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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, and that Designated Experts should update the information annually for review by STACFIS (*NAFO Sci. Coun. Rep.*, 1991, p. 114). The following tabulations were received at the Secretariat from the Designated Experts during the year 2003.

Stock name: Greenland halibut in Subarea 0, Division 1A offshore and Divisions 1B-F																
Name of survey	Location (Div.)	Season (months)	Years of survey	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 size estimates				Individual weights	Country	SCS/ SCR Doc. No
										abundance	bio-mass	ALK	LF			
Greenland Deep Sea	1CD	Sep-Nov	Since 1997	Stratified Random bottom Trawl	Greenland halibut Roundnose grenadier	35	N/Y	?	400-1500 m	Y	Y	Y	Y	Y	Greenland	SCR 03/20
Greenland Shrimp Trawl	1A-F	Jul-Sep	Since 1988	Stratified Random bottom Trawl	Shrimp Groundfish	225	N	?	50-600m	Y	Y	Y	Y	Y	Greenland	SCR 03/29
Stock name: Greenland halibut in Division 1A inshore																
Inshore longline	Disko Bay Uummannaq Upernavik (2 a year)	Jul-Aug	since 1993	Fixed station Longlines	Greenland Halibut	30 in each location (60 a year)	Yes	?	200-900m	N	N	Y	Y	Y	Greenland	98/44
Inshore longline	Disko Bay Uummannaq Upernavik (2 a year)	Jul-Aug	Since 1993	Fixed station Longline	Greenland Halibut	30 in each location (60 a Year)	Yes	?	200-900m	N	N	Y	Y	Y	Greenland	00/29 00/47
Inshore longline	Disko Bay Uummannaq Upernavik (2 a year)	Jul-Aug	Since 1993	Fixed station Longline	Greenland Halibut		Yes	?	200-900m	N	N	Y	Y	Y	Greenland	01/68
Inshore longline	Disko Bay Uummannaq Upernavik (2 a year)	Jul-Aug	Since 1993	Fixed station Longline	Greenland Halibut	30	Yes	?	200-900m	N	N	Y	Y	Y	Greenland	03/49
Inshore juvenile G. halibut	Disko Bay	July	Since 2001	Gillnet	Greenland halibut	40	Yes	?	200-700m	N	N	Y	Y	Y	Greenland	03/49

Stock name: American plaice in Division 3M																
Name of survey	Location (Div.)	Season (months)	Years of survey	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 size estimates				Individual weights	Country	SCS/ SCR Doc. No
										abundance	bio-mass	ALK	LF			
EU – bottom Trawl	3M	Summer Jul	1988	Stratified-random bottom trawl	Groundfish and shrimp	120	N	100	127-731 m	Y	Y	Y	Y	Y	EU-Spain EU-Portugal	SCR 03/42
RUSSIA - Trawl survey	3M	Spring May/June	1987-96 2001	Stratified-random bottom trawl	Groundfish	94	Y	100	127-1280 m	Y	Y				RUSSIA	SCR 03/9
Stock name: Cod in Divisions 3NO																
Groundfish	3NO	Apr, May	1972-02 (except 1983)	Stratified-random Bottom trawl	Multi-species	160	Y	100	30-400 ftm	Y	Y	Y	Y	Y	Canada	SCS 03/10
Juvenile flatfish	3NO	Sep	1989-94	Stratified-random Bottom trawl	Groundfish		Y	100	30-150	Y	Y	Y	Y	Y	Canada	SCR 96/80
Groundfish	3NO	Oct, Nov	1990-02	Stratified-random & Lofoten	Multi-species	160	Y	100	30-800 ftm	Y	Y	Y	Y	Y	Canada	SCS 03/10
EU-Spain	3NO Reg. Area	May	1995-02		Groundfish	137	N	20	1 100 m	Y	Y	N	Y	N	Spain	SCS 03/11

Stock name: Redfish in Divisions 3LN																
Name of survey	Location (Div.)	Season (months)	Years of survey	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 size estimates				Individual weights	Country	SCS/ SCR Doc. No
										abundance	bio-mass	ALK	LF			
USSR groundfish	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	Some-times	USSR	86/66
USSR ground-fish	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	Some-times	USSR	86/66
USSR acoustic	3LN	Apr-Jun	1987-91, 1993	Acoustic	Multi-species	unknown midwater sampl.	Y	Unknown	to 732 m	Y	Y			Some-times	USSR	88/24
Canadian groundfish (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	3L	Jan	1990	Stratified-random Bottom trawl	Redfish	55	Y	Unknown	183-732 m	Y	Y	Y	Y	N	Canada	NAFO Studies No. 2
Canada ground- fish	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	Y	Canada	NAFO Studies No. 2
Canada redfish	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	Y	Canada	NAFO Studies No. 2
Canada ground- fish	3L	Oct-Dec + Apr-May	1990-02	Stratified-random Bottom trawl	Multi-species Groundfish	44-53N in depths 184-914 m	Y	Unknown	to 732 m	Y	Y	Y	Y	N	Canada	NAFO Studies No. 2
Canada ground- fish	3N	Oct-Dec + Apr-May	1991-02	Stratified-random Bottom trawl	Multi-species Groundfish	30-36 in redfish depths 93-914 m	Y	Unknown	to 732 m	Y	Y	Y	Y	Y	Canada	NAFO Studies No. 2

Stock name: American plaice in Divisions 3LNO																
Name of survey	Location (Div.)	Season (months)	Years of survey	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 size estimates				Individual weights	Country	SCS/ SCR Doc. No
										abundance	bio-mass	ALK	LF			
Canadian spring	3LNO	Apr-Jun	1971-2002	Stratified random Campelen	Groundfish	304	Y	95	to 730 m	Y	Y	Y	Y	Y	Canada	SCR 03/56
Canadian autumn	3LNO	Sep-Dec	1990-2002	Stratified random Campelen	Groundfish Shellfish	399	Y	100	to 1 460 m	Y	Y	Y	Y	Y	Canada	SCR 03/56
EU-Spain	3NO Reg. Area	Apr-May	1995-2002	Stratified random Campelen	Groundfish	125	N	11	to 1 460 m	Y	Y	N	Y	N	Spain	SCR 03/7
Canadian DFO-Industry Co-operative	3NO expanded to 3L in 2000	July Quarterly in 1997-98	1996-2002	Grid survey with commercial Engel trawl (unlined)	Yellowtail (by-catches of cod, A. plaice)	50-80 sets per survey (285 total in 1997)	Y	35	45-90 m	N	N	N	N	N	Canada	SCR 03/18

Stock name: Yellowtail flounder in Divisions 3L, 3N and 3O																
Name of survey	Location (Div.)	Season (months)	Years of survey	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 size estimates				Individual weights	Country	SCS/ SCR Doc. No
										abundance	bio-mass	ALK	LF			
Canadian Groundfish (Spring)	Div. 3LNO	Spring (Apr-Jun)	1971-2002	Stratified random - bottom trawl	Groundfish & shellfish	304	Y	100	50 to 730m	Y	Y	Y	Y	Y	Canada	03/52
Canadian Groundfish (Autumn)	Div. 3LNO	Autumn (Oct-Dec)	1990-2002	Stratified-random - bottom trawl	Groundfish & shellfish	399	Y	100	35 to 1 500m	Y	Y	Y	Y	Y	Canada	03/52
Spanish Groundfish (Spring)	Div. 3NO Regulatory Area	Spring (Apr-May)	1995-2002	Stratified-random - bottom trawl	Groundfish & shellfish	125	N	unknown	56 to 1 464m	Y	Y	N	N	N	Spain	03/6
Canadian DFO/Industry	Div. 3NO	Seasonal during 1997-98. Surveys in July of all yrs 1996-2002	1996-2002	Grid , fixed stations. Commercial unlined trawl. Grid expanded in 2000-2002.	Yellowtail. By-catch info on A.plaice, cod, skates	167	Y	80	45-90m	N	N (only CP UE)	N	Y	N	Canada	03/18

Stock name: Witch flounder in Divisions 3N and 3O																
Name of survey	Location (Div.)	Season (months)	Years of survey	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 size estimates				Individual weights	Country	SCS/ SCR Doc. No
										abundance	bio-mass	ALK	LF			
Canadian Groundfish (Spring)	Div. 3LNO	Spring (Apr-Jun)	1971-02	Stratified Random - Bottom trawl	Groundfish	about 300	Y	100	51 to 731m	Y	Y	Previous to 1994	Y	Y	Canada	03/46
Canadian Groundfish (Autumn)	Div. 3LNO	Autumn (Oct-Nov)	1990-02	Stratified-Random - Bottom trawl	Groundfish	205-3L 94-3N 97-3O	Y	100	51 to 1 424m	Y	Y	"	Y	Y	Canada	03/46
Spanish Groundfish (Spring)	Div. 3NO Regulatory Area	Spring (Apr-May)	1995-2000	Stratified-Random - Bottom trawl	Groundfish	118	N	unknown	45 to 1500m	Y	Y	Y	N	N	Spain	00/46

Stock name: Capelin 3NO																
Multi-species trawl survey	3NO	4-6	1977-1995	stratified-random, Engel 145	Demersal fishes		+	100	42-668						CAN	
Multi-species trawl survey	3NO	4-6	1996-2001	stratified-random, Campelen 1800	Demersal fishes		+	100	40-699						CAN	SCR 02/20
Multi-species trawl survey	3NO	4-5	2002	stratified-random, Campelen 1800	Demersal fishes	158	+	100	40-641	2.0	28.2	N	Y	N	CAN	SCR 03/37

Stock name: Redfish in Divisions 3O																
Name of survey	Location (Div.)	Season (months)	Years of survey	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 size estimates				Individual weights	Country	SCS/ SCR Doc. No
										abundance	bio-mass	ALK	LF			
USSR ground-fish	3O	Apr-Jun (mostly)	1983-91, 1993, 1994	Stratified-random Bottom trawl	Multi-species Groundfish	75-100	Y	Unknown	to 732 m	Y	Y	Y	Y	Sometimes	Russia	86/66
Canada ground-fish	3O	Apr-Jun	1971-90	Stratified-random Bottom trawl	Multi-species Groundfish	30-36 in redfish depths	Y	Unknown	to 367m	Y	Y	Y	Y	N	Canada	NAFO Studies No. 2
Canada ground-fish	3O	Oct-Dec + Apr-May	1991-02	Stratified-random Bottom trawl	Multi-species Groundfish	30-36 in redfish depths	Y	Unknown	93--732 m	Y	Y	Y	Y	Some Surveys	Canada	NAFO Studies No. 2

Stock name: Roughhead Grenadier in Subareas 2 and 3																
Name of survey	Location (Div.)	Season (months)	Years of survey	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 size estimates				Individual weights	Country	SCS/ SCR Doc. No
										abundance	bio-mass	ALK	LF			
Canadian Fall Survey	2GHJ 3MLNO	Oct-Dec	1978	Stratified random <= 1994 Engel >=1995 Campelen	Groundfish Shellfish	337 in 2002	Yes	100%	<1500	+	+		+	No	CAN	-
Canadian Spring Survey	3LNO	Spring May-July	1978	Stratified random <=1995 Engel >= 1996 Campelen	Groundfish Shellfish	68 in 2002	Yes	100%	<730 m	+	+		+	No	CAN	-
Canadian deepwater	3MLN	August February Spring	1991 1994 1995	Bottom trawl	Groundfish				<1500	+	+		+	No	CAN	-
Spanish Spring Surveys	3NO	May	1995	Stratified Random (Pedreira)	Groundfish	120 in 2002	No	Flemish Cap	50- 1400m	+	+	+	+	+	EU-ESP	-
EU Flemish Cap Surveys	3M	July	1988	Stratified Random (Lofoten)	Groundfish Shrimp	120 in 2002	No	Flemish Cap	< 720m	+	+	+	+	+	EU-ESP EU-PRT	SCR 03/13 SCR 03/42
Russian	3M	May/June	2001 and 2002	Stratified random bottom trawl	Groundfish	94	Yes		120- 1280 m	+	+		+		RUS	SCR 03/09
EU Deep-water	3LMN	April- May	1996	Longline	Groundfish	64	Yes		700- 3100m				+	+	EU-ESP EU-PRT	SCR 96/34, 97/19, 97/20

Stock name: Cod Divisions 2J+3KL																
Name of survey	Location (Div.)	Season (months)	Years of survey	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 size estimates				Individual weights	Country	SCS/ SCR Doc. No
										abundance	bio-mass	ALK	LF			
Groundfish	2J3K	Oct, Nov, Dec	1977-02	Stratified-random Bottom trawl (Yankee 41.5 Engels 145 Campelen 1800)	Groundfish	450	Y	100	100-1500 m	Y	Y	Y	Y	Y	Canada	03/62
Groundfish	3L	Oct, Nov	1981-01		Groundfish		Y			Y	Y	Y	Y	Y	Canada	
Spring multispecies	3L	May-Jun	1971-02	Stratified-random Bottom trawl	Groundfish	200	Y	Only Div. 3L	0-731 m	Y	Y	Y	Y	Y	Canada	SCS 03/10
Acoustics	3L	Apr	1997	Acoustic	Cod		Y			N	Y	Y	Y	N	Canada	97/49
Juvenile flatfish	3L	Aug, Sep	1989-94	Stratified-random Bottom trawl	Groundfish		Y		30-150 fm	Y	Y	Y	N	N	Canada	95/59
Juvenile cod	2J3KL	Aug, Sep	1992-99	Fixed station	0-group cod	100-150	Y		30-400 fm	Y	N	Y	Y	N	Canada	00/33
Acoustic	3KL	Oct-Dec	1997	Acoustic	cod/herring		N	70	<120m	N	Y	Y	Y	N	Canada	98/46
Stock name: Witch flounder in Div. 2J+3KL																
Canadian autumn groundfish	2J,3K, 3L	Autumn	78-02 2J3K 84-02 3L	Stratified-random Engel trawl 1978-94 2J3K Yankee trawl 1981-82 3L Engel trawl 1984-94 3L Campelen Trawl all areas 1995-00	Groundfish (Cod, flounders, G. halibut, Redfish & shellfish)	498 in 2002	Y	This column not appropriate for this species given differences in depth coverage and areas covered in the surveys.	2J3K in 2002 101-1500m 3L in 2002 30-1463 m	Y	Y	Prior to 1994	Y	Y	Canada	03/47

Stock name: Greenland halibut in Subareas 2+3KLMNO																
Name of survey	Location (Div.)	Season (months)	Years of survey	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 size estimates				Individual weights	Country	SCS/SCR Doc. No
										abundance	bio-mass	ALK	LF			
Canadian groundfish spring	3LNO	Apr-June	95-02	Stratified-random Campelen trawl	Groundfish	304 in 2002	Y		30-731 m	Y	Y	Y	Y	Y	Canada	03/51
Canadian autumn groundfish	2J,3K, 3L	Fall	78-02 2J3K 81-02 3L	Stratified-random Engel trawl 1978-94 2J3K Yankee trawl 1981-82 3L Engel trawl 1984-94 3L Campelen Trawl all areas 1995-02	Groundfish (Cod, flounders, G. halibut, Redfish & shellfish)	498 in 2002	Y	This column not appropriate for this species given differences in depth coverage and areas covered in the surveys.	2J3K in 2002 102-1395 m 3L in 2002 35-1431 m	Y	Y	Y	Y	Y	Canada	03/51
EU bottom trawl	3M	Jul	1988-02	Stratified-random Bottom trawl	Groundfish & shrimp	120 in 2002	N		730 m	N	N	N 20 02	Y	Y	EU	03/42
EU-Spain bottom trawl	Reg. Area 3NO	Apr-May	1995-2002	Stratified-random Bottom trawl	Groundfish	125 in 2002	N		56-1464 m in recent years	Y	Y	Y 20 02	Y	Y	Spain	03/08
Canadian groundfish	2GH	Sep-Oct	occasion since 1978	Stratified-random Campelen in 1996-01	Groundfish & shellfish	57 in 2H in 2001	Y	3M * full coverage 1996; 1997-02 only in deepwater	201-1382 m	Y	Y	Y 20 02	Y	Y	Canada	03/51
Canadian groundfish	3MNO	Sep-Dec	3NO 1990-02 *3M 1996-02	Stratified-random Campelen	Groundfish	26-3M 94-3N 99-3O in 2002	Y	Sackville Spur, Flem. Pass	1403 m 3M 1429 m 3N 1504 m 3O in 2001	Y	Y	Y Y	Y	Y	Canada	03/51
Russian	3M	May	1987-96	Stratified-random Bottom trawl	Groundfish	90	Y		914 m in 1996	Y	Y	Y	Y	N	Russia	98/13
	3LM Fl. Pass	Feb Apr-May	1995-96 2000	Stratified-random Bottom trawl	Groundfish	94	Y		732-1280 m	Y		Y		N	Russia	01/10
	3M	May-June	2001-02	Stratified-random Bottom trawl	Groundfish		Y	Flemish Cap	127-1280	Y	Y	Y		N	Russia	03/09

Stock name: Shrimp in Division 3M																
Name of survey	Location (Div.)	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 size estimates				Individual weights	Country	SCS/ SCR Doc. No
										abundance	bio-mass	ALK	LF			
EU-bottom trawl	3M	Jun/Jul	1988	Stratified-random bottom trawl	All	120	N	100	80-730 m	Y	Y	Y	Y	Y	EU	SCR 02/150 03/80
Faroese Shrimp trawl survey	3M	Jun/Jul	1997	Stratified-random bottom trawl	Shrimp	61	Y	100	200-600 m	Y	Y	Y	Y	Y	Faroe Islands	SCR 03/66 03/87
Stock name: Shrimp in 3LNO																
Multi-species Spring Survey	3LNO 3Ps	May to June	1999 to present	Stratified-random bottom trawl	Groundfish Shellfish (crab, shrimp)/ capelin	~350	Yes	100% of area covered	30-732 m	Y	Y	N	Y	N	Canada	SCR 03/82
Multi-species Autumn Survey	2J 3KLNO	October to December	1995 to present	Stratified-random bottom trawl	Groundfish Shellfish (crab, shrimp)/ capelin	(~370 sets done in Div. 3LNO)	Yes	100% of area covered	30-1500 m	Y	Y	N	Y	N	Canada	SCR 03/82
Stock name: Shrimp – Subarea 0+1																
West Greenland trawl survey	SA 0+ 1 (West Greenland Shelf)	Aug	since 1988	Stratified-random survey	Northern shrimp groundfish	204 (in 2003)	N	95	150-600m	Y	Y	N	Y	Y	Greenland	03/71
		Jul-Aug		Skjervøy 3000 with bobbin gear												

Stock name: Shrimp in Denmark Strait																
Name of survey	Location (Div.)	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 size estimates				Individual weights	Country	SCS/ SCR Doc. No
										abundance	bio-mass	ALK	LF			
East Greenland shrimp survey No surveys since 1996	ICES XIVb	Sep	1989-1996 (except 1991 and 1993)	Spline survey, bottom shrimp trawl	Northern shrimp	40	No	Not known	200-600 m	N	N	N	Y	N	Greenland	96/116