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SCIENTIFIC COUNCIL MEETING - JUNE 1996

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, June 1994 and June 1995 Meetings were presented in SCS Doc. 92/22, 93/18, 94/18 and 95/17, respectively.

The following tabulations were completed at the June 1996 Meeting of the Scientific Council. The compilation of this tabulation was achieved by the coordination and communications of STACREC Chairman, D. Power (Canada) with the Designated Experts, including with those Designated Experts who were not present at this meeting (i.e. Designated Experts for northern shrimp assessments.

Stock name: Cod - Division 3M

See reverse side for guidelines

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: Stock size estimates: abundance	biomass	ALK	LF	Individual weights	Country	SCR Doc. No.
EU- bottom trawl survey	3M	July	1988→	Stratified random bottom trawl	all	121	No	100%	80-730m	X	X	X	X	XX	EU	96/54
Russian trawl survey	3M	May	1983→ (1994 missing)	Stratified random bottom trawl (and acoustic survey since 1987-1993)	all	58	Yes	100%	80-730m	X	X	X	X		Russia	96/7

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: Stock size estimates: abundance	biomass	ALK	LF	Individual weights	Country	SCR Doc. No.
Groundfish	3NO	4,5	1972	Stratified-random Bottom trawl	Groundfish	160	Y	100	30-400 ftm	Y	Y	Y	Y	Y	Canada	SCR 95/70
Juvenile flatfish	3NO	9	1989-94	Stratified-random Bottom trawl	Groundfish		Y	100	30-150	Y	Y	Y	Y	Y	Canada	95/59
Groundfish	3NO	10,11	1990-95	Stratified-random Bottom trawl	Groundfish	160	Y	100	30-400 ftm 1 100 m	Y	Y	Y	Y	Y	Canada	95/70
EU-Spain	3NO Reg. Area	5	1995-96	Stratified-random & Lofoten	Groundfish	112	N	20		Y	Y	-	Y	-	Spain	95/55

See reverse side for guidelines

Stock name: Redfish - 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: Stock size estimates: abundance	biomass	ALK	LF	Individual weights	Country	SCR Doc. No.
West Greenland groundfish survey	1B - 1F	10 - 11	since 1982	Stratified random bottom trawl	Cod, redfish, other finfish	35 incomplete coverage	No	80	0-400m	Y	Y	N	Y	N	E/DEU	96/4 96/6
Greenland - Japan groundfish survey	1A - 1D	8	since 1987	Stratified random bottom trawl	Greenland halibut, Roundnose grenadier	91	No	80	600-1500m	Y	Y	N	Y	N	GRL JPN	96/29
Greenland shrimp survey	1A - 1F	7 - 9	since 1987	Stratified random bottom trawl	Shrimp, juvenile redfish	181	No	80	0-600m	Y	Y	N	Y	8 N	GRL	95/19

Stock name: Redfish - Division 3M

See reverse side for guidelines

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: Stock size estimates: abundance	biomass	ALK	LF	Individual weights	Country	SCR Doc. No.
EU bottom trawl survey	3M	Jul-Aug	1988	Stratified random bottom trawl	Cod	121	6:00-22:00	100%	70-400fm	X	X	X	X	X	EU-ESP	96/54
Russian bottom trawl survey	3M	May	1983	Stratified random bottom trawl, same stratification as EU-survey	Redfish	58	0-24 hr	80%	0-400fm = 127-728m	X	X		X		Russia	96/9

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 distri-bution (%)	Depth range	Research data related to stock: Stock size estimates: abun-dance	bio-mass	ALK	LF	Indiv-idual weights	Country	SCR Doc. No.
USSR groundfish 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	Y	Y	Y	Y	Some-times	USSR	86/66
									1977-82: to 732 m	Y	Y	Y	Y		USSR	
USSR ground-fish survey	3L, 3N	Apr-Jun (mostly)	1983-91, 1993, 1994	Stratified-random Bottom trawl	Multi-species	approx. 48-3L	Y	Unknown	to 732 m	Y	Y	Y	Y	Some-times	USSR	86/66
					Groundfish	approx. 42-3N	Y	Unknown	to 732 m	Y	Y	Y	Y	Some-times	USSR	
USSR acoustic	3LN	Apr-Jun	1987-91, 1993	Acoustic	Multi-species	unknown midwater sampl.	Y	Unknown	to 732 m	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 in depths >183m	Y	Unknown	to 732 m	Y	Y	Y	Y	Some-times	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	No	Canada	NAFO Studies No. 2
Canada ground-fish survey	3LN	Apr-Jun	1990-93	Stratified-random Bottom trawl	Multi-species Groundfish	90 in redfish depths	Y	Unknown	to 732 m	Y	Y	Y	Y	Yes	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	Yes	Canada	NAFO Studies No. 2
Canada ground-fish survey	3L	Oct-Dec + Apr-May	1990-96	Stratified-random Bottom trawl	Multi-species Groundfish	128 in redfish depths	Y	Unknown	to 732 m	Y	Y	Y	Y	No	Canada	NAFO Studies No. 2
Canada ground-fish survey	3N	Oct-Dec + Apr-May	1991-96	Stratified-random Bottom trawl	Multi-species Groundfish	30 in redfish depths	Y	Unknown	to 732 m	Y	Y	Y	Y	Yes	Canada	NAFO Studies No. 2

Stock name: Redfish - Divisions 3LN, 3M

See reverse side for guidelines

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: Stock size estimates: abundance	biomass	ALK	LF	Individual weights	Country	SCR Doc. No.
Russia Groundfish survey	3MLNO	4-7	1971-1995	Groundfish Capelin	Cod Redfish Capelin American plaice Witch flounder	48	Fill	3M* 3L - 100 3N* 3O* * not surveyed	50-732m	Y	Y	Y	Y	Y	Russia	SCR 95/13

Stock name: Silver hake - Divisions 4VWX

See reverse side for guidelines

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: Stock size estimates: abundance	biomass	ALK	LF	Individual weights	Country	SCR Doc. No.
Summer groundfish survey	4VWX	Summer (Jul)	1970-1995	Western IIa trawl - random stratified design	cod, haddock, pollock	200	Yes	100%	50-200fm	Y	Y	Y	Y	Y	Canada	
Silver hake 0-group survey	4VWX	Autumn (Oct)	1981-1995 (excl. 1992)	IYGPT random stratified design; 3 step oblique	silver hake	80	No	80%	50-200fm	Y			Y		Canada	

Stock name: American plaice - Division 3LN0

See reverse side for guidelines

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: Stock size estimates: abundance	biomass	ALK	LF	Individual weights	Country	SCR Doc. No.
Canadian Spring	3LN0	Apr-Jun	1971-95	Otter trawl - Engels	Groundfish	325	Y	95	to 730 m	Y	Y	Y	Y	Y	Canada	Studies No. 2
Canadian fall	"	Sep 95-Jan 96	1990-95	Campolen	Groundfish	332	Y	95	to 730 m	Y	Y	Y	Y	Y	"	"
EU-Spain	3NO Reg. Area	May	1995-96	Lofoten	Groundfish	112	N	10	to 1 100 m	Y	Y	-	Y	-	Spain	SCR 95/55

Stock name: American plaice - Division 3M

See reverse side for guidelines

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: Stock size estimates: abundance	biomass	ALK	LF	Individual weights	Country	SCR Doc. No.
EU - bottom trawl survey	3M	July	1988→	Stratified random bottom trawl	all	121	No	100%	80-730m	X	X	X	X	X	EU	96/54

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: Stock size estimates: abundance	biomass	ALK	LF	Individual weights	Country	SCR Doc. No.
Spring, groundfish survey	3NO	April-June	since: 1971	Stratified-random Bottom trawl	Groundfish Cod Flounder		Y	100	30-400[a]	Y	Y	Y	Y	Y	Canada	SCR 94/63
Autumn, groundfish survey	3NO	November	since 1990	Stratified-random Bottom trawl	Groundfish Cod Flounder		Y	100	30-400 ftm.	Y	Y	Y	Y	Y	Canada	
EU-Spain	Reg. Area 3NO	May	1995-96	Stratified-random Bottom trawl	All	77	N	100	30-400 ftm.	Y	Y	N	Y	N	EU-Spain	SCR 95/55

[a] Prior to 1991 the depth range covered was 30-200 ftm.

Stock name: Yellowtail flounder - Divisions 3L, 3N and 30

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: Stock size estimates: abundance	bio-mass	ALK	LF	Individual weights	Country	SCR Doc. No.
Canadian Groundfish (Spring)	Div. 3LNO	Spring (Apr-Jun)	1971-96	Stratified random using bottom trawl	Groundfish	298	Y	100	Bottom depths to 731m[1]	Y	Y	Y	Y	N	Canada	96/25
Juvenile groundfish	Div. 3LN0	Autumn (Aug-Sep)	1985-94	Stratified-random using bottom trawl	Yellowtail flounder A. plaice, cod	195	Y	100	Bottom depths to 274[2]	Y	Y	Y	Y	Y	Canada	96/25
Canadian Groundfish (Fall)	Div. 3LNO	Autumn (Oct-Nov)	1981-95 (3L) 1990-94 (3N0)	Stratified-random using bottom trawl	Groundfish	237	Y	100	Bottom depths to 731m[1]	Y	Y	Y	Y	Y	Canada	96/25
EU-Spain Groundfish (Fall)	Div. 3NO Regulatory Area	Spring (May)	1995-96	Stratified-random using bottom trawl	Groundfish	112	Day only	unknown	Bottom depths to 1100m	Y	Y	N	Y	N	Spain	96/49

[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 - Division 1A

See reverse side for guidelines

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: Stock size estimates: abundance	bio-mass	ALK	LF	Individual weights	Country	SCR Doc. No.
Inshore longline survey	Ilulissat Uummannaq Upernavik (2 a year)	July-August	since 1993	Fixed sation longlines	Greenland halibut	30 in each location (60 a year)	Yes	?	200-900m	N	N	Y	Y	Y	Greenland	

See reverse side for guidelines

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

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: Stock size estimates: abundance	biomass	ALK	LF	Individual weights	Country	SCR Doc. No
Joint Japan/ Greenland	1A - 1D	August	1987-1995	Stratified random bottom trawl	Greenland halibut, Roundnose grenadier	91	No	?	400-1500m		40. 800	Y	Y	Y	GRL/JAP	96/29
Greenland shrimp	1A - 1F	July - September	1988-1995	"	Shrimp	194	No	?	50-600m	184 mil.	7. 782	Y	Y	Y	GRL	

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: Stock size estimates: abundance	biomass	ALK	LF	Individual weights	Country	SCR Doc. No.
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: 100-1000m 3L: 30-400 ftm.	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 ftm. 0-732	Y	Y	Y	Y	Y	Canada	95/64
EU bottom trawl survey	3M	July	since 1988	Stratified-random Bottom trawl	All		N	100	550-1500 ftm.	Y	Y	Y	Y	Y	EU	95/26
EU-Spain bottom trawl survey	Reg. Area 3NO	May	1995-96	Stratified-random Bottom trawl	All		N	100		Y	Y	N	Y	N	EU-Spain	95/55

Stock name: Roundnose grenadier - Subareas 0+1

See reverse side for guidelines

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: Stock size estimates: abundance	biomass	ALK	LF	Individual weights	Country	SCR Doc. No.
Joint Japan Greenland	1A - 1D	August	1987-1995	Stratified random bottom trawl	Greenland halibut, Roundnose grenadier	91	No	?	400-1500m		6.7		X			96/29

Stock name: Roundnose Grenadier - Subareas 2+3

See reverse side for guidelines

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: Stock size estimates: abundance	biomass	ALK	LF	Individual weights	Country	SCR Doc. No.
Canadian Deep-water	SA2+3KLM	August/ September	1991	OTB - Engel	Mixed	228	Yes	?	750-1500m	104 x 10^6	36 x 10^3t	N 3KLM only	Y	N	Canada	
Canadian Deep-water	3KLMN	February	1994	OTB - Engel	Mixed	133	Yes	?	750-1500m	112 x 10^6	32 x 10^3t	N	Y	N	Canada	
Canadian Deep-water	3KLMN	April	1995	OTB - Engel	Mixed		Yes		500-1500m	62 x 10^6	12 x 10^3t	N	Y	N	Canada	

See reverse side for guidelines

Stock name: 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: Stock size estimates: abundance	bio-mass	ALK	LF	Individual weights	Country	SCR Doc. No.
West Greenland groundfish survey	1B - 1F	10	since 1982	Stratified random bottom trawl	Cod, redfish	35	No	80%	0-400m	Y	Y	N	Y	N	E/DEU	96/4 96/5
Greenland shrimp survey	1A - 1F	7 - 9	since 1988	"	Shrimp	181	No	80%	0-600m	Y	Y	N	Y	N	GRL	95/19
Greenland-Japan groundfish survey	1A - 1D	8	since 1987	"	Greenland halibut	91	No	80%	400-1500m	Y	Y	N	Y	N	GRL/JPN	96/29

See reverse side for guidelines

Stock name: Shrimp - Subareas 0+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: Stock size estimates: abundance	bio-mass	ALK	LF	Individual weights	Country	SCR Doc. No.
Greenland bottom trawl survey	1A offshore Disko Bay inshore	July-September	since 1988	Stratified random survey	Northern shrimp groundfish	194	No	95%	150-600m	Y	Y	N	Y	Y	Greenland	SCR Doc. 95/111 95/113

Stock name: Shrimp - Denmark Strait

See reverse side for guidelines

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: Stock size estimates: abundance	biomass	ALK	LF	Individual weights	Country	SCR Doc. No.
East Greenland shrimp survey	ICES XIVb	September	1989-1995 (except 1991 and 1993)	Spline survey Bottom shrimp trawl	Northern shrimp	72	No	Main distribution area	200-600m	No info	4558	N	Y	N	Greenland	SCR Doc. 95/109

Stock name: Shrimp - Division 3M

See reverse side for guidelines

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: Stock size estimates: abundance	biomass	ALK	LF	Individual weights	Country	SCR Doc. No.
EU- bottom trawl survey	3M	July	1988	Stratified random bottom trawl	all	121	No	100%	80-730m	X	X		X	X	EU	95/100