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A Compilation of Research Vessel Surveys on a Stock-by-Stock Basis

by

NAFO Secretariat

Discussions at the Scientific Council Meeting in June 1990 resulted in the compilation of information on research vessel surveys on a stock-by-stock basis (SCS Doc. 90/22, Serial No. N1820). This inventory was judged to be very helpful for the establishment of future inventories. It was agreed that the Designated Experts for the stocks be responsible for future compilations. The tabulations prepared at the June 1991 meeting were presented in SCS Doc. 91/18. In 1992, it was concluded (NAFO Sci. Coun. Rep., 1991, p. 114) that Designated Experts should update the information annually for review by STACFIS. The tabulations prepared at the June 1992, June 1993 and June 1994 Meetings were presented in SCS Doc. 92/22, 93/18 and 94/18, respectively.

The following tabulations were presented at the June 1995 Meeting. The updated list, however, was compiled only during the course of the June 1995 Meeting, and was not available for review during the meeting. The Scientific Council in 1992 had recommended that *in the future, Designated Experts present this updated information at the time of preparation of the preliminary assessments*. The stocks are presented in the same sequence they were considered in the agenda.

Stock name: Cod, Divisions 2J+3KL											See reverse side for guidelines to fill in columns					
Name of survey	Location	Season month(s)	Years of survey from, to or since	Type of survey and gears	Target species	No. of sets	24 hr fishin g	Area of coverage in relation to stock distribu- tion (%)	Depth range	Research data related to stock				Indiv- idual weights	Country	SCR Doc. No.
										abund- ance	bio- mass	ALK	LF			
Groundfish	2J3K	10,11,12	1977-94	Stratified-random Bottom trawl	Groundfish	400	Y	100	100-1000 m	Y	Y	Y	Y	Y	Canada	SCR 95/60
Juvenile cod	2J3KL	12,1(94)		Line			Y			N	Y	Y	Y	N	Canada	"
Groundfish	3L	5,6	1971-94	Stratified-random Bottom trawl	Groundfish	160	Y		30-400 fms	Y	Y	Y	Y	Y	Canada	"
Acoustics	3KL	5,6		Acoustic	Cod		Y			N	Y	Y	Y	N	Canada	
Acoustics	3L	6,7		Acoustic	Cod		Y			N	Y	Y	Y	N	Canada	
Juvenile flatfish	3L	8,9	1989-94	Stratified-random Bottom trawl	Groundfish		Y		30-150 fms	Y	Y	Y	N	N	Canada	SCR 95/59
Juvenile cod-capelin	3KL	9,10		Line	Cod, capelin		Y			N	Y	Y	Y	N	Canada	
Juvenile cod	3L	10,11		Line	Cod		Y			N	Y	Y	Y	N	Canada	
Groundfish	3L	10,11	1981-94	Stratified-random Bottom trawl	Groundfish	160	Y		30-400 fms	Y	Y	Y	Y	Y	Canada	SCR 95/60
Groundfish	3L	5,6	1993	Stratified-random Bottom trawl	Groundfish	74	Y			Y	Y	Y	Y	Y	Russia	

Stock name: Cod, Division 3M															
Name of survey	Location	Season months(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	SCR Doc No.
										abundance	bio-mass	ALK	LF		
Canada bottom-trawl survey	3M	February	1977 1985	Stratified-random bottom-trawl	All	~130	Y	100%	up to 730 m	X	X	X	X	Canada	
Russia trawl-acoustic survey	3M	April-July	1977 1993	Stratified-random bottom-trawl + acoustics	All	~100	Y	100%	up to 730 m	X	X	X	X	Russia	SCR 94/12
EU bottom-trawl survey	3M	July	1988 1994	Stratified-random bottom-trawl	All	116	N	100%	up to 730 m	X	X	X	X	EU	SCR 95/26

See reverse side for guidelines to fill in columns

Stock name: Cod, Divisions 3NO												See reverse side for guidelines to fill in columns				
Name of survey	Location	Season months(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	SCR Doc. No.	
										abundance	bio-mass	Stock size estimates				Indiv-idual weights
				ALK	LF											
Groundfish	3NO	4,5	1972	Stratified-random Bottom trawl	Groundfish	160	Y	100	30-400 fm	Y	Y	Y	Y	Y	Canada	SCR 95/70
Juvenile flatfish	3NO	8,9	1989-94	Stratified-random Bottom trawl	Groundfish		Y	100	30-150	Y	Y	Y	Y	Y	Canada	SCR 95/59
Groundfish	3NO	10,11	1990-94	Stratified-random Bottom trawl	Groundfish	160	Y	100	30-400 fm	Y	Y	Y	Y	Y	Canada	SCR 95/70

Stock name: Redfish - Subarea 1, Other Finfish - Subarea 1															
Name of survey	Location	Season months(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	SCR Doc. No.
										abundance	abund. mass	bio-ALK	LF		
										Stock size estimates	Individual weights				
West Greenland Groundfish Survey	1B-1F	October-November	Since 1982	Stratified-random Bottom Trawl	Cod, include valuable information on redfish, other finfish	78	N	90% for cod, other finfish unknown	0-400 m	Y	Y	Y	EEC-Germany	94/7 N2363	
West Greenland Deep Sea Groundfish Survey	1B-1D	August	Since 1987	Stratified-random Bottom Trawl	Greenland halibut, include valuable information on Roundnose grenadier, redfish, other finfish	80	N		400-1500 m	Y	Y	Y	Japan Greenland	95/23	

See reverse side for guidelines to fill in columns

Stock name: Redfish in Division 3M										See reverse side for guidelines to fill in columns					
Name of Survey	Location	Season months(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	SCR Doc. No.
										abundance	bio-mass	ALK	LF		
EEC trawl survey	3M	Jul	since 1988	Stratified-random sampling	General groundfish	116	N	100	280-720	Y	Y	Y	Y	EEC-Spain	SCR 95/26
Japan deepwater survey	3L, M	Mar-Apr	1994	Stratified-random sampling bottom trawl	Greenland halibut	58/3L 131/ 3M	?	3M/100 3L/?	3M/ 300-800 fath. 3L/ 400-700 fath. (=732-1280 m)	Y				Japan	SCR 95/48

Stock name: Redfish in Divisions 3LN										See reverse side for guidelines to fill in columns					
Name of survey	Location	Season months(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	SCR Doc. No.
										abundance	bio-mass	ALK	LF		
USSR ground-fish survey	3L, 3N	Apr-Jul (mostly)	1972-82	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	USSR	86/66
USSR ground-fish survey	3L, 3N	Apr-Jun (mostly)	1983-91, 1993, 1994	Stratified-random Bottom trawl	Multi-species Groundfish	approx. 48-3L	Y	Unknown	to 732 m	Y	Y	Y	Y	USSR	86/66
USSR acoustic	3LN	Apr-Jun	1987-91, 1993	Acoustic	Multi-species Groundfish	approx. 42-3N	Y	Unknown	to 732 m	Y	Y	Y	Y	USSR	88/24
Canadian groundfish survey (covering deep-water strata)	3L	various	1978-86	Stratified-random Bottom Trawl	Multi-species Groundfish	min. of 40 m depths >183 m	Y	Unknown	to 732 m	Y	Y	Y	Y	Canada	NAFO Studies No. 2
Canada redfish survey	3L	Jan	1990	Stratified-random Bottom trawl	Redfish	55	Y	Unknown	183-732 m	Y	Y	Y	Y	Canada	NAFO Studies No. 2
Canada ground-fish survey	3LN	Apr-Jun	1990-93	Stratified-random Bottom trawl	Multi-species Groundfish	97 in redfish depths	Y	Unknown	to 732 m	Y	Y	Y	Y	Canada	NAFO Studies No. 2
Canada redfish survey	3L, 3N (since 1990)	Aug	1990-91, 1993	Stratified-random Bottom trawl	Redfish	59-3L 47-3N	Y	Unknown	183-732 m	Y	Y	Y	Y	Canada	NAFO Studies No. 2
Canada ground-fish survey	3L	Oct-Dec	1990-93	Stratified-random Bottom trawl	Multi-species Groundfish	128 in redfish depths	Y	Unknown	to 732 m	Y	Y	Y	Y	Canada	NAFO Studies No. 2
Canada ground-fish survey	3N	Oct-Dec	1991-93	Stratified-random Bottom trawl	Multi-species Groundfish	30 in redfish depths	Y	Unknown	to 732 m	Y	Y	Y	Y	Canada	NAFO Studies No. 2

Stock name: Redfish, Divisions 3LN, 3M															
See reverse side for guidelines to fill in columns															
Name of survey	Location	Season 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	SCR Doc. No.
										abundance	bio-mass	Stock size estimates			
Russia Groundfish Survey	3MLNO	4-7	1971-1994	Groundfish Capelin	Cod Redfish Capelin American plaice Witch flounder	48	Full	3M* 3L* 100 3N* 30* * not surveyed	50-732 m	Y	Y	Y	Y	Russia	SCR 95/13

Stock name: Silver hake, Divisions 4VWX															
Name of survey	Location	Season months(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	SCR Doc. No.
										abundance	bio-mass	ALK	LF		
Scotia Fundy Summer Groundfish Survey	4VWX+5	July	1970 to present	Stratified-random Bottom Trawl	Groundfish	200	Y	100%	50-400 m	Y	Y	Y	Y	Canada	SCR 95/76
Juvenile Silver Hake Survey	4WX	October/November	1981 to present (no 1982 survey)	Stratified-random (YGPT Trawl)	0-group Silver Hake	73	N	60%	50-400 m	Y	N	N	N	Canada; 1993; 1995 USSR 1981-1991	.

See reverse side for guidelines to fill in columns:

Stock name: American plaice in Divisions 3L, 3N and 3O										See reverse side for guidelines to fill in columns						
Name of survey	Location	Season months(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	SCR Doc. No.	
										Stock size estimates		abundance	bio-mass			ALK
Canadian Groundfish (Spring)	Div. 3LNO	Spring (Apr-May)	1971-94	Stratified-random Bottom trawl	Groundfish	317	Y	95	Bottom depths to 731m ²	Y	Y			Y	Y	
Juvenile groundfish	Div. 3LNO	Autumn (Aug-Sep)	1985-94	Stratified-random Bottom trawl	American plaice & Yellowtail flounder	197	Y	90	Bottom depths to 273 ¹	Y	Y	Y	Y	Y	Canada	95/59
Canadian Groundfish (Fall)	Div. 3LNO	Autumn (Oct-Nov)	1981-94 (3L)	Stratified-random Bottom trawl	Groundfish	160	Y	95	Bottom depths to 731m ¹	Y	Y	Y	Y	Y	Canada	SCR 95/62
			1990-94 (3N0)			160										

¹ Depth range extended from 366 m to 731 m in 1990.
² Depth range gradually extended to 273 m since start of surveys.

Stock name: American plaice, Division 3M																
See reverse side for guidelines to fill in columns																
Name of Survey	Location	Season months(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	SCR Doc. No.	
										abundance	biomass	ALK	LF			
EU survey	3M	Jul	1988 1994	Stratified-random bottom trawl survey	Demersals	116	N	100%	720 m	8 538	6 173	Y	Y	Y	EU (Spain and Portugal)	SCR 95/26

Stock name: Witch flounder in Divisions 3NO										See reverse side for guidelines to fill in columns					
Name of survey	Location	Season months(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 estimates				Country	SCR Doc. No.
										abundance	bio-mass	ALK	LF		
Spring, groundfish survey	3NO	April-June	since 1971	Stratified-random Bottom trawl	Groundfish Cod Flounder		Y	100	30-400*	Y	Y	Y	Y	Canada	SCR 95/63
Autumn, groundfish survey	3NO	November	since 1990	Stratified-random Bottom trawl	Groundfish Cod Flounder		Y	100	30-400 ftn.	Y	Y	Y	Y	Canada	"
EU-Spain	Reg. Area 3NO	May	1995	Stratified-random Bottom trawl	All	77	N			Y	Y	N	Y	EU-Spain	SCR 95/55

* Prior to 1991 the depth range covered was 30-200 ftn.

See reverse side for guidelines to fill in columns

Stock name: Yellowtail flounder in Division 3L, 3N and 3O	Name of survey	Location	Season months(s)	Years of survey from, to or since	Type of survey and gears	Target species	No. of sets	74 hr fishing	Area of coverage in relation to stock distribution (%)	Depth range	Research data related to stock				Country	SCR Doc. No.
											Stock size estimates		Individual weights	LF		
											abundance	bio-mass			ALK	
	Canadian Groundfish (Spring)	Div. 3LNO	Spring (Apr-Jun)	1971-95	Stratified random using bottom trawl	Groundfish	317	Y	100	Bottom depths to 731m ¹	Y	Y	Y	Y	Canada	94/44
	Juvenile groundfish	Div. 3LNO	Autumn (Aug-Oct)	1985-94	Stratified-random using bottom trawl	Yellowtail flounder A. plaice	195	Y	100	Bottom depths to 274 ²	Y	Y	Y	Y	Canada	95/59
	Canadian Groundfish (Fall)	Div. 3LNO	Autumn (Oct-Nov)	1981-94 (3L) 1990-94 (3NO)	Stratified-random using bottom trawl	Groundfish	348	Y	100	Bottom depths to 731m ¹	Y	Y	Y	Y	Canada	95/74

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

² Depth range gradually extended to 273 m since start of surveys.

Stock name: Greenland halibut in Subarea 0 + Divisions 1B-1F															
Name of survey	Location	Season 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	SCR Doc. No.
										abundance	bio-mass	ALK	LF		
										Stock size estimates	Indiv-idual weights				
Joint Japan/Greenland Trawl Survey	1B-1F	8	1987	Stratified-random Bottom trawl	Greenland Halibut Roundnose Grenadier	80	No	?	4W - 1500	X	X	Y	Y	Y	95/23
Greenland Bottom Trawl Survey	1A-1F	7-9	1988	Stratified-random Bottom trawl	Shrimp Groundfish	176	No	?	0-600 m	X	X	Y	Y	Y	95/19

See reverse side for guidelines to fill in columns

Stock name: Greenland Halibut 1A																
Name of survey	Location	Season months(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	SCR Doc. No.	
										abundance	bio-mass	ALK	LF			
Long-line survey	1A inshore	July August	1993	Longline	Greenland halibut	73	Yes	?	200-800					Y	Greenland	SCR 95/69
Greenland Bottom Trawl Survey	1A Offshore Disko Bay Inshore	July-September	1988	Stratified random Bottom Trawl Survey	Northern shrimp Groundfish	176	No	?	0-600	Y	Y	Y	Y	Y	Greenland	SCR 95/19

See reverse side for guidelines

Stock name: Greenland halibut in Subareas 2+3											See reverse side for guidelines to fill in columns					
Name of survey	Location	Season months(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	SCR Doc. No.	
										abundance	bio-mass	ALK	LF			
Canadian autumn groundfish survey	2J,3K,3L	Oct-Dec	since 78-2J3K 81-3L	Stratified-random Bottom trawl	Groundfish Cod Flounder		Y	100	2J,3K: 100-1000 m 3L: 30-400 ftn.	Y	Y	Y	Y	Y	Canada	SCR 95/64
Canadian spring groundfish survey	3L	May-Jun	since 1971	Stratified-random Bottom trawl	Groundfish Cod Flounder		Y	100	31-440 ftn.	Y	Y	Y	Y	Y	Canada	
EU bottom trawl survey	3M	July	since 1988	Stratified-random Bottom trawl	All		N	100	0-732	Y	Y	Y	Y	Y	EU	95/76
Canadian deepwater survey	3KLM	Mar-Apr	1995	Stratified-random Bottom trawl	Greenland halibut	142	Y		500-1500	Y	Y	Y	Y	Y	Canada	95/52
Japanese exploratory survey	3LM	Mar-Apr	1995	Bottom trawl (not random)	Greenland halibut	189	N		550-1500	Y	Y	N	Y	N	Japan	95/48
EU-Spain bottom trawl survey	Reg-Area 3NO	May	1995	Stratified-random bottom trawl	All	77	N			Y	Y	N	Y	N	EU-Spain	95/55

See reverse side for guidelines

Stock name: Roundhose Grenadier Subarea 0 + Divisions 1B-1F

Name of survey	Location	Season months(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	SCR Doc. No.
										abundance	bio-mass	ALK	LF		
Joint Japan/Greenland B.T.S.	1B-1D	8	1987	Stratified-random Bottom Trawl	Greenland Halibut Roundhose Grenadier	80	No	?	400-1500 m	Y	Y	N	Y	Greenland	95/23

Stock name: Roundnose Grenadier Subareas 2+3											See reverse side for guidelines to fill in columns				
Name of survey	Location	Season months(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 estimates			Country	SCR Doc. No.	
										abundance	bio-mass	Stock size estimates			
											ALK	LF			
Canadian Deep-water	SA2+3KLM	August/September	1991	OTB - Engel	Mixed	228	Yes	?	750-1500 m	104 x 10 ⁶	36 x 10 ³ t	N	Y	Canada	
Canadian Deep-water	3KLMN	February	1994	OTB - Engel	Mixed	133	Yes	?	750-1500 m	112 x 10 ⁶	32 x 10 ³ t	N	Y	Canada	
Canadian Deep-water	3KLMN	April	1995	OTB - Engel	Mixed		Yes		500-1500 m	62 x 10 ⁶	12 x 10 ³ t	N	Y	Canada	95/51

Stock name: Capelin, Divisions 3LNO															
Name of survey	Location	Season months(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	SCR Doc. No.
										abundance	bio-mass	ALK	LF		
Russia Groundfish Survey	3MLNO	4-7	1971-1993	Groundfish Capelin	Cod Redfish Capelin American plaice Witch flounder	316	Fill	3M - 100 3L - 70 3N - 100 30 - 100	50-700 m	Y	Y	Y	Y	Russia	SCR 94/12 94/13 94/14
					No Change										

See reverse side for guidelines to fill in columns