

Northwest Atlantic



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

by

NAFO Secretariat

Discussions in the STACREC meeting in June 1990 resulted in the compilation of information on research vessel surveys on a stock-by-stock basis. A specific format was accepted and an inventory for all stocks for which survey information was available was compiled and presented at that meeting in SCS Doc. 90/22, Serial No. N1820. It was acknowledged that the material may not have been complete or fully accurate, given the initial purpose of the compilation. Nevertheless, this inventory was judged to be very helpful for the establishment of future inventories.

STACREC agreed that the Designated Experts for the stocks be responsible for future compilations. The following tabulations were presented and reviewed by STACFIS at the June 1991 Meeting. STACREC agreed that this tabulation should be an update of the June 1990 tabulation. The stocks are presented in the same sequence they were considered in the agenda.

Stock name: Cod in Subarea 1															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.
										Stock size estimates		LF	Indiv- idual weights			
										abun- dance	bio- mass					
West Greenland groundfish survey	1B, 1C, 1D, 1E, 1F	10-11	Since 1982	Stratified-random, bottom trawl	Cod	111	Y	70%	0-600 m	Y	Y	Y	Y	E/DEU	91/76	
West Greenland Trawl Survey	1B, D, F	Jul/Aug	Since 1989	Bottom trawl Stomach sampling, Midwater trawl for 0-group.	Cod/other demersal	51	N	50%	45-430	N	N	Y	Y	FRG	91/35 91/76	
West Greenland Inshore young cod survey	1B,D,F	Jul	Since 1985	Gillnets with different mesh sizes	Cod	171	y	30	0-40	y		y	y	Greenland	91/64	

Stock name:		Cod in Division 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.
										Stock size estimates		LF	Indiv- idual weights		
										abun- dance	bio- mass				
USSR groundfish survey	3M	Apr-Jul	1971	1971-82 fixed stations 1983-90 random 1987-90 trawl and acoustic	groundfish	12-76 85-109 "	Y	100	120-720m	Y	Y	Y	Y	USSR	91/5
Canadian groundfish survey	3M	Jan-Feb	1977-85	stratified-random	groundfish	109-142	Y	100	120-720m	Y	Y	Y	Y	Canada	83/29
EEC groundfish survey	3M	July	1988	stratified-random	groundfish	113-116	N (1988 Y)	100	120-720m	Y	Y	Y	Y	EEC	91/95

Stock name: Cod in Divisions 3N and 3O																	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.				
										Stock size estimates		ALK	LF	Indiv- idual weights						
										abun- dance	bio- mass									
Spring ground-fish survey	3N, 3O	Apr-Jun	since '71	Stratified random bottom trawl	Groundfish Cod Fidr.	173	Y	100%	31-200 ^a	Y	Y	Y	Y	Y	Canada	91/83				
Spring	3N, 3O	Apr-Jun	since '72	Fixed station 1972-82 Random stratified 1983-89 Trawl-acoustic since 1986	Groundfish	115	Y	100%	31-400	Y	Y	Y	Y	Y	USSR	91/5				
Fall ground-fish survey	3N, 3O	Nov	1st survey in 1990	Stratified random bottom trawl	Groundfish	201	Y	100%	31-300	Y	Y	Y	Y	Y	Canada	91/83				

and 31-200 for all years except 1991 when depth range was 31-400 fathoms.

^a 31-200 for all years except 1991 when depth range was 31-400 fathoms.

Stock name: Redfish in Division 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.			
										Stock size estimates			ALK	LF			Indiv- idual weights		
										abun- dance	bio- mass								
USSR ground-fish survey	3M	Apr-Jul	1971	1971-82 fixed stations 1983-90 random 1987-90 trawl and acoustic	Groundfish	12-76	Y	100	120-750 m	Y	Y	Y	Y	Y	USSR	91/5			
Canadian Groundfish Survey	3M	Jan-Feb	1977-85	Stratified random	Groundfish	108-142	Y	100	120-720	Y	Y	Y	Y	Y	Canada	83/29			
EEC Groundfish Survey	3M	July	1988	Stratified random	Groundfish	113-116	Y (1988 Y)	100	120-720	Y	Y	Y	Y	Y	EEC	91/95			

Stock name: Redfish in Divisions 3LN															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.			
										Stock size estimates		LF	Indiv- idual weights						
										abun- dance	bio- mass								
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)	1983-90	Stratified random bottom trawl	Multi- species groundfish	approx 120-3L approx 85-3N	Y	unknown	to 732 m	Y	Y	Y	Y	USSR	86/66				
USSR acoustic	3LN	Apr-Jun	1987-90	Acoustic	Multi- species	unknown midwater sampling	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 in depths >183m	Y	unknown	to 732 m	Y	Y	Y	Y	Canada	NAFO Sci. Coun. Studies 2				
Canada redfish survey	3L	Jan	1990	Stratified random bottom trawl	Redfish "	55	Y	unknown	183-732m	Y	Y	Y	Y	Canada	NAFO Sci. Coun. Studies 2				
		Aug	1990			125	Y	unknown	183-732m	Y	Y	Y	Y	Canada	"				
Canada ground- fish survey	3L	Oct-Nov	1990	Stratified random bottom trawl	Multi- species/ groundfish	161	Y	unknown	to 732 m	Y	Y	Y	Y	Canada	"				

See reverse side for guidelines to fill in columns

Stock name: Silver hake in Divisions 4VMX																
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.	
										Stock size estimates		ALK	LF			Indiv- idual weights
										abun- dance	bio- mass					
July Groundfish	4VMX	July	1970-91	Random stratified bottom trawl	Multi-species	197	N	100%	40-200	Y	Y	Y	Y	Canada	91/42	
Autumn Juvenile Survey	4WX	Oct-Nov	1981-90	Random stratified IGYPT trawl	Silver hake juveniles	100	N	100%	40-200	Y				USSR- Canada	91/01 91/02 91/42	
Winter Juvenile	4WX	Dec-Jan	1989-90	Random stratified IGYPT trawl	Silver hake juveniles	50	N	100%	40-200	Y	Y	Y	N	USSR	91/01 91/02	

Stock name: American plaice in Division 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.			
										Stock size estimates		ALK	LF	Indiv- idual weights					
										abun- dance	bio- mass								
EEC survey	3M	Jul-Aug	1988-90	Stratified random bottom trawl	Groundfish	120	Y (1988) 16hrs (89-90)	100%	75-720 m	Y	Y	Y	Y	EEC	91/28				
USSR survey	3M	Spring Summer	1972-90	Fixed station 1972-82 Random stratified 1983-90	Groundfish	19-76 120	Y	100%	75-720	Y	Y	N	Y	USSR	SCS 91/5 SCR 91/60				

Stock name: American plaice in Divisions 3L, 3N and 3O																	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.				
										Stock size estimates			ALK	LF	Indiv- idual weights						
										abun- dance	bio- mass										
Canadian Groundfish (spring)	3LNO	Spring Apr-May	1971-91	Stratified-random bottom trawl	Groundfish	350	Y	100%	Bottom depths to 731 m ¹	Y	Y	Y	Y	Y	Canada	91/93					
Juvenile flatfish	3LNO	Autumn Aug-Sep	1985-90	Stratified-random bottom trawl	American plaice & Yellowtail flounder	200	Y	90%	Bottom depths to 183 m	Y	Y	Y	Y	Y	Canada	91/81					
USSR Groundfish	3LNO	Spring Apr-Jun	1972-91	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	91/60					
Canadian Groundfish (fall)	3LNO	Autumn Oct-Nov	1981-90 (3L) 1990 (3NO)	Stratified-random bottom trawl	Groundfish	180 350	Y	100%	Bottom depths to 731m ¹	Y	Y	Y	Y	Y	Canada	91/93					

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

Stock name: Witch flounder in Divisions 3N and 30															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 ¹ Doc. No.		
										Stock size estimates		ALK	LF	Indiv- idual weights				
										abun- dance	bio- mass							
Canadian Groundfish (spring)	3N, 30	Apr-May	since 1971	Stratified-random with bottom trawl	Groundfish	173		variable (minimal for witch)	<366 m (731 in 1991)	Y	Y	Y	Y	Y	Canada	-		
USSR Groundfish	3N, 30	Apr-Jun	since 1972	Fixed station 1972-82, stratified random 1983-90 all with bottom trawl	Groundfish	115		variable	<731 m	Y	Y	-	Y	-	USSR	SCS 91/54 SCR 91/56		
Canadian Groundfish (fall)	3N, 30	first survey - 1990		Stratified random bottom trawl	Groundfish	201		variable	<548 m	Y	Y	Y	Y	Y	Canada	-		

No SCR Document in 1991 for Canadian survey results.

Stock name: Yellowtail flounder in Divisions 3L, 3N and 3O																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 distribu- tion (%)	Depth range	Research data related to stock					Country	SCR Doc. No.	
										Stock size estimates		LF	Indiv- idual weights				
										abun- dance	bio- mass						
Canadian Groundfish (spring)	Div. 3LNO	Spring (Apr-May)	1971-91	Stratified- random using bottom trawl	Groundfish	350	Y	100%	Bottom depths to 731m ¹	Y	Y	Y	N	Canada	91/80		
Juvenile flatfish	Div. 3LNO	Autumn (Aug-Sep)	1985-90	Stratified- random using bottom trawl	Yellowtail flounder, A. plaice	200	Y	90%	32-183	Y	Y	Y	Y	Canada	91/80		
USSR Groundfish	Div. 3LNO	Spring (Apr-Jun)	1972-90	Fixed station up to 1982. 1983-90 Stratified- random using bottom trawl	Groundfish	350- 400	Y	100%	<37-130	Y	Y	Y	Y	USSR	91/61		
Canadian Groundfish (fall)	Div. 3LNO	Autumn (Oct-Nov)	1981-90 (3L) 1990 (3NO)	Stratified- random using bottom trawl	Groundfish	350	Y	100%	Bottom depths to 731m ¹	Y	Y	Y	Y	Canada	91/80		

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

Stock name: Greenland halibut in Subarea 2 and Divisions 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 fishing	Area of coverage in relation to stock distribution (%)	Depth range	Research data related to stock					Country	SCR Doc. No.		
										Stock size estimates		ALK	LF	Indiv-idual weights				
										abun-dance	bio-mass							
USSR Greenland halibut survey	Div. 2GH ¹	(Oct-Nov)	1979-90	Stratified-random using bottom trawl	G. halibut	21	Y	<40%	200-1,500 ²	y	y	y	y	y	USSR/GDR	SCS 91/5		
USSR Groundfish	Div. 3KL	Jun-Jul	1972-90	" " Fixed station (1972-80)	Groundfish	200-250	Y	<50%	to 731 m in 3L, to 1,000 m in 3K	y	y	y	y	y	USSR	SCR 91/56		
Canadian Groundfish	Div. 2J3KL	Nov-Dec	1978-90 2J3K 1981-90 3L	Stratified random bottom trawl	Groundfish	400-500	Y	<70%	to 1000 m in 2J3K to 731 m in 3L (1990 only)	y	y	y	y	y	Canada	SCS 91/88		
USSR longline survey	Div. 2CHJ	Sep-Nov	1st survey 1990	longline	Greenland halibut	25	Y	?	500-1500 m	y	y	-	y	-	USSR	SCR 91/66		

¹ Div. 2G only in 1990; ² 500-1500 m in 1990.

Stock name: Greenland halibut/Roundnose grenadier Subareas 0+1														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.	
										Stock size estimates		LF	Indiv- idual weights				
										abun- dance	bio- mass						
Joint Japan/ Greenland trawl survey	1A, 1B, 1C, 1D	5-6/8-9	since 1987	Stratified- random survey and bottom trawl	Greenland halibut/ Roundnose grenadier	75/88	N	35%	400- 1500 m	Y	Y	Y	Y	JPN/GRL	91/50		
USSR trawl- survey	0+1	9-11	since 1979	Stratified random survey and bottom trawl	Greenland halibut/ Roundnose grenadier		Y	70%	200- 1300 m	Y	Y	Y	Y	USSR	88/47		
USSR long- line survey	0B	9-11	1989	stratified	Greenland halibut	61	Y	35%	700- 1500 m	Y	Y	Y	Y	USSR	91/66		
Joint USSR/ GDR (EEC-DEU) trawl survey	0B, 1B, 1C, 1D	10-11	since 1989	stratified random survey and bottom trawl	Greenland halibut/ Roundnose grenadier	66	Y	90%	200- 1500 m	Y	Y	Y	Y	USSR/GDR (EEC-DEU)	91/21 91/66		

Capelin in Division 3L										See reverse side for guidelines to fill in columns						
Stock name:	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.
											Stock size estimates		LF	Indiv- idual weights		
											abun- dance	bio- mass				
	Canadian acoustic survey	Div. 3L	April 1982-84 May 1985-91	since 1982	Acoustic survey midwater trawl	Capelin	25	y	60	0-200	y	y	y	y	Canada	91/37

Stock name: Capelin in Divisions 3N0										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.
										Stock size estimates		LF	Indiv- idual weights		
										abun- dance	bio- mass				
Canadian acoustic survey	Div. 3N0	June	1981-89	Acoustic survey, midwater trawl	Capelin	-	y	80	0-80	y	y	y	y	Canada	90/61

Stock name: Shrimp in Subareas 0 and 1.															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		
										Stock size estimates		LF	Indiv- idual weights				
										abun- dance	bio- mass						
West Greenland shrimp survey	OA, 1A 1B, 1C, 1D	July- August	1988	Stratified- random, bottom trawl	Pandalus borealis Redfish('90) Greenland halibut('90)	246	N	90 (?)	150-600	Y	Y	N	Y	Greenland	91/70		
			1989							Y	Y	N	Y	Greenland	91/46		
			1990							Y	Y	N	Y	Greenland	91/45		

Stock name: Groundfish (Cod in Division 3Ps)															(for 1990)															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.																												
										Stock size estimates		LF	Indiv- idual weights	ALK																														
										abun- dance	bio- mass																																	
ERHAPS 901	3Ps	Feb-Mar	1978-	Bottom trawl	Cod A. plaice all groundfish	107	N	100%	0-600 m	Y	Y	Y	Y	Y	E-FRA FRA-SP	-																												
ERHAPS 911	3Ps	Feb-Mar	1978	Bottom trawl	Cod A. plaice Groundfish	89	N	100%	0-600 m	Y	Y	Y	Y	Y	E-FRA FRA-SP	--																												

Stock name: Denmark Strait Shrimp															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.	
										Stock size estimates		ALK	LF	Indiv- idual weights				
										abun- dance	bio- mass							
East Greenland Shrimp Survey	ICES Div. XIVb	Aug - Sep	1990	Stratified-random bottom trawl survey	Shrimp	99	N	?	199-653	Y	Y	N	Y	N	Greenland	91/52		