inshore)	Sep	1991			44	N	<10	150-550 m	Y	Y	N	Y	N	Greenland	SCR 92/43
	SA 1 1A, 1B (offshore)	Jul-Aug	1988-91			41	N	20	150-600 m	Y	Y	N	Y	N	Greenland	SCR 92/44

Redfish in Subarea 1 (continued)

West Greenland trawl surveys	1A-1F	Jul-Sep	1988-92	Stratified-random bottom trawl	Shrimp, groundfish	202	N	?	0-600 m	Y	Y	N	Y	N	Greenland	SCR 93/52
			1993	Stratified-random bottom trawl	Shrimp, information on redfish	187	N	?	0-600 m	Y	Y	N	Y	N	Greenland	SCR 94/9
		Jul-Aug	1994	Stratified-random shrimp bottom trawl	Shrimp/ Groundfish	181	N	80	0-600 m	Y	Y	N	Y	N	Greenland	SCR 95/19
			1996	Stratified-random shrimp bottom trawl	Shrimp	194	N	80	0-600 m	Y	Y	N	Y	N	Greenland	SCR 97/39
			1997			278	N	80	0-600 m	Y	Y	N	Y	N	Greenland	SCR 98/40
			1998			233	N	80	0-600 m	Y	Y	N	Y	N	Greenland	SCR 99/27
			1999			230	N	80	0-600 m	Y	Y	N	Y	N	Greenland	SCR 00/22

Stock name: Other Finfish in Subarea 1

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
West Greenland groundfish survey	IBCDEF	Nov-Dec	1982-89	Stratified-random bottom trawl	Cod	140		80 - Offshore	0-600	Y	Y	N	Y	Y	EEC-Germany	
	1B-1F	Oct-Nov	1982-92	Stratified-random bottom trawl	Cod	100	N	?	0-400 m	Y	Y	N	Y	N	EEC-Germany	SCR 93/26
			1993		Cod (Redfish Other finfish)	60	N	?	0-400 m	Y	Y	N	N	N	EEC-Germany	SCR 94/7
			1995		Cod Redfish	35	N	80	0-400 m	Y	Y	N	Y	Y	EU-Germany	SCR 96/4 96/5
		Oct-Nov	1996		Cod Redfish Other finfish	55	N	80	0-400	Y	Y	N	Y	Y	EU-Germany	SCR 97/5
			1997			45	N	80	0-400	Y	Y	N	Y	Y	EU-Germany	SCR 98/21
			1998			63	N	80	0-400	Y	Y	N	Y	Y	EU-Germany	SCR 99/21 99/33 99/37
			1999			63	N	80	0-400	Y	Y	N	Y	Y	EU-Germany	SCR 00/11 00/28
Japanese groundfish survey	1CD	Apr-May	1987-89	Stratified-random bottom trawl	Greenland halibut Roundnose grenadier	61		10	400-1500 m	?	Y	N	Y	N	Japan	
Joint Japan/ Greenland survey off West Greenland	1A-1D	Aug	1987-92	Stratified-random bottom trawl	Greenland halibut	92	N	?	400-1500 m	Y	Y	N	Y	N	Japan/ Greenland	SCR 93/58
	1CD	Nov-Dec			Roundnose grenadier	49										

Other Finfish in Subarea 1 (continued)

Joint Japan/ Greenland survey off West Greenland	1B-1D	Aug	1994	Stratified-random bottom trawl	Greenland halibut Roundnose grenadier Redfish Other finfish	80	N	?	400-1500 m	Y	Y	N	Y	N	Japan/ Greenland	SCR 95/23
	1A-1D		1995	Stratified-random bottom trawl	Greenland halibut	91	N	80	400-1500 m	Y	Y	N	Y	N	Greenland/ Japan	SCR 96/29
Greenland deepsea	1CD	Sep-Oct	1997	Stratified-random bottom trawl	Greenland halibut Roundnose grenadier	63	N	80	400-1500 m	Y	Y	N	Y	N	Greenland	SCR 98/25
			1998			56	N	80	400-1500 m	Y	Y	N	Y	N	Greenland	SCR 99/30
			1999			36	N	80	400-1500 m	Y	Y	N	Y	N	Greenland	SCR 00/10
Greenland shrimp	1A-1F	Jul-Sep	1988-92	Stratified-random bottom trawl	Shrimp Groundfish	206	N	?	0-600 m	Y	Y	N	N	N	Greenland	SCR 93/52
			1994		Shrimp	181	N	80	0-600 m	Y	Y	N	Y	N	Greenland	SCR 95/19
		Jul-Aug	1995			194	N	80	0-600 m	Y	Y	N	Y	N	Greenland	SCR 97/39
			1997			278	N	80	0-600 m	Y	Y	N	Y	N	Greenland	SCR 98/40
			1998			233	N	80	0-600 m	Y	Y	N	Y	N	Greenland	SCR 99/27
			1999			230	N	80	0-600 m	Y	Y	N	Y	N	Greenland	SCR 00/22
Norwegian Longline Survey	1D+1E	May-Jun	1989-92	Longline	Greenland halibut Roughhead grenadier Cusk	52	Y	?	300-2200 m	N	N	N	Y	N	Norway	SCR 93/53

Stock name: Cod in Division 3M

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
Canadian groundfish survey	3M	Jan-Feb	1977-85	Stratified-random Bottom trawl	Groundfish	34-142		100	Up to 730 m	Y	Y	Y	Y	Y	Canada	SCR 83/29
		Sep-Oct	1996	Stratified-random Bottom trawl	All	68	Y	100	127-730 m	Y	Y	Y	Y	Y	Canada Nfld.	SCR 97/42
USSR ground-fish survey	3M	Apr-Jul	1971-92	1971-82 fixed station 1983-90 random 1987-90 trawl and acoustic	Groundfish Groundfish Groundfish	12-76 85-109 85-109	Y Y Y	100	120-720 m	Y	Y	Y	Y	Y	USSR	SCR 91/5 92/13
Russian trawl/ acoustic survey	3M	Apr	1993	Bottom trawl + Acoustic (1987-93)	All	53	T	95	/400	Y	Y	N	N	N	Russia	
	3MLNO	Apr-May	1993	Groundfish Acoustic	Cod Redfish Capelin American plaice Witch flounder	316	Full	3M-100 3L-70 3N-100 3O-100	50-700 m	Y	Y	Y	Y	Y	Russia	SCR 94/12
			1994	No survey												
	3M	May	1995-96	Stratified-random bottom trawl	All	58	Y	100	80-730 m	Y	Y	Y	Y	Y	Russia	SCR 96/7 97/7
EEC survey	3M	Jul-Aug	1988-89	Stratified-random bottom trawl	Cod	115-116	1988 Y	100	120-720 m	Y	Y	Y	Y	Y	EEC	
		Jul	1990	Stratified-random bottom trawl	Groundfish	113	N	100	120-720 m	Y	Y	Y	Y	Y	EEC	SCR 91/95
			1991	Stratified-random bottom trawl	Groundfish	117	N	100	120-720 m	Y	Y	Y	Y	Y	EEC	SCR 92/27
			1992	Stratified-random bottom trawl	All	117	N	100	to 720 m	Y	Y	Y	Y	Y	EEC	SCR 93/19

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Cod in Division 3M (continued)

EEC survey	3M	Jul	1993	Stratified-random bottom trawl	All	101	N	100	to 720 m	Y	Y	Y	Y	Y	EU	SCR 94/22
			1994	Stratified-random bottom trawl	All	116	N	100	Up to 730	Y	Y	Y	Y	Y	EU	SCR 95/26
			1995	Stratified-random bottom trawl	All	121	N	100	80-730 m	Y	Y	Y	Y	Y	EU	SCR 96/54
			1996-97	Stratified-random bottom trawl	All	117	N	100	127-730 m	Y	Y	Y	Y	Y	EU	SCR 97/28 98/30
			1998	Stratified-random bottom trawl	All	119	N	100	80-730 m	Y	Y	Y	Y	Y	EU	SCR 99/22
			1999	Stratified-random bottom trawl	All	117	N	100	80-730 m	Y	Y	Y	Y	Y	EU	SCR 00/9

Stock name: Redfish in Division 3M

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
USSR groundfish	3M	Apr-Jul	1971-90	1971-92 Fixed stations 1983-90 random 1987-90 trawl and acoustic	Groundfish	12-76	Y	100	120-750 m	Y	Y	Y	Y	Y	USSR	SCR 91/5
Russian bottom trawl survey	3M	Apr-May	1991	Stratified-random & acoustic	Redfish	107	?	100	200-700 m	Y	Y	N	Y	?	USSR/ Russia	SCR 92/12
		Apr	1992			47	Y	89	200-700 m	Y	Y	Y	Y	Y	Russia	SCR 93/11
		Jun-Jul	1993	Acoustic		56	?	100	0-732 m	Y	Y	N	Y	?	Russia	SCR 94/13
			1994	Not surveyed												SCR 95/13
	3M	May	1995	Stratified-random bottom trawl, (Same stratification as EU-survey)	Redfish	58	Y	80	127-732 m	Y	Y	N	Y	N	Russia	SCR 96/9
			1996	Stratified-random bottom trawl	Groundfish	76	Y	Unknown	127-914 m	Y	Y	N	N	N	Russia	SCR 97/8
		Apr-Jul	1987-96 (no 1994)	Stratified-random bottom trawl	<i>Sebastes marinus</i>	76-131	Y		0-914 m	Y	Y	-	Y	-	Russia	SCR 97/9
Canadian groundfish survey	3M	Jan-Feb	1977-85	Stratified-random	Groundfish	108-142	Y	100	120-720 m	Y	Y	Y	Y	Y	Canada	SCR 83/29
		Sep-Oct	1996	Stratified-random bottom trawl	Groundfish	68	Y	Unknown	127-731	Y	Y	Y	Y	Y	Canada	SCR 97/42

Redfish in Division 3M (continued)

Canadian groundfish survey	3M	Nov-Dec	1996	Stratified-random bottom trawl	Groundfish	18	Y	Unknown	731-1463 m	Y	Y	Y	Y	Y	Canada	SCR 97/42
EEC groundfish survey	3M	Jul-Aug	1988-90	Stratified-random	Groundfish	113-116	Y	100	120-720 m	Y	Y	Y	Y	Y	EEC	SCR 91/95
		Jun-Jul	1991			117	N	100	280-476 m	Y	Y	Y	Y	Y	EEC	SCR 92/27
			1992			117	N	100	to 720 m	N	Y	Y	Y	Y	EEC	SCR 93/19 93/24
			1993			101	N	100	to 720 m	Y	Y	Y	Y	Y	EEC	SCR 94/22
		Jul	1994			116	N	100	to 720 m	Y	Y	Y	Y	Y	EEC	SCR 95/26
EU groundfish	3M		1995			121	N	100	to 720 m	Y	Y	Y	Y	Y	EU	SCR 96/54
		Jun-Jul	1996			117	N	Unknown	to 720 m	Y	Y	Y	Y	Y	EU	SCR 97/28
		Jul-Aug	1997			117	N	100	to 720 m	Y	Y	Y	Y	Y	EU	SCR 98/30
		Jul-Aug	1998			119	N	100	to 730 m	Y	Y	Y	Y	Y	EU	SCR 99/22
		Jul	1999			117	N		127-730 m	Y	Y	Y	Y	Y	EU	SCR 00/9
Japan deepwater survey	3L, 3M	Mar-Apr	1995	Stratified-random bottom trawl	Greenland halibut	58-3L 131-3M	N	3L-? 3M-100	3L- 400-700 fm 3M- 300-800 fm	N	Y	N	N	N	Japan	SCR 95/48

Stock name: American plaice in Division 3M

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
Canadian groundfish survey	3M	Jan-Feb	1977-85	Stratified-random bottom trawl	Groundfish	34-142		100	130-728 m	Y	Y	Y	Y	Y	Canada	SCR 92/76
		Sep-Oct <731 m Nov >73 m	1996	Stratified-random with Campelen	Groundfish	68	Y	100 for most species	127-1400 m	Y	Y	Y	Y	Y	Canada	SCR 97/42
USSR trawl & acoustic survey	3M	Apr-Jul	1977-93	Stratified-random bottom trawl & acoustic	Groundfish	52-110		100	120-720 m	Y	Y	-	Y	Y	USSR	SCR 88/24 94/12 SCS 94/3
USSR Survey	3M	Spring Summer	1972-91	Fixed station 1972-83 Stratified-random 1984-91	Groundfish	19-76 120	Y	100	75-720	Y	Y	N	Y	N	Russia	SCS 91/5 92/12 SCR 90/71 91/60
EEC Survey	3M	Jul	1988	Stratified-random bottom trawl	Cod	120	Y	100	120-170	Y	Y	Y	Y	Y	EEC	SCR 89/60
			1989			129	N									SCR 90/68
		Jul-Aug	1990		Groundfish	113	N	100	75-720 m	Y	Y	Y	Y	Y	EEC	SCR 91/28
		Jun-Jul	1991			117	N	100	120-720 m	Y	Y	Y	Y	Y	EEC	SCR 92/27
			1992			117	N	100	720 m	Y	Y	Y	Y	Y	EEC	SCR 93/19
			1993			101	N	100	720 m	Y	Y	Y	Y	Y	EEC	SCR 94/22
EU survey			1994			116	N	100	720 m	Y	Y	Y	Y	Y	EU	SCR 95/26
			1995			121	N	100	720 m	Y	Y	Y	Y	Y	EU	SCR 96/54

American plaice in Division 3M (continued)

EU survey	3M	Jun-Jul	1996	Stratified-random bottom trawl	Groundfish	117	N	100	720 m	Y	Y	Y	Y	Y	EU	SCR 97/28
		Jul-Aug	1997			117	N	100	720 m	Y	Y	Y	Y	Y	EU (Spain & Portugal)	SCR 98/30
			1998			119	N	100	730 m	Y	Y	Y	Y	Y	EU (Spain & Portugal)	SCR 99/22
		Jul	1999			117	N	100	730 m	Y	Y	Y	Y	Y	EU (Spain & Portugal)	SCR 00/9
EEC tagging survey	3M	Feb-Apr	1991-92	Cod tagging	Cod	58	N	-	-	-	-	-	-	-	EEC	SCR 92/29 93/16

Stock name: Cod in Divisions 3N and 3O

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
Canadian spring groundfish survey	3NO	Apr-Jun	1971-90	Stratified-random Bottom trawl	Groundfish Cod Flounder	195		100	31-200 fm	Y	Y	Y	Y	Y	Canada	
			1991			173	Y	100	31-400 fm	Y	Y	Y	Y	Y	Canada	SCR 91/83
			1992			209	Y	100	31-200 fm	Y	Y	Y	Y	Y	Canada	SCR 92/75
			1993-2000			160	Y	100	30-400 fm	Y	Y	Y	Y	Y	Canada	SCR 93/90 94/87 95/70 96/80 97/70 98/65 99/62
Canadian autumn groundfish survey	3NO	Nov	1 st survey in 1990	Stratified-random bottom trawl	Groundfish	201	Y	100	31-300 fm	Y	Y	Y	Y	Y	Canada	SCR 91/83
			1991			151	Y	100	31-300 fm	Y	Y	Y	Y	Y	Canada	SCR 92/75
			1992-98			160	Y	100	31-400 fm (extended to 800 fm in autumn 1998)	Y	Y	Y	Y	Y	Canada	SCR 93/90 94/87 95/70 96/80 97/70 98/65 99/62
Canadian juvenile flatfish	3NO	Aug-Sep	1989-94	Stratified-random bottom trawl	Groundfish		Y	100	30-150	Y	Y	Y	Y	Y	Canada	SCR 95/59 96/80

Cod in Divisions 3N and 30 (continued)

USSR spring survey	3NO	Apr-Jun	1972-89	Fixed station 1972-82 Stratified-random 1983-89 Trawl acoustic Since 1986	Groundfish	190		100	31-400 fm	Y	Y	Y	Y	Y	USSR	
			1990			115	Y	100	31-400 fm	Y	Y	Y	Y	Y	USSR	SCR 91/5
			1991			131	Y	100	31-400 fm	Y	Y	Y	Y	Y	USSR/ Russian	SCR 92/13
Russian trawl acoustic survey	3MLNO	Apr-Jul	1971-93	Groundfish/ Acoustic	Cod Redfish Capelin American plaice Witch flounder	316	Full	3M-100 3L-70 3N-100 30-100	50-700 m	Y	Y	Y	Y	Y	Russia	SCR 94/12
EU-Spain	3NO Reg. area	May	1995-99	Stratified-random Lofoten	Groundfish	112-137	N	20	1100 m	Y	Y	N	Y	N	EU-Spain	SCR 95/55 96/49 97/25 98/48 99/57 00/46

Stock name: Redfish in Divisions 3LN

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
Canadian groundfish (covering deepwater strata)	3L	Various	1978-99	Stratified-random bottom trawl	Multi-species	Min. of 40 in depths >183 m	Y	Unknown	to 732 m 1994, 1996, 1997 (over 732 m)	Y	Y	Y	Y	Sometimes	Canada	SCR 91/90 92/80 93/73 94/54 95/69 96/76 97/64 98/74 99/65 00/52
Canadian redfish	3L	Jan	1990	Stratified-random bottom trawl	Redfish	55	Y	Unknown	183-732 m	Y	Y	Y	Y	Y	Canada	SCR 90/87
Canadian groundfish	3LN	Apr-May	1990-92	Stratified-random bottom trawl	Groundfish	60-70 in redfish depths	Y	Unknown	to 732 m	Y	Y	Y	Y	Y	Canada	SCR 93/80
			1993			90 in redfish depths									SCR 94/54	
			1994-99			-	Y	Unknown	to 732 m	Y	Y	Y	Y	Y	Canada	SCR 95/69 96/76 97/64 98/74 99/65 00/52
	3L	Aug	1990	Stratified-random bottom trawl	Redfish	125	Y	Unknown	183-732 m	Y	Y	Y	Y	Y	Canada	-

Redfish in Divisions 3LN (continued)

Canadian groundfish	3LN	Aug	1991			60-70 in redfish depths										SCR 92/80
			1993			59 - 3L 47 - 3N										SCR 94/54
	3LN	Oct-Dec	1990-91	Stratified-random bottom trawl	Groundfish	161 - 3L 30 - 3N	Y	Unknown	to 732 m	Y	Y	Y	Y	N	Canada	SCR 91/90 92/80
			1992			160-185 - 3L 60-70 - 3N	Y	Unknown	to 732 m	Y	Y	Y	Y	N	Canada	SCR 93/73
			1993			99 - 3L 29 - 3N	Y	Unknown	to 732 m	Y	Y	Y	Y	N	Canada	SCR 94/54
			1994-99			-	Y	Unknown	to 732 m	Y	Y	Y	Y	N	Canada	SCR 95/69 96/76 97/64 98/74 99/65 00/52
Canadian deepwater	3KLM	Sep	1991	Stratified-random bottom trawl	Greenland halibut	-	-	-	750-1500 m	Y	Y	-	Y	Y	Canada	SCR 95/51
	3KLMN	Feb-Mar	1994			-	-	-	550-1500 m	Y	Y	-	Y	Y	Canada	SCR 95/51
		Mar-Apr	1995			-	-	-	500-1500 m	Y	Y	-	Y	Y	Canada	SCR 95/51
USSR groundfish	3LN	Apr-Jul (mostly)	1971-82	Fixed station Bottom trawl	Multi-species Groundfish	50-60 per Div.	Y	Unknown	1972-76: to 367m 1977-82: to 732 m	Y	Y	Y	Y	Sometimes	USSR	SCR 86/66
		Apr-Jun (mostly)	1983-90	Stratified-random Bottom trawl	Multi-species	-	Y	Unknown	to 732 m	Y	Y	Y	Y	Sometimes	USSR	SCR 91/6

Redfish in Divisions 3LN (continued)

Russian groundfish	3LN	Apr-Jun	1991	Stratified-random Bottom trawl	Groundfish	82 – 3N 100 – 3L	Y	Unknown	to 732 m	Y	Y	Y	Y	Sometimes	Russia	SCR 92/12
		Apr-May	1993			33 – 3L 42 – 3N	Y	Unknown	to 732 m	Y	Y	Y	Y	Sometimes	Russia	SCR 94/13
	3L	Jun-Jul	1994			48		Unknown	to 732 m	Y	Y	Y	Y	Sometimes	Russia	SCR 95/13
USSR acoustic	3LN	Apr-Jul	1987-91, 1993	Acoustic	Multi-species	unknown midwater sampl.	Y	Unknown	to 732 m	Y	Y	Y	Y	Sometimes	USSR	SCR 88/24 89/6 90/9 91/6 92/12 94/13

Stock name: American plaice in Divisions 3L, 3N and 3O

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
Canadian Groundfish (Spring)	3LNO	Spring Apr-May	1971-90	Stratified-random bottom trawl	Groundfish	~400		100	Bottom depths to 336 m ¹	Y	Y	Y	Y	Y	Canada	
			1991			350	Y	100	Bottom depths to 731 m	Y	Y	Y	Y	Y	Canada	SCR91/93
			1992			320	Y	100	Bottom depths to 731 m	Y	Y	Y	Y	Y	Canada	SCR 92/79
			1993			320	Y	100	Bottom depths to 731 m	Y	Y	Y	Y	Y	Canada	SCR 93/91
			1994			350	Y	95	Bottom depths to 731 m	Y	Y	Y	Y	Y	Canada	SCR 94/55 95/62
		Apr-Jun	1995	Otter-trawl – Engels	Groundfish	325	Y	95	to 730 m	Y	Y	Y	Y	Y	Canada	SCR 96/75
			1996	Otter-trawl – Campelen	Groundfish	356	Y	95	to 730 m	Y	Y	Y	Y	Y	Canada	SCR 97/60
			1998	Stratified-random Campelen	Groundfish	310	Y	95	to 730 m	Y	Y	Y	Y	Y	Canada	SCR 98/69
			1999		-	Y	95	to 730 m	Y	Y	Y	Y	Y	Canada	SCR 99/40	
			2000		310	Y	95	to 730 m	Y	Y	Y	Y	Y	Canada	SCR 00/41	

¹ Depth range extended from 366 m to 731 m in 1990

American plaice in Divisions 3L, 3N and 3O (continued)

Canada Ground-fish (autumn)	3L	Autumn Oct-Nov	1981-89	Stratified-random bottom trawl	Groundfish	~180		~50	Bottom depths to 366 m	Y	Y	Y	Y	N	Canada	
	3LNO		1981-90 (3L) 1990 (3NO)			180	Y	100	Bottom depths to 731 m	Y	Y	Y	Y	Y	Canada	SCR 91/93
			1991			219 – 3L 151- 3NO	Y	100	Bottom depths to 731 m	Y	Y	Y	Y	Y	Canada	SCR 92/79
			1992			220 – 3L 160 – 3NO	Y	100	Bottom depths to 731 m	Y	Y	Y	Y	Y	Canada	SCR 93/91
			1993			160 – 3L 160 – 3NO	Y	95	Bottom depths to 731 m	Y	Y	Y	Y	Y	Canada	SCR 94/55
			1994			160 – 3L 160 – 3NO	Y	95	Bottom depths to 731 m	Y	Y	Y	Y	Y	Canada	SCR 95/62
		Sep 95-Jan 96	1995/96	Campelen		332	Y	95	to 730 m	Y	Y	Y	Y	Y	Canada	SCR 96/75
		Sep-Dec	1996			353	Y	95	to 1500 m	Y	Y	Y	Y	Y	Canada	SCR 97/60
			1997	Stratified-random Campelen		386	Y	100	to 1460 m	Y	Y	Y	Y	Y	Canada	SCR 98/69
			1998			-	Y	100	to 1460 m	Y	Y	Y	Y	Y	Canada	SCR 99/40
			1999			386	Y	100	to 1460 m	Y	Y	Y	Y	Y	Canada	SCR 00/41

American plaice in Divisions 3L, 3N and 3O (continued)

Juvenile flatfish	3LNO	Autumn Aug-Sep	1985-89	Stratified-random bottom trawl	American Plaice	250		90	Bottom depths to 183 m	Y	Y	Y	Y	N	Canada	SCR 88/28 89/71 90/76
			1990			200	Y	90	Bottom depths to 183 m	Y	Y	Y	Y	Y	Canada	SCR 91/81
			1991			206	Y	90	Bottom depths to 183 m	Y	Y	Y	Y	Y	Canada	SCR 92/78
			1992			250	Y	90	Bottom depths to 273 m	Y	Y	Y	Y	Y	Canada	SCR 93/71
			1993			260	Y	90	Bottom depths to 273 m	Y	Y	Y	Y	Y	Canada	SCR 94/56
			1994			197	Y	90	Bottom depths to 273 m	Y	Y	Y	Y	Y	Canada	SCR 95/59
USSR Groundfish	3LNO	Spring Apr-Jun	1972-90	Fixed station up to 1982. 1983-90 Stratified-random bottom trawl	Groundfish	350-400	Y	100	<57 to 731 m	Y	Y	Y	Y	Y	USSR	SCR 91/60
			1991	Stratified-random bottom trawl	Groundfish	229	Y	100	<57 to 731 m	Y	Y	Y	Y	Y	USSR	SCR 92/12
EU-Spain	3NO Reg. area	May	1995	Stratified-random Lofoten	Groundfish	77	N	10	to 1100 m	Y	Y	N	Y	N	Spain	SCR 95/55
			1996			112	N	10	600 fm	Y	Y	N	Y	N	Spain	SCR 96/49
		Apr-May	1997			128	N	10	700 fm	Y	Y	N	Y	N	Spain	SCR 97/25
		May	1998			124	N	10	800 fm	Y	Y	N	Y	N	Spain	SCR 98/48
			1999			117	N	10	800 fm	Y	Y	N	Y	N	Spain	SCR 99/57

American plaice in Divisions 3L, 3N and 3O (continued)

EU-Spain	3NO Reg. Area	May	2000	Stratified-random Padreira	Groundfish	137	N	10	to 1460 m	Y	Y	N	Y	N	Spain	SCR 00/46
Canadian DFO- Industry Co- operative	3NO	Quarterly in 1997-98 (12 surveys)	1996-99	Grid survey with commercial Engel trawl (unlined)	Yellowtail (by-catches of cod, A. plaice)		Y	20	45-90 m	N	N	N	N	N	Canada	SCR 97/31 98/73 99/42 00/42
Canadian DFO- Industry Co- operative A. plaice survey	3LNO	Nov-Dec	1998	Stratified-random commercial Engel (unlined)	American plaice	241	Y	95	to 731 m	Y	Y	N	Y	N	Canada	SCR 99/55

Stock name: Yellowtail flounder in Divisions 3L, 3N and 3O

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
Canadian groundfish spring survey	3LNO	Apr	1971-90	Stratified-random bottom trawl	Cod American plaice Yellowtail flounder	410	-	100	32-366 m	Y	Y	Y	Y	N	Canada	
		Apr-May	1991	Stratified-random bottom trawl	Groundfish	350	Y	100	Bottom depths to 731 m	Y	Y	Y	Y	N	Canada	SCR 91/80
			1992			320	Y	100	Bottom depths to 731 m	Y	Y	Y	Y	N	Canada	SCR 92/61
		Apr-Jun	1993			320	Y	100	Bottom depths to 731 m	Y	Y	Y	Y	N	Canada	SCR 93/76
			1994			350	Y	100	Bottom depths to 731 m	Y	Y	Y	Y	N	Canada	SCR 94/44
			1995			317	Y	100	Bottom depths to 731 m	Y	Y	Y	Y	N	Canada	SCR 95/74
			1996			298	Y	100	Bottom depths to 731 m	Y	Y	Y	Y	N	Canada	SCR 96/74
			1996			356	Y	100	51 to 941 m	Y	Y	Y	Y	Y	Canada	SCR 97/72

Yellowtail flounder in Divisions 3L, 3N and 3O (continued)

Canadian groundfish spring survey	3LNO	Apr-Jun	1997	Stratified-random bottom trawl	Groundfish	310	Y	100	51 to 941 m	Y	Y	Y	Y	Y	Canada	SCR 98/72
			1998			336	Y	100	51 to 941 m	Y	Y	Y	Y	Y	Canada	SCR 99/44
			1999			243	Y	100	51 to 941 m	Y	Y	Y	Y	Y	Canada	SCR 00/35
Autumn juvenile flatfish survey	3LNO	Aug-Sep	1985-89	Stratified-random bottom trawl	Yellowtail flounder Groundfish	250		90	32-183 m	Y	Y	Y	Y	N	Canada	
			1990			200	Y	90	32-183 m	Y	Y	Y	Y	Y	Canada	SCR 91/80
			1991			206	Y	90	32-183 m	Y	Y	Y	Y	Y	Canada	SCR 92/61
			1992			250	Y	100	Bottom depths to 273 m	Y	Y	Y	Y	Y	Canada	SCR 93/76
			1993			260	Y	100	Bottom depths to 273 m	Y	Y	Y	Y	Y	Canada	SCR 94/44
			1994			195	Y	100	Bottom depths to 273 m	Y	Y	Y	Y	Y	Canada	SCR 95/59
			1995			195	Y	100	Bottom depths to 273 m	Y	Y	Y	Y	Y	Canada	SCR 96/74

Yellowtail flounder in Divisions 3L, 3N and 3O (continued)

Canadian groundfish autumn survey	3L	Oct-Nov	1981-90	Stratified-random bottom trawl	Groundfish	350	Y	100	Bottom depths to 731 m ¹	Y	Y	Y	Y	Y	Canada	SCR 91/80
	3NO		1990													
	3LNO		1991			219 – 3L 151 – 3NO	Y	100	to 731 m	Y	Y	Y	Y	Y	Canada	SCR 92/61
			1992			220 – 3L 160 – 3NO	Y	100	to 731 m	Y	Y	Y	Y	Y	Canada	SCR 93/76
			1993			160 – 3L 160 – 3NO	Y	100	to 731 m	Y	Y	Y	Y	Y	Canada	SCR 94/44
			1994			348	Y	100	to 731 m	Y	Y	Y	Y	Y	Canada	SCR 95/74
			1995			237	Y	100	to 731 m	Y	Y	Y	Y	Y	Canada	SCR 96/25
			1996			353	Y	100	51-1437 m	Y	Y	Y	Y	Y	Canada	SCR 97/72
			1997			386	Y	100	51-1437 m	Y	Y	Y	Y	Y	Canada	SCR 98/72
			1998			317	Y	100	51-1437 m	Y	Y	Y	Y	Y	Canada	SCR 99/44
USSR groundfish spring survey	3LNO	Apr-Jun	1983-89	Fixed Station up to 1972-82 Stratified-random bottom trawl 1983-89	Yellowtail flounder Groundfish	315	Y	100	51-1437 m	Y	Y	Y	Y	Y	Canada	SCR 00/35
						350-400		100	<37-730 m	Y	Y	Y	Y	Y	USSR	

¹ Extended from 366 m to 731 m in 1990.

Yellowtail flounder in Divisions 3L, 3N and 3O (continued)

USSR groundfish spring survey	3LNO	Apr-Jun	1990	Stratified-random bottom trawl	Groundfish	350-400	Y	100	<37-130 m	Y	Y	Y	Y	Y	USSR	SCR 91/61
			1991			229	Y	100	<57-731 m	Y	Y	Y	Y	Y	Russian	SCS 92/12
Spanish groundfish spring survey	3NO Reg. Area	May	1995-96			112	N	Unknown	Bottom depths to 1100 m	Y	Y	N	Y	N	EU-Spain	SCR 96/49
		Apr-May	1997			106	N	Unknown	45 to 1280 m	Y	Y	N	N	N	EU-Spain	SCR 97/25
			1998			124	N	Unknown	45 to 1280 m	Y	Y	N	N	N	EU-Spain	SCR 98/48
		May	1999			117	N	Unknown	45 to 1464 m	Y	Y	N	N	N	EU-Spain	SCR 99/57
			2000			124	N	Unknown	45 to 1280 m	Y	Y	N	N	N	EU-Spain	SCR 00/46
Canadian DFO/Industry	3NO	Summer 1996 Winter 1997 Spring 1997	1996-97	Grid survey with fixed stations	Yellowtail flounder	81	Y	80	45-90 m	N	N	N	Y	N	Canada	SCR 97/31
		Summer 1997 Autumn 1997 Winter 1998	1997-98			285	Y	80	45-90 m	N	N	N	Y	N	Canada	SCR 98/73
		Spring 1998 Summer 1998 Autumn 1998 Winter 1999	1998-99			287	Y	80	45-90 m	N	N	N	Y	N	Canada	SCR 99/42
		Spring 1999 Summer 1999	1999			285	Y	80	45-90 m	N	N	N	Y	N	Canada	SCR 00/42

Stock name: Witch Flounder in Divisions 3N and 3O

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
Canadian groundfish survey spring	3NO	Spring	1971-89	Stratified-random bottom trawl	American plaice Yellowtail flounder Cod			Variable (minimal for witch)	<366 m	N	N	Y	Y	N	Canada	
		Apr-May	1990	Stratified-random bottom trawl	Groundfish	173		Variable (minimal for witch)	<366 m	Y	Y	Y	Y	Y	Canada	
			1991			184		Variable (minimal for witch)	731 m	Y	Y	Y	Y	Y	Canada	
			Apr-Jun	1992		Groundfish Cod Flounder	160	Y	100	30-400 fm	Y	Y	Y	Y	Y	Canada
		1993					Y	100	30-400 fm	Y	Y	Y	Y	Y	Canada	SCR 94/49
		1994					Y	100	30-400 fm	Y	Y	N	Y	Y	Canada	SCR 95/63
		1995-97				Y	90	30-400 fm.	Y	Y	N	Y	Y	Canada	SCR 98/49	
		1998		Multispecies		Y	90	30-800 fm	Y	Y	N	Y	Y	Canada	SCR 99/34	
		1999		Groundfish	315	Y	100	51 to 941 m	Y	Y	N	Y	Y	Canada	SCR 00/14	
Canadian goundfish survey autumn	3NO	Autumn	First survey - 1990	Stratified-random bottom trawl	Groundfish	201		Variable	<548 m	Y	Y	Y	Y	Y	Canada	

Witch Flounder in Divisions 3N and 3O (continued)

Canadian groundfish survey autumn	3NO	Autumn	1991	Stratified-random bottom trawl	Groundfish	151		Variable	<548 m	Y	Y	Y	Y	Y	Canada	
			1992		Groundfish Cod Flounder	160	Y	100	30-400 fm	Y	Y	Y	Y	Y	Canada	
		Nov	1993				Y	100	30-400 fm	Y	Y	Y	Y	Y	Canada	SCR 94/49
			1994				Y	100	30-400 fm	Y	Y	Y	Y	Y	Canada	SCR 95/63
			1995-97				Y	90	30-300 fm	Y	Y	Y	Y	Y	Canada	SCR 98/49
			1998				Y	90	30-800 fm	Y	Y	Y	Y	Y	Canada	SCR 99/34
		Oct-Nov	1990-99		Groundfish	683 – 3N – 750 – 3O	Y	100	51 to 1437 m	Y	Y	Y	Y	Y	Canada	SCR 99/34
USSR groundfish	3NO	Apr-Jun	1972-90	Fixed stations 1972-82, Stratified-random 1983-90 all with bottom trawl	Groundfish	115		Variable	<731 m	Y	Y	N	Y	N	USSR	SCS 91/5 SCR 91/56
			1991	Stratified-random bottom trawl	Groundfish	131		Variable	<731 m	Y	Y	-	Y	Y	USSR	SCS 92/12
Spanish groundfish spring survey	3NO Reg. Area	May	1995-97			77	N	100	30-400 fm	Y	Y	N	Y	N	EU-Spain	SCR 95/55
			1998			77	N	25	30-400 fm	Y	Y	N	Y	N	EU-Spain	SCR 98/48
			1999			117	N	35	30-800 fm	Y	Y	N	Y	N	EU-Spain	SCR 99/57
		Apr-May	2000			118	N	Unknown	45 to 1500 m	Y	Y	N	N	N	EU-Spain	SCR 00/46

Stock name: Capelin in Divisions 3L, 3N and 3O

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
Canadian acoustic survey	3L	Apr May	1982-84 1985-90	Acoustic survey mid-water trawl	Capelin	23	Y	60	0-200 m	Y	Y	Y	Y	Y	Canada	SCR 91/37
		May	1992		26	Y	70	0-500 m	Y	Y	Y	Y	Y (from L-W. reg.)	Canada	SCR 92/57	
	3NO	Jun	1981-89	Acoustic survey mid-water trawl	Capelin	-	Y	80	0-80 m	Y	Y	Y	Y	Y	Canada	SCR 90/61
		Jun-Jul	1992		-	Y	80	0-80 m	Y	Y	Y	Y	Y	Canada	SCR 93/21	
Russian acoustic survey	3INO	May-Jun	1982-91	Acoustic survey mid-water trawl	Capelin	55	Y	70	0-500 m	Y	Y	Y	Y	Y	Russia	SCR 92/1
Russian groundfish survey	3MNLO	Apr-Jul	1971-93	Groundfish Capelin	Cod Redfish Capelin American plaice Witch flounder	316	Fill	3M – 100 3L – 70 3N – 100 3O – 100	50-700 m	Y	Y	Y	Y	Y	Russia	SCR 94/14

Stock name: Groundfish (Cod in Subdivision 3Ps)

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
ERHAPS 901	3Ps	Feb-Mar	1978-90	Bottom trawl	Cod American plaice All groundfish	107	N	100	0-600 m	Y	Y	Y	Y	Y	E-FRA FRA-SP	-
ERHAPS 911	3Ps	Feb-Mar	1978-91	Bottom trawl	Cod American plaice All groundfish	89	N	100	0-600 m	Y	Y	Y	Y	Y	E-FRA FRA-SP	-

Stock name: Roundnose grenadier in Subareas 2 + 3

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
USSR Greenland Halibut Survey	2GH + 3K	Nov	1979-90	Stratified-random bottom trawl	Groundfish	?	-	?	to 1500 m	N	N	Y	Y	Y	USSR	SCR 90/6 91/8
		Sep-Oct, Nov-Dec	1991			-	-	-	200-1500 m	N	N	N	Y	N	USSR	SCR 92/9
		Oct	1992			-	-	-	200-1500 m	N	N	Y	Y	Y	USSR	SCR 93/12
Canada autumn groundfish survey	2GHJ + 3KLMNO	Oct-Nov Sep-Dec	1978-99	Stratified-random bottom trawl	Multi-Groundfish	-	Y	?	30-1500 m	Y	Y	N	Y	N	Canada	SCR 98/57
Japan bottom trawl survey	2GH	Aug	1996-97	Bottom trawl	Mixed	151	Y	?	to 1500 m	N	Y	N	Y	N	Japan	
Canadian Deepwater	3KLM	Sep	1991	OTB-Engel	Mixed	106	Y	?	750-1500 m	Y (3KLM only)	Y (3KLM only)	N	Y	N	Canada	SCR 95/51
	3KLMN	Feb-Mar	1994			131	Y	?	50-1500 m	Y (3KLM only)	Y (3KLM only)	N	Y	N	Canada	SCR 95/51
		Mar-Apr	1995			142	Y	?	500-1500 m	Y	Y	N	Y	N	Canada	SCR 95/51

Stock name: Roughhead grenadier in Subareas 2 and 3

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
Canadian spring survey	3LNO	May-Jul	1978-99	Stratified-random	Groundfish	330	Y	?	to 800 fm	+	+	N	+	N	Canada	SCR 95/51
Canada autumn survey	2GH 3MLNO	Sep-Dec	1978-99			750	Y	?	to 400 fm	+	+	N	+	N	Canada	
Canadian deepwater	3KLMN	Sep-Mar Feb-Mar Mar-Apr	1991 1994 1995			106 131 142	Y	?	750-1500 m 550-1500 m 500-1500 m	Y	Y	N	Y	N	Canada	
Spanish spring surveys	3NO	Apr-May	1995-2000	Stratified-random (Pedreira)	Groundfish	118	N		50-1500 m	+	+	+	+	+	EU-Spain	SCR 00/46
Flemish Cap surveys	3M	Jun-Aug	1988-99	Stratified-random (Lofoten)	Groundfish	117	N		50-1500 m	+	+	+	+	+	EU	SCR 00/9

Stock name: Cod in Divisions 2J, 3K and 3L

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
Spring ground-fish survey	3L	May-Jun	1971-92	Stratified-random bottom trawl	Groundfish Cod Flounder	200	Y	100	31-400 fm	Y	Y	Y	Y	Y	Canada	
			1993		Groundfish		Y		30-400 fm	Y	Y	Y	Y	Y	Canada	SCR 94/40
			1994-95			160	Y		30-400 fm	Y	Y	Y	Y	Y	Canada	SCR 95/60 96/62
			1996-99			160	Y		30-800 fm	Y	Y	Y	Y	Y	Canada	SCR 97/59 98/46 99/28 00/33
Autumn ground-fish survey	2J3K	Oct-Dec	1978-92	Stratified-random bottom trawl	Groundfish Cod Flounder	505	Y	100	2J3K 100-1000 m 3L, 3O 400 fm	Y	Y	Y	Y	Y	Canada	
			1993		Groundfish		Y		100-1000 m	Y	Y	Y	Y	Y	Canada	SCR 94/40
			1994-99			400	Y	100	100-1000 m	Y	Y	Y	Y	Y	Canada	SCR 95/60 96/62 97/59 98/46 99/28 00/33
		3L	Oct-Nov	1981-98	Stratified-random bottom trawl	Groundfish	160	Y		30-400 fm	Y	Y	Y	Y	Y	Canada

Cod in Divisions 2J, 3K and 3L (continued)

Winter acoustic	2J3KL	Feb	1993 (Since 1987)	Acoustic Bottom trawl	Cod	-	Y	?	0-1000 m	Y	Y		Y		Canada	
Summer acoustic	2J3KL	Jun-Jul	1993 (Since 1990)	Acoustic Bottom trawl	Cod	-	Y	?	0-600 m	Y	Y		Y	Y	Canada	
Acoustics	3KL	May-Jun	1971-94	Acoustic	Cod		Y		30-400 fm	N	N	Y	Y	N	Canada	
		Apr	1996	Acoustic	Cod		Y			N	Y	Y	Y	N	Canada	SCR 97/49
		Oct-Dec	1997	Acoustic	Cod Herring		N		<120 m	N	Y	Y	Y	N	Canada	SCR 98/46
	3L	Jun-Jul	1971-93	Acoustic	Cod		Y		30-400 fm	N	N	Y	Y	N	Canada	
			1994				Y		30-400 fm	N	N	Y	Y	N	Canada	
Juvenile cod	2J3KL	Apr	1997	Acoustic	Cod		Y		30-800 fm	N	Y	Y	Y	N	Canada	SCR 97/49
		Dec- Jan(94)	1977-93	Line	Groundfish		Y		100-1000 m	N	N	Y	Y	N	Canada	SCR 94/40 95/60
		Aug-Sep	1992-99	Fixed station	0-group cod	100-150	Y	70	30-400 fm	Y	N	Y	Y	N	Canada	SCR 97/41 98/46 99/28 00/33
	3L	Oct-Nov	1989-94	Line	Cod		Y		30-150 fm	N	N	Y	Y	N	Canada	
	3L	Aug-Sep	1989-94	Stratified-random bottom trawl	Groundfish		Y		30-150 fm	Y	Y	Y	N	N	Canada	SCR 95/59
Juvenile cod- capelin	3KL	Sep-Oct	1989-94	Line	Cod Capelin		Y		30-150 fm	N	N	Y	Y	N	Canada	
Russian groundfish	3L	May-Jun	1993-94	Stratified-random bottom trawl	Groundfish	74	Y		30-400 fm	Y	Y	Y	Y	Y	Russia	

Stock name: **Witch flounder in Divisions 2J + 3KL**

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS / SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
Canadian Autumn Groundfish	2J, 3K, 3L	Oct-Dec	1978-99 2J3K 1981-99 3L	Stratified-random Engel trawl 1978-94 2J3K Yankee trawl 1981-82 3L Engel trawl 1984-94 3L Campelen Trawl all areas 1995-99	Groundfish (Cod, flounders, G. halibut, Redfish & shellfish)	439 in 1999	Y	This column not appropriate for this species given differences in depth coverage and areas covered in the surveys.	2J3K in 1997 123-1488 m 3L in 1997 35-1436 m	Y	Y	Y	Y	Y	Canada	SCR 00/12

Stock name: Greenland halibut in Subarea 2 and Divisions 3K and 3L

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
USSR/Greenland halibut survey	Subarea 1	Oct.	1987-88	Stratified-random bottom trawl	Greenland halibut	68	-	80	200-1500 m	Y	Y	Y	Y	Y	USSR	
	Div. 0B	Oct-Dec	1979-89	Stratified-random bottom trawl	Greenland halibut	73	-	90	200-1500 m	Y	Y	Y	Y	Y	USSR	
	Div. 2GH	Oct-Nov	1979-89	Stratified-random bottom trawl	Greenland halibut	65	-	60	200-1500 m	Y	Y	Y	Y	Y	USSR	
	Div. 2G	Oct-Nov	1990	Stratified-random bottom trawl	Greenland halibut	21	Y	<40	200-1500 m	Y	Y	Y	Y	Y	USSR	SCS 91/5
Russian trawl survey	Div. 2GH	Oct-Nov	1991	Stratified-random bottom trawl	Greenland halibut	190	Y	<40	200-1500 m	Y	Y	Y	Y	Y	USSR/ GDR	SCR 92/22
		Nov	1992			26	Y	?	0-1500 m	Y	Y	?	?	?	Russia	SCR 93/15
USSR groundfish	Div. 3K	Jun-Jul	1972-89	Stratified-random bottom trawl (since 1983)	Groundfish	107	-	90	to 730 m	Y	Y	Y	Y	Y	USSR	SCR 90/57
	Div. 3KL	Jun-Jul	1990	Stratified-random bottom trawl	Groundfish	200-250	Y	<50	to 731 m in 3L to 1000 m in 3K	Y	Y	Y	Y	Y	USSR	SCR 91/56
USSR longline survey	2GHJ	Sep-Nov	1 st survey 1990	Longline	Greenland halibut	25	Y	?	500-1500 m	Y	Y	-	Y	-	USSR	SCR 91/66
Canadian shrimp	2H,2J	Jul	1979-88	Stratified-random bottom trawl	Shrimp	N/A		N/A	200-600 m	N/A	N/A	Y	Y		Canada	
Canadian autumn groundfish survey	2J	Autumn	1977-89	Stratified-random bottom trawl	Multispecies Groundfish	122		Unknown	to 1000 m	Y	Y	Y	Y		Canada	
	3K		1978-89			151		Unknown	to 1000 m	Y	Y	Y	Y		Canada	

Greenland halibut in Subarea 2 + Divisions 3K and 3L (continued)

Canadian autumn groundfish survey	2GH	Sep-Oct	On occasion 1977-96	Stratified-random Campelen in 1996	Groundfish & shellfish	117	Y		1500 m	Y	Y	Y	Y	Y	Canada	SCR 97/30
			1997	Stratified-random Campelen	Groundfish & shellfish	140	Y		201-1382 m	Y	Y	Y	Y	Y	Canada	SCR 98/47
			1998	Stratified-random Campelen	Groundfish & shellfish	117	Y		98-1488 m	Y	Y	Y	Y	Y	Canada	SCR 99/38
			1999	Stratified-random Campelen	Groundfish & shellfish	150	Y		201-1382 m	Y	Y	Y	Y	Y	Canada	SCR 00/12
	2J3KL	Nov-Dec	1990	Stratified-random bottom trawl	Groundfish	400-500	Y	<70	to 1000 m in 2J3K to 731 m in 3L	Y	Y	Y	Y	Y	Canada	SCR 91/88
		Oct-Dec	1991-92			505	Y			Y	Y	Y	Y	Y	Canada	SCR 92/81 93/75
			1993-95				Y	100	3L 35-1436 m	Y	Y	Y	Y	Y	Canada	SCR 94/57 95/64 96/73
			1996	Stratified-random Campelen trawl		About 500	Y	-	2J3K 111-1410 m 3L 1443 m	Y	Y	Y	Y	Y	Canada	SCR 97/52
			1997			497	Y	-	2J3K 123-1488 m 3L 35-1436 m	Y	Y	Y	Y	Y	Canada	SCR 98/47
Canadian autumn groundfish survey	2J 3KL	Oct-Dec	1998	Stratified-random Campelen trawl	Groundfish	493	Y	-	2J3K 122-1415 m 3L 35-1436 m	Y	Y	Y	Y	Y	Canada	SCR 99/38

Greenland halibut in Subarea 2 + Divisions 3K and 3L (continued)

Canadian autumn groundfish survey	2J 3KL	Oct-Dec	1999	Stratified-random Campelen trawl	Groundfish	439	Y	-	2J3K 123-1488 m 3L 35-1436 m	Y	Y	Y	Y	Y	Canada	SCR 00/12
	3MNO	Sep-Dec	1996			86 – 3M 82 – 3N 61 – 3O	Y		1400 m in 3M 1147 m in 3N 690 m in 3O	Y	Y	Y	Y	Y	Canada	SCR 97/52
			1997			26 – 3M 100 – 3N 81 – 3O	Y	3M* 1997 only in deepwater Sackville Spur, Flemish Pass	1379 m in 3M 769 m in 3N 611 m in 3O	Y	Y	Y	Y	Y	Canada	SCR 98/47
			1998			26 – 3M 119 – 3N 96 – 3O	Y	3M* 1998-98 only in deepwater Sackville Spur, Flemish Pass	1436 m in 3M 1447 m in 3N 1076 m in 3O	Y	Y	Y	Y	Y	Canada	SCR 99/38
			1999			12 – 3M 68 – 3N 75 – 3O	Y	3M* 1997-98 only in deepwater Sackville Spur, Flemish Pass	1379 m in 3M 769 m in 3N 611 m in 3O	Y	Y	Y	Y	Y	Canada	SCR 00/12
Deepwater line transect	Div. 0B 2GHJ	Aug	1991	Line transect bottom trawl	Greenland halibut	30	Y	?	750-1500 m	Y	-	Y	Y	-	Canada	SCR 92/82
	3KLM	Sep	1991	Line transect bottom trawl	Greenland halibut	110	Y		750-1700 m	Y	-	Y	Y	-	Canada	SCR 92/82
Spring groundfish survey	3LNO	Apr-Jun	1971-97	Yankee 1971-82 Engel 1984-95 Campelen 1996 All surveys Stratified-random	Groundfish	About 350 in 1996 310 in 1997	Y	-	to 731 m	Y	Y	Y	Y	Y	Canada	

Greenland halibut in Subarea 2 + Divisions 3K and 3L (continued)

Canadian deepwater Survey	3KLM	Sep	1991	Stratified-random bottom trawl	Greenland halibut	106	Y	-	750-1500 m	Y	Y	Y	Y	Y	Canada	SCR 95/52
	3KLMN	Feb-Mar	1994			131	Y	100	732-1000 m	Y	Y	Y	Y	Y	Canada	SCR 95/52
		Mar-Apr	1995			142	Y	-	500-1500 m	Y	Y	Y	Y	Y	Canada	SCR 95/52
Japan groundfish	2GH	Aug	1996	Stratified-random bottom trawl	Groundfish	134	Y	-	1500 m	Y	Y	Y	Y	Y	Japan/Canada	SCR 97/23
Japanese exploratory survey	3LM	Mar-Apr	1995	Bottom trawl (not random)	Greenland halibut	189	N	-	550-1500 m	Y	Y	N	Y	N	Japan	SCR 95/48
EU-Spain bottom trawl survey	Reg. Area 3NO	May	1995	Stratified-random bottom trawl	Groundfish	77	N	-	-	Y	Y	N	Y	N	EU-Spain	SCR 95/55
			1996			112	N	-	-	Y	Y	N	Y	N	EU-Spain	SCR 96/49
		Apr-May	1997			128	N		~1300 m	Y	Y	N	Y	N	EU-Spain	SCR 97/25
			1998			124	N		to 1500 m	Y	Y	N	Y	N	EU-Spain	SCR 98/48
			1999			117	N		to 1462 m	Y	Y	N	Y	N	EU-Spain	SCR 99/57
		May	2000			137	N		to 1462 m	Y	Y	N	Y	Y	EU-Spain	SCR 00/46
Russian groundfish survey	3LM Flemish Cap	Feb	1995				Y	-	914 m	Y		Y	Y	N	Russia	SCR 96/39
	3LM	May	1995				Y	-	731 m	Y	Y	Y	Y	N	Russia	SCR 96/8
	3M	May	1987-96			76	Y	-	to 731 m (914 m in 1996)	Y	Y	Y	Y	N	Russia	SCR 98/13

Stock name: Short-finned Squid in Subareas 3 and 4

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
Flemish Cap groundfish survey	3M	Jun-Jul	1988-91	Stratified-random bottom trawl	Cod	11>	N	<1	-	N	N	N	N	N	EU-Spain	SCR 92/27
Bottom trawl Scotian Shelf survey	SA 4	Jul	1970-98	Stratified-random bottom trawl	Multispecies		Y	?	? unknown	Y	Y	N	Y	N	Canada	SCR 98/59 99/50 00/37
September Gulf of St. Lawrence survey	SA 4 (4T)	Sep	From 1971-99	Stratified-random bottom trawl	Multispecies		N	?	?	Y	Y	N	Y	N	Canada	SCR 99/50 00/37

Stock name: Silver hake in Divisions 4V, 4W and 4X

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
Scotian Shelf groundfish survey	4VWX	Jul	1977-89	Stratified-random	Multispecies	≈ 150		100	50-250 m	Y	Y	Y	Y	Y	Canada	SCR 90/20
			1990		197	N	100	40-200 m	Y	Y	Y	Y	Y	Canada	SCR 91/42	
			1991		195	Y	100	50-300 m	Y	Y	Y	Y	Y	Canada	SCR 92/50	
			1992		-	Y	100	50-300 m	Y	Y	Y	Y	Y	Canada	SCR 93/102	
			1993		-	Y	100	50-300 m	Y	Y	Y	Y	Y	Canada	SCR 94/32	
Scotia Fundy summer groundfish survey	4VWX + 5	Jul	1970 to 1994	Stratified-random	Groundfish	200	Y	100	50-200 fm	Y	Y	Y	Y	Y	Canada	SCR 95/76
	4VWX		1995	-	Y	100	50-200 fm	Y	Y	Y	Y	Y	Canada	SCR 96/78		
	1996		200	Y	100	50-200 fm	Y	Y	Y	Y	Y	Canada	SCR 97/69			
Canada-USSR-Joint juvenile survey	4VWX	Oct-Nov	1981-89	Stratified-random	Silver hake	74	-	90	50-150 m	Y	N	N	Y	Y	Canada/ USSR	SCR 90/1 90/20
			1990	Stratified-random IGYPT trawl	Silver hake juveniles	100	N	100	40-200 m	Y	N	N	N	N	USSR/ Canada	SCR 91/1 91/2 91/42
			1991	Stratified-random IGYPT trawl	Silver hake juveniles	80	N	80-100	50-300 m	Y	N	Y	Y	Y	USSR/ Canada	SCR 92/50 92/33

Silver hake in Divisions 4V, 4W and 4X (continued)

Juvenile Silver hake survey	4WX	Oct-Nov	1993 (no 1992 survey)	Stratified-random IGYPT trawl	0-group Silver hake	96	N	60	50-400 m	Y	N	N	N	N	Canada	SCR 94/32
			1994			73	N	60	50-400 m	Y	N	N	N	N	Canada	SCR 95/76
Silver Hake 0-group survey	4VWX	Oct-Nov	1995	1995 IGYPT Stratified-random design, 3 step oblique	Silver hake	80	N	80	50-200 fm	Y	N	N	Y	N	Canada	SCR 96/78
			1996			80	N	80	50-200 fm	Y	N	N	Y	N	Canada	SCR 97/69
Winter juvenile survey	4WX	Dec-Jan	1989-90	Stratified-random IGYPT trawl	Silver hake juveniles	50	N	100	40-200 m	Y	Y	Y	Y	Y	USSR	SCR 91/1 91/12

Stock name: Elasmobranchs in Subareas 2-6

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS / SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
Deepwater survey	SA 0	Oct	1999	Stratified-random bottom trawl	Greenland halibut	66	Y	Partial	400-1500 m	Y	Y	N	Y	N	Canada	SCR 00/31
Spring Multispecies	SA 3	Apr-Jun	1971-2000	Stratified-random	Multispecies	~200	Y	Partial	50-1100 m	Y	Y	N	Y	N	Canada	
Autumn Multispecies	SA 3	Sep-Nov	1978 to 2000	Stratified-random	Multispecies	~250	Y	All	50-1100 m	Y	Y	N	Y	N	Canada	
Spanish bottom trawl	3NO (RA)	May	1995-99	Stratified-random bottom trawl	Groundfish	137	-	-	To 800 fm	Y	Y	-	Y	Y	Spain	SCR 00/46
R/V bottom trawl survey	SA 4-6	Autumn	1963-99	Bottom trawl	Groundfish	-	-	-	-	Y	Y	N	Y	N	USA	SCR 00/19
		Spring	1968-99	Bottom trawl	Groundfish	-	-	-	-	Y	Y	N	Y	N	USA	SCR 00/19
		Winter	1992-99	Bottom trawl	Groundfish	-	-	-	-	Y	Y	N	Y	N	USA	SCR 00/19

Stock name: Short-finned Squid in Subareas 5 and 6

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
Autumn Bottom Trawl	SA 5+6	Sep-Dec	From 1967-99	Stratified random bottom trawl	Multispecies		Y	?	? unknown	Y	Y	N	Y	Y	USA	SCR 98/59 00/37

Stock name: Shrimp in Divisions 3LNO

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
Multi-species spring survey	3LNO 3Ps	May-Jun	Since 1998-2000	Stratified-random bottom trawl	Groundfish Shellfish (crab, shrimp)/ capelin	272	Y	100% of area covered	30-732 m	Y	Y	N	Y	N	Canada	SCR 00/85
Multi-species autumn survey	2J 3KLNO	Oct-Dec	1995 to 2000			(376 sets done in Div. 3LNO)	Y	100% of area covered	30-1500 m	Y	Y	N	Y	N	Canada	SCR 00/85

Stock name: Shrimp in Division 3M

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
EU bottom trawl survey	3M	Jul	1988-95	Stratified-random bottom trawl	All	121	N	100	80-730 m	Y	Y	N	Y	Y	EU	SCR 95/100
		Jul	1996	Stratified-random bottom trawl	All	-	N	100	80-730 m	Y	Y	N	Y	Y	EU	SCR 96/94 96/98
Faroes bottom trawl survey	3M	Jun	1997-2000	Stratified-random bottom trawl	Shrimp	61	-		100-300 fm	Y	Y	-	Y	Y	Faroe Islands	SCR 00/83

Stock name: Shrimp in Subareas 0 and 1

Surveys	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
West Greenland shrimp survey	1A-1D	Jul-Aug	1988-89	Stratified-random bottom trawl	Shrimp	140	-	-	150-600 m	Y	Y	Y	Y	Y	Greenland	
	0A, 1A-1D		1990	Stratified-random bottom trawl	<i>Pandalus borealis</i>	246	N	90(?)	15-600 m	Y	Y	N	Y	N	Greenland	SCR 91/70
	0A, 1A-1E	Jul-Sep	1991			260	N	(?)	100-600 m	Y	Y	N	Y	N	Greenland	SCR 92/55 92/67
	0A, 1A-1F	Jul-Oct	1992			213	N	(?)	0-600 m	Y	Y	N	Y	Y	Greenland	SCR 93/70 93/72
Greenland bottom trawl survey	0A, 1A-1F	Jul-Sep	1995		Northern shrimp Groundfish	194	N	95	150-600 m	Y	Y	N	Y	Y	Greenland	SCR 95/111 95/113
			1996			172	N	95	150-600 m	Y	Y	N	Y	Y	Greenland	
			1997-98			212	N	95	150-600 m	Y	Y	N	Y	Y	Greenland	SCR 98/115 98/118
			1999-2000			202	N	95	150-600 m	Y	Y	N	Y	Y	Greenland	SCR 00/78
Shrimp trawl selection studies	1A, 1B, 1C	Jul	1991	Bottom trawl	<i>Pandalus borealis</i>	77	Y	?	-	N	N	N	Y	N	Greenland	
	1B, 1C, 1D		1992			57	Y		150-600 m	N	N	N	Y	N	Greenland	
Southwest Greenland shrimp survey	1D, 1E	Oct	1991	Stratified-random bottom trawl	<i>Pandalus borealis</i>	15	N	?	150-600 m	Y	Y	N	Y	N	Greenland	

Stock name: Shrimp in Denmark Strait

Survey	Location	month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	Research data related to stock				Individual weights	Country	SCS/ SCR Doc. No.
										Stock size estimates		ALK	LF			
										Abundance	bio-mass					
East Greenland Shrimp Survey	ICES Div. XIVb	Aug-Sep	1989-90	Stratified-random bottom trawl	Shrimp	99	N	?	199-653 m	Y	Y	N	Y	N	Greenland	SCR 91/52
			1991	No survey												
		Oct	1992	Stratified-random bottom trawl	Shrimp	59	N	60	150-600 m	Y	Y	N	Y	N	Greenland	SCR 93/66
			1993	No survey												
		Sep-Oct	1994-95	Spline survey bottom shrimp trawl	Northern shrimp	72	N	Main distribution area	200-600 m	No info.	4558	N	Y	N	Greenland	SCR 95/109
			1996			40	N	Not known	200-600 m	N	N	N	Y	N	Greenland	SCR 96/116

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