

Northwest Atlantic Fisheries Organization



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Available Data from the Commercial Fisheries Related to Stock Assessment (2002)

and

Inventory of Biological Surveys Conducted in the NAFO Area in 2002

and

Biological Surveys Planned for 2003 and Early-2004

At its meetings in June 2002 and 2003, the Scientific Council (STACREC) agreed that three Tables which are usually compiled and presented as Tables 3, 4 and 5 in the STACREC report are important and need to be completed with information from all Scientific Council sources. Accordingly, STACREC in June 2002 recommended that *in future years the Secretariat compile the reports of research activities as a working document for the June Meeting, and that it then be presented to STACREC as a SCS document at its September Meeting.*

The attached Tables were drafted during the June 2003 SC Meeting and updated/corrected through correspondence during the summer, and finalized during the September 2003 Meeting.

Available data from the commercial fisheries related to stock assessment (2002). (+ is data available).

Stock	Country ¹	Biological Sampling						
		Catch	CPUE	Sex	Length	Age	Individual Wt.	Maturity
2J3KL Cod	CAN	+	+	+	+	+	+	+
3M Cod	RUS	+			+			
3NO Cod	CAN	+			+	+	+	
	EU/SPA	+			+			
	EU/PRT	+			+			
	RUS	+			+			
SA 1 Redfish	GRL	No						
	EU/GER	+						
	RUS	+		+	+	+	+	+
Div. 3M Redfish	EU/PRT	+	+	+	+	+		
	EU/ESP	+			+			
	RUS	+		+	+	+	+	+
	JPN	+						
	LTU	+						
	NOR	+						
3LN Redfish	CAN(N)	+						
	EU/PRT	+						
	EU/ESP	+	+		+			
	JPN	+						
	LTU	+						
	RUS	+	+	+	+			
3O Redfish	CAN(M)	+						
	CAN(N)	+	+	+	+			
	EU/PRT	+	+	+	+			
	EU/ESP	+	+		+			
	RUS	+	+	+	+			
3M American plaice	EU/PRT	+		+	+	+		
	EU/ESP	+			+			
	JPN	+						
	LTU	+						
	RUS	+		+	+			
3LNO American plaice	CAN	+	+		+	+		
	RUS	+		+	+			
	EU/ESP	+			+			
	EU/PRT	+			+			
	JPN	+						
	LTU	+						
3NO Witch flounder	CAN	+						
	EU/ESP	+		+	+			
	EU/PRT	+		+	+			
	RUS	+			+			

Biological Sampling								
Stock	Country ¹	Catch	CPUE	Sex	Length	Age	Individual Wt.	Maturity
3LNO Yellow-tail flounder	CAN	+	+	*	*			
	RUS	+		+	+			
	EU/ESP	+			+			
	EU/PRT	+			+			
	EST	+						
SA 0 + 1B-F Greenland halibut	CAN	+	+	+	+	+	+	+
	NOR	+	+	+	+	+	+	+
	RUS	+	+	+	+	+		
	GRL	+	+		+			
	EU/GER	+	+		+			
FRO	+			+				
SA 1A Greenland halibut	GRL	+		+	+	+	+	+
	RUS	+		+	+	+	+	+
SA 2+3 Greenland halibut	CAN	+	+	+	+	+		
	EU/ESP	+		+	+	+		
	EU/PRT	+	+	+	+			
	RUS	+		+	+	+		
	JPN	+						
	EST	+						
LTU	+							
SA 0+1 Roundnose Grenadier	CAN	+						
SA 2+3 Roundnose grenadier	CAN	+						
	GRL	+						
	NOR	+						
	EU/GER	+						
EU/ESP	+							
SA 2+3 Rough-Head grenadier	CAN	+						
	EU/ESP	+		+	+	+		
	EU/PRT	+	+		+			
	RUS	+			+			
	JPN	+						
	EST	+						
3NO Capelin	CAN	+						
SA 3+4 Squid	CAN	+		+				
SA 1 Other finfish	GRL	+						
	RUS	+		+				
3LNOPs Thorny skate	CAN	+	+	+	+			
	EU/PRT	+	+					
	E/ESP	+	+	+	+			
	RUS	+			+			

Biological Sampling								
Stock	Country ¹	Catch	CPUE	Sex	Length	Age	Individual Wt.	Maturity
3LN Shrimp	CAN	+	+	+	+	+		+
	GRL	+						
	RUS	+	+					
	EST	+						
	EU	+						
	ICE	+	+					
	LAT	+						
	NOR	+	+					
3M Shrimp	CAN	+	+	+	+	+		+
	GRL	+	+					
	RUS	+	+					
	EST	+						
	EU/ESP	+	+		+			
	FRO	+						
	ICE	+	+					
	LAT	+						
	NOR	+	+					
SA 0+1 Shrimp	GRL	+	+	+	+	+		+
	CAN	+	+	+	+	+		+
Denmark Strait Shrimp	GRL	+	+	+	+	+		+
	NOR	+						
	ICE	+	+	+	+	+		+
	EU/DEN	+	+					
	FRO	+	+					

¹ Country abbreviations as found in Statistical Bulletin; 'OTHER' and 'NCP' refer to estimates of non-Contracting Parties who did not report catches to NAFO.

* Commercial length data from Canada not reviewed in 2003 SC Meeting.

Inventory of biological surveys conducted in the NAFO Area in 2002

Subarea	Division	Country	Month	Type of survey	No. of sets
Stratified-Random Surveys					
1	A-F	GRL	7-9	Shrimp and Groundfish	225
1	C-D	GRL	9	GHL Deep-Sea	35
2,3	JKLMNO	CAN-N	10-12	Multispecies survey	423
3	LMNO	CAN-N	5-6	Multispecies Survey	321
3	M	EU	7	Groundfish	120
3	M	RUS	5-6	Multi-species trawl survey	94
3	M	FRO	6	Shrimp survey	61
3	NO	EU-ESP	5	Groundfish	125
3	Ps	CAN-N	4-5	Multi-species trawl survey	90
3/4	PnRST	CAN-Q	8	annual groundfish and shrimp bottom trawl survey	-
4	R	CAN-Q	9	Herring survey	-
4	T	CAN-G	9	annual groundfish bottom trawl survey	-
4	Vs	CAN-M	2	juvenile shrimp recruitment survey	-
4	VsW	CAN-M	3	annual groundfish bottom trawl survey	-
4	VWX	CAN-M	7	annual groundfish bottom trawl survey	-
4	X	CAN-M	6	annual scallop stock assessment survey	-
4	X	CAN-M	8	annual scallop stock assessment survey	-
4	X	CAN-M	9	annual scallop stock assessment survey	-
4	X	USA	1	Ecosystems Monitoring Survey	11
4	X	USA	4	Spring Bottom Trawl Survey	31
4	X	USA	4	Bottom Trawl Survey Comparison	14
4	X	USA	5, 6	Ecosystems Monitoring Survey	10
4	X	USA	8	Ecosystems Monitoring Survey	12
4	X	USA	10	Autumn Bottom Trawl Survey	36
4	X	USA	10	Bottom Trawl Survey Comparison	6
4	X	USA	11	Ecosystems Monitoring Survey	7
5	YZ	USA	1	Ecosystems Monitoring Survey	36
5	YZ	USA	2, 3	Winter Bottom Trawl Survey	50
5	YZ	USA	3, 4	Spring Bottom Trawl Survey	158
5	YZ	USA	3, 4	Bottom Trawl Survey Comparison	150
5	YZ	USA	5, 6	Ecosystems Monitoring Survey	73
5	YZ	USA	7, 8	Northern Shrimp Survey	54
5	YZ	USA	8	Ecosystems Monitoring Survey	67
5	YZ	USA	10	Bottom Trawl Survey Comparison	47
5	YZ	USA	11	Ecosystems Monitoring Survey	62
5	Z	CAN-M	2	annual groundfish bottom trawl survey	-
5	Z	USA	5	Ecosystems Monitoring Survey	91
5	Z	USA	6, 7	Surf Clam & Ocean Quahog Survey	120
5	Z	USA	7, 8	Sea Scallop Survey	371
6	ABC	USA	2, 3	Winter Bottom Trawl Survey	109
6	ABC	USA	3, 4	Spring Bottom Trawl Survey	142
6	ABC	USA	5	Ecosystems Monitoring Survey	43
6	ABC	USA	6, 7	Surf Clam & Ocean Quahog Survey	432
6	ABC	USA	7, 8	Sea Scallop Survey	164
6	ABC	USA	8	Ecosystems Monitoring Survey	44
6	ABC	USA	9	Autumn Bottom Trawl Survey	155
6	ABC	USA	10, 11	Ecosystems Monitoring Survey	41
Other Surveys					
1	A	GRL	7	Gill net Inshore	32
1	AB	GRL	5-6	Snow crab inshore	96(12)
1	BD	GRL	6-7	Gill net for juvenile cod	30
1	A-F	GRL	8	Snow crab off shore	40(12)
1/2/3	FHJLM	CAN-M	6/7	hydrographic and biological sampling in the Labrador Sea	-

Subarea	Division	Country ¹	Month	Type of survey	No. of sets
2/3		CAN-N	11	physical/biological oceanographic survey along standard AZMP transects	
3	K	CAN-N	9	White Bay/Notre Dame Bay snow crab trawl/trap survey	-
3	KL	CAN-N	4-5	Capelin Distribution & Abundance	-
3	KLNO	CAN-N	10-11	Physical/Biological Oceanography	-
3	L	RUS	4-9	Trawl selectivity	40
3	L	CAN-N	5	Bio/Physical Oceanography: Egg Production	-
3	L	CAN-N	5-6	Inshore cod acoustics survey	-3
	L	CAN-N	5-6	Avalon snow crab trawl/trap survey	-
3	L	CAN-N	7	Predator/Prey Interactions	-
3	L	CAN-N	7	Fish/Seabird Interactions	-
3	L	CAN-N	7-8	Bonavista Bay snow crab trawl/trap survey	-
3	L	CAN-N	9-10	Conception Bay snow crab trawl/trap survey	-
3	L	CAN-N	1	Cod habitat and acoustics	-
3	L	CAN-N	1	Overwintering acoustic survey	-
3	L	CAN-N	1	Overwintering acoustic survey	-
3	LMNO	CAN-N	4	Physical & Biological Oceanography	-
3	LMNO	CAN-N	4	Physical & Biological Oceanography	-
3	Ps	CAN-N	3-4	Cod Tagging	-
3	Ps	CAN-N	4	Inshore cod tagging	-
3	Ps	CAN-N	4	Inshore pre-spawning cod trawl/acoustics survey	-
3	Ps	CAN-N	6	Inshore cod tagging	-
3/4	PV	CAN-N	7,8	Redfish trawl and acoustic survey	150
3	Ps	CAN-N	11	Cod Tagging/tagging mortality	-
3/4	PRSTVW	CAN-M	11	evaluation of the importance of mixing between redfish management Units 1 and 2	
4	R	CAN-N	6	Scallops	-
4	Vn	CAN-M	4	ichthyoplankton survey of Bras d'Or Lakes	-
4	Vn	CAN-M	5	monitoring physical/biological/chemical processes in the Bras d'Or Lakes	
4	Vn	CAN-M	5	tag and release cod	
4	Vn	CAN-M	9/10	groundfish trawl survey in Bras d'Or Lakes	-
4	Vn	CAN-M	11	acoustic survey to estimate the stock biomass of herring	-
4	VW	CAN-M	9	study essential fish habitat; drilling wastes and deepwater corals	-
4	VW	CAN-M	10	survey of juvenile haddock distribution, essential fish habitat study	-
4	VWX	CAN-M	9	Atlantic Zone Monitoring Program sampling in the Slope Sea-	
4	VWX	CAN-M	10	acoustic survey to estimate the stock biomass of herring	-
4	VWX	CAN-M	10	biological, chemical, physical survey of the Scotian Shelf	-
4	VWX	CAN-M	10	Atlantic Zone Monitoring Program sampling in the Slope Sea-	
4	W	CAN-M	5	survey of gadid and flatfish diseases and parasites	-
4	X	CAN-M	5	tag and release cod	-
4	X	CAN-M	5	survey of right whale distribution and behaviour	-
4	X	CAN-M	5/6	annual survey to capture Atlantic salmon post-smolts	-
4	X	CAN-M	7	study population dynamics of Alexandrium fundyense	-
4	X	CAN-M	7	scallop spawning stock and juvenile recruitment survey	-
4	X	USA	7	Marine Mammal Distribution & Habitat Use	-
4	X	CAN-M	8	survey of right whale distribution and behaviour	-
4	X	USA	8	North Atlantic right whale habitat use study	-
4	X	CAN-M	10	haddock broodstock collection	-
4	X	CAN-M	10	survey of right whale distribution and behaviour	-
4	X	CAN-M	8/9	document fluxes of total mercury and methylmercury and evaluate biomagnification of methylmercury in pelagic and demersal food chains in Bay of Fundy and northern Gulf of Maine	-
5	Y Z	USA	5	Bongo/Video Plankton Recorder Comparison Survey	9
5	YZ	USA	8	North Atlantic Right Whale Habitat Use	-

Subarea	Division	Country ¹	Month	Type of survey	No. of sets
5	YZ	USA	9, 10	Pelagic Hydroacoustic Survey	178
5	Z	USA	4,5	North Atlantic right whale photo ID	-
5	Z	USA	7	Marine Mammal Distribution & Habitat Use	-
5	Z	USA	10, 11	Benthic Habitat	17
6	A	USA	8	Benthic Habitat	26
6	ABC	USA	2, 3	Pelagic Hydroacoustic Survey	44
6	ABC	USA	6	Bongo/Video Plankton Recorder Comparison Survey	16

Biological surveys planned for the NAFO Area in 2003 and early-2004.

Area/Div.	Country	Type of Survey	Dates
Stratified-random Surveys			
0A	CAN-CA	Groundfish Assessment	Sep/Oct
1A-F	GRL	Shrimp and groundfish trawl	Jul-Aug
1C-D	GRL	GHL Deep-Sea trawl	Sep-Oct
2+3HJ+KLMNO	CAN-N	Multi-species trawl survey	10 Sep – 12 Dec
3LNO	CAN-N	Multi-species trawl survey	7 May- 24 Jun
3LM	EU	Groundfish	May/Jun
3NO	EU/ESP	Groundfish	May
3M	RUS	Multi-species trawl survey	Jun-Jul
3M	FRO	Shrimp survey	Jun
3Pn4RST	CAN-Q	annual groundfish and shrimp bottom trawl survey	Aug
3Ps	CAN-N	Multi-species trawl survey	4 Apr – 3 May
4T	CAN-G	annual groundfish bottom trawl survey	Sep
4VsW	CAN-SF	annual groundfish bottom trawl survey	Mar
4VsW	CAN-SF	annual groundfish bottom trawl survey	Mar 2004
4VWX	CAN-SF	annual groundfish bottom trawl survey	Jul
4X	CAN-SF	annual scallop stock assessment survey	Apr/May
4X	CAN-SF	annual scallop stock assessment survey	Aug
4X	CAN-SF	annual scallop stock assessment survey	Sep
4X5YZ	USA	Ecosystems monitoring	19 – 31 Jan
4X5YZ	USA	Ecosystems monitoring	24 – 30 May
4X5YZ6A	USA	Ecosystems monitoring	18-29 Aug
4X5YZ6ABC	USA	Spring bottom trawl	3 Mar – 27 Apr
4X5YZ6ABC	USA	Autumn bottom trawl	2 Sep -25 Oct
4X5YZ6ABC	USA	Ecosystems monitoring	27 Oct – 14 Nov
4X5YZ6ABC	USA	Ecosystems monitoring	16 – 27 Jan 2004
4X5YZ6ABC	USA	Spring bottom trawl	1 Mar – 23 Apr 2004
5YZ	USA	Northern shrimp	24 Jul – 9 Aug
5YZ6ABC	USA	Winter bottom trawl	2-28 Feb 2004
5YZ6ABC	USA	Trawl survey calibration	2-28 Feb 2004
5Z	CAN-SF	annual groundfish bottom trawl survey	Feb
5Z	CAN-SF	annual groundfish bottom trawl survey	Feb 2004
5Z	USA	Sea scallop survey	21 Jul – 1 Aug
5Z6ABC	USA	Winter bottom trawl	3 Feb – 1 Mar
6ABC	USA	Sea scallop survey	16 Jun – 2 Jul

Other Surveys

1A	GRL	Longline and Gill net GHL inshore	Jul-Aug
1AB	GRL	Snow crab inshore	May
1A-F	GRL	Snow crab off shore	Aug
1B+1D	GRL	Gill net for juvenile cod	Jul-Aug
1D-F	EU/FRG	West Greenland survey	5-16 Nov
1F	RUS	Trawl selectivity	Jul-Aug
1F2HJ/3LM	CAN-SF	hydrographic and biological sampling in the Labrador Sea	Jul/Aug
2J	RUS	Trawl selectivity	Jul-Aug
2/3	CAN-N	physical/biological oceanographic survey along standard AZMP transects	Nov/Dec
3K	CAN-N	White/Notre Dame Bay snow crab trap/trawl survey	25 Aug – 9 Sep
3KL	CAN-N	Capelin acoustic/trawl survey	17-26 May
3KL	CAN-N	Capelin acoustic/trawl survey	14 – 23 Jun
3KL	CAN-N	Cod Acoustics	30 May – 23 Jun
3KL	CAN-N	Marine Salmon	5 Sep – 23 Sep
3KLNO	CAN-N	Oceanography	12 – 26 Nov 2004
3L	CAN-N	Avalon snow crab trawl/trap survey	23 May – 11 Jun
3L	CAN-N	Bonavista Bay snow crab trap/trawl survey	4 -18 Aug
3L	CAN-N	Conception Bay snow crab trap/trawl survey	4-16 Oct

Area/Div.	Country	Type of Survey	Dates
Other Surveys			
3L	CAN-N	Larval Fish Growth	May 16 – 21 28 Jun – 3 Jul 29 Jul – 3 Aug 19-24 Aug 10-14 Sep
3L	CAN-N	Bonavista Bay cod habitat and acoustics	11 – 20 Jan 2004
3LMNO	CAN-N	Physical and biological oceanographic survey	19 Apr – 4 May
3LMNO	CAN-N	Physical and biological oceanographic survey	15-31 Jul
3LMNO	RUS	Trawl selectivity	Jul-Sep
3Ps	CAN-N	Cod tagging	8 – 18 Apr
3Ps	CAN-N	Scallops	25 Jun – 4 Jul
3Ps	CAN-N	Inshore Cod Spawning Acoustics	29 Mar – 18 Apr
3Ps	CAN-N	Inshore cod tagging	28 Apr – 13 May 13 Jun – 27 Jun 9-18 Nov
4Vn	CAN-SF	tag and release cod in Bras d'Or Lakes	May/Jun
4Vn	CAN-SF	inventory of wild fish diseases and parasites	May
4Vn	CAN-SF	monitoring physical/biological/ chemical processes in the Bras d'Or Lakes	Jun
4Vn	CAN-SF	tag and release cod in Bras d'Or Lakes	Jun
4Vn	CAN-SF	groundfish trawl survey in Bras d'Or Lakes	Sep/Oct
4Vn	CAN-SF	monitoring physical/biological/ chemical processes in the Bras d'Or Lakes	Oct
4Vn	CAN-SF	acoustic survey to estimate the stock biomass of 4Vn herring	Nov
4VW	CAN-SF	marine mammal observation and acoustic monitoring of geophysical seismic programs near the Gully	Apr
4VW	CAN-SF	construct a partial seasonal cycle of primary production off the Scotian Slope (SOLAS)	Apr/May Jul Sep
4VW	CAN-SF	survey of juvenile haddock distribution, essential fish habitat study	Oct
4VWX	CAN-SF	Atlantic Zone Monitoring Program sampling in the Slope Sea	Apr
4VWX	CAN-SF	biological, chemical, physical survey of the Scotian Shelf	May
4VWX	CAN-SF	study essential fish habitat; drilling wastes and deepwater corals	Sep/Oct
4VWX	CAN-SF	Atlantic Zone Monitoring Program sampling in the Slope Sea	Oct
4VWX	CAN-SF	biological, chemical, physical survey of the Scotian Shelf	Nov
4VWX	CAN-SF	examine vertical and spatial distribution of <i>Calanus finmarchicus</i> (NORWATE)	Dec
4W	CAN-SF	distribution and location of Greenland shark	Apr
4WX5YZ	USA	N. right whale biology	4-28 Aug
4X	CAN-SF	haddock broodstock collection	May
4X	CAN-SF	tag and release cod	May
4X	CAN-SF	survey of right whale distribution and behaviour	Jun
4X	CAN-SF	study phytoplankton, zooplankton toxin transfer through food web	Jul
4X	CAN-SF	study mercury concentrations in sediments and benthic organisms	Jul/Aug
4X	CAN-SF	survey herring spawn	Aug/Sep
4X	CAN-SF	haddock broodstock collection	Sep
4X	CAN-SF	tag and release cod	Oct
4X	CAN-SF	right whale distribution and behaviour	Oct/Nov
4X	CAN-SF	collection of cod and haddock for maturity evaluations	Mar
4X	CAN-SF	annual survey to capture Atlantic salmon post-smolts in the Bay of Fundy/Gulf of Maine	Jun
4X	CAN-SF	collection of cod and haddock for maturity evaluations	Mar 2004
4X5YZ	USA	Atlantic herring hydroacoustic	2 Sep - 10 Oct
4X5YZ	USA	Trawl survey calibration	29 Mar – 9 Apr 2004

Area/Div.	Country	Type of Survey	Dates
4X5Z	USA	Trawl survey calibration	14 – 25 Oct3
5Z	CAN-SF	acoustic survey to estimate the stock biomass of 5Z herring	Oct
5Z	USA	Acoustic studies	13-18 Jan
5Zu6ABC	USA	Deepwater biodiversity	13-23 May
5Z6A	USA	Coop. bluefish Study	10-17 Jul
5Z6A	USA	Benthic habitat	5-14 Aug
5Z6ABC	USA	Sm. Pelagics hydroacoustic	12-30 Jan 2004
5Z6ABC	USA	Coop. bluefish study	8-22 Mar 2004
5Z6ABCD	USA	Cetacean tagging	7 Jul -1 Aug