

REPORT OF ICES ADVISORY COMMITTEE
ON
NORTH ATLANTIC SALMON STOCKS
TO
NORTH ATLANTIC SALMON
CONSERVATION ORGANIZATION
WGC Area
CNL(10)8

Advice generated by ICES in response to terms of reference from NASCO

With respect to Atlantic salmon in the West Greenland Commission area:

- 1. describe the key events of the 2009 fisheries**
- 2. provide clarification of the levels of reported and unreported catch in the subsistence fishery since 2002**

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- ❖ **In the event that NASCO informs ICES that the framework of indicators (FWI) indicates that reassessment is required, see other terms of reference**

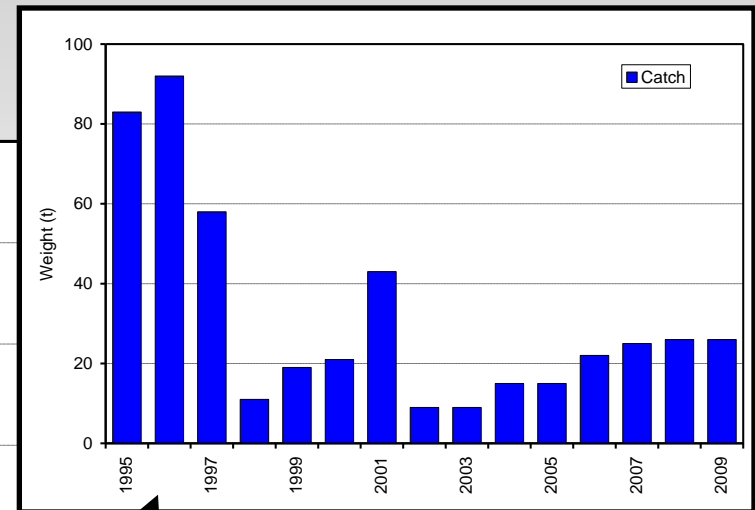
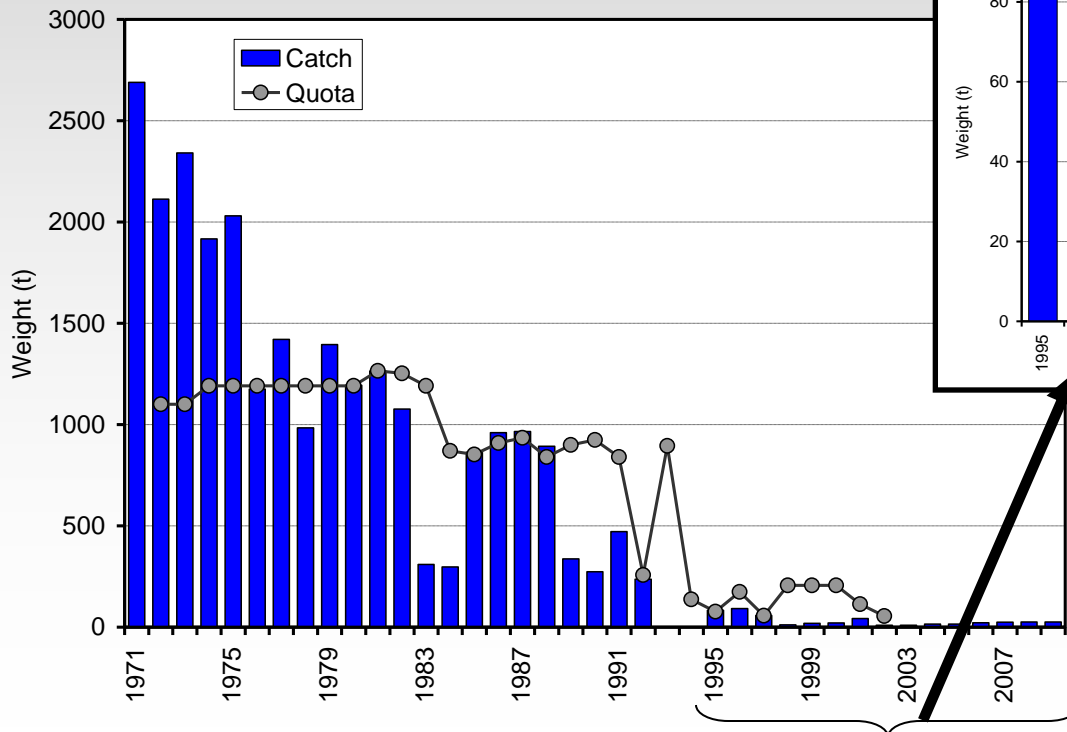
- **In January 2010, NASCO indicated that based on the FWI analysis, no change to the management advice previously provided by ICES was required for the fishery at West Greenland and in North America**

- **Terms of reference 1 and 2 would be considered by ICES**

Key events of the 2009 fisheries

Catch and effort in 2009

- **Reported catch of 25.5 t in West Greenland**
 - reported catch of 0.8 t in East Greenland (first time since 1999)
- **Unreported catch of 10 t**



Catch and Effort in 2009

- **238 reports of salmon catches in 2009 compared to 259 in 2008**
- **145 people provided reports to the Greenland Home Rule License Office, similar to 2008 (143)**
 - **23 of these people reported zero catch (4 in 2008)**
- **Number of fishers reporting catches has increased from a low of 41 in 2002 to its current level**
- **Increase in number of people reporting catches may be due to promotion campaign to report catches (hence changes in reporting practices) rather than increased harvest**

International sampling program

- **Samplers from Greenland Institute of Natural Resources, USA, Canada, Ireland, UK (Scotland), and UK (England & Wales)**
- **Sampling August through October**
- **Samplers in Sisimiut (1B), Nuuk (1D), Qaqortoq (1F)**
 - **No sampling in East Greenland**
- **1738 salmon inspected for presence of tags**
 - **29% by weight of the reported catch**
- **1662 measured for length**
- **1324 for gutted weight**
- **1683 for scales samples**
- **1671 for tissue for DNA analysis**
- ***Enhanced Sampling Program in 2009 (IASRB report)***
 - ***412 salmon detailed autopsies for SALSEA WG***

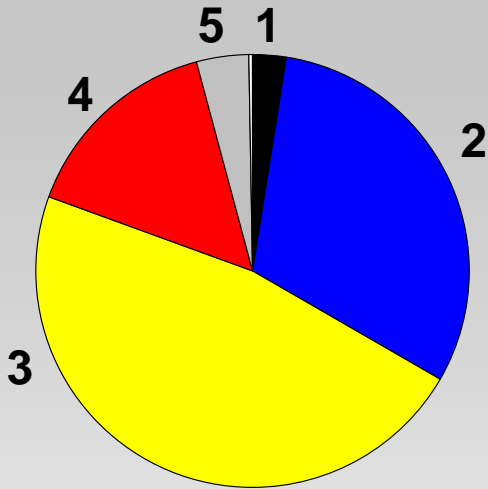
International sampling program

- More fish, by weight, were sampled in 1D than was reported
- Adjusted catch, for assessment, was 28.0 t

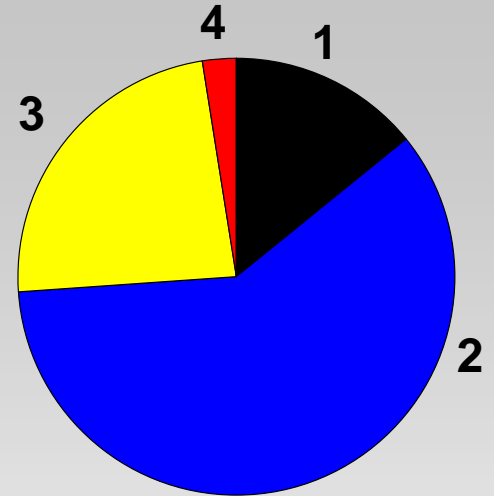
Year		NAFO Division						Total
		1A	1B	1C	1D	1E	1F	
2002	Reported	14	78	2100	3752	1417	1661	9022
	Adjusted						2408	9769
2003	Reported	619	17	1621	648	1274	4516	8694
	Adjusted			1782	2709		5912	12 312
2004	Reported	3476	611	3516	2433	2609	2068	14 712
	Adjusted				4929			17 209
2005	Reported	1294	3120	2240	756	2937	4956	15303
	Adjusted				2730			17276
2006	Reported	5427	2611	3424	4731	2636	4192	23021
	Adjusted							
2007	Reported	2019	5089	6148	4470	4828	2093	24647
	Adjusted						2252	24806
2008	Reported	4882	2210	10024	1595	2457	4979	26147
	Adjusted				3577		5478	28627
2009	Reported	195	6151	7090	2988	4296	4777	25497
	Adjusted				5466			27975

Biological Characteristics

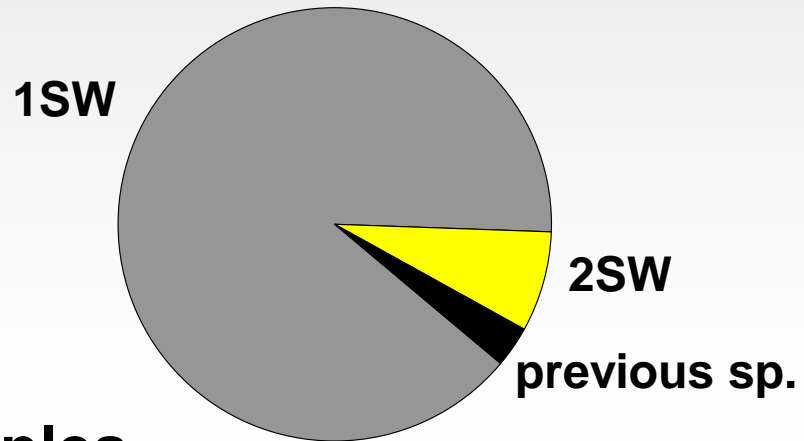
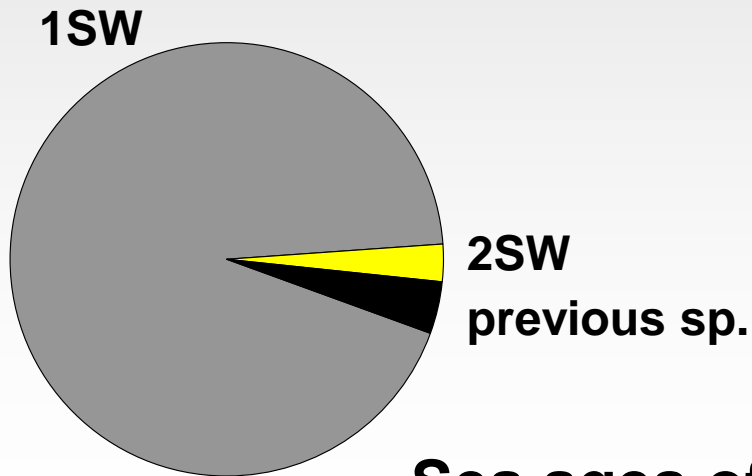
River ages of samples



NAC
47% age 3
93% 1SW



NEAC
60% age 2
89% 1SW



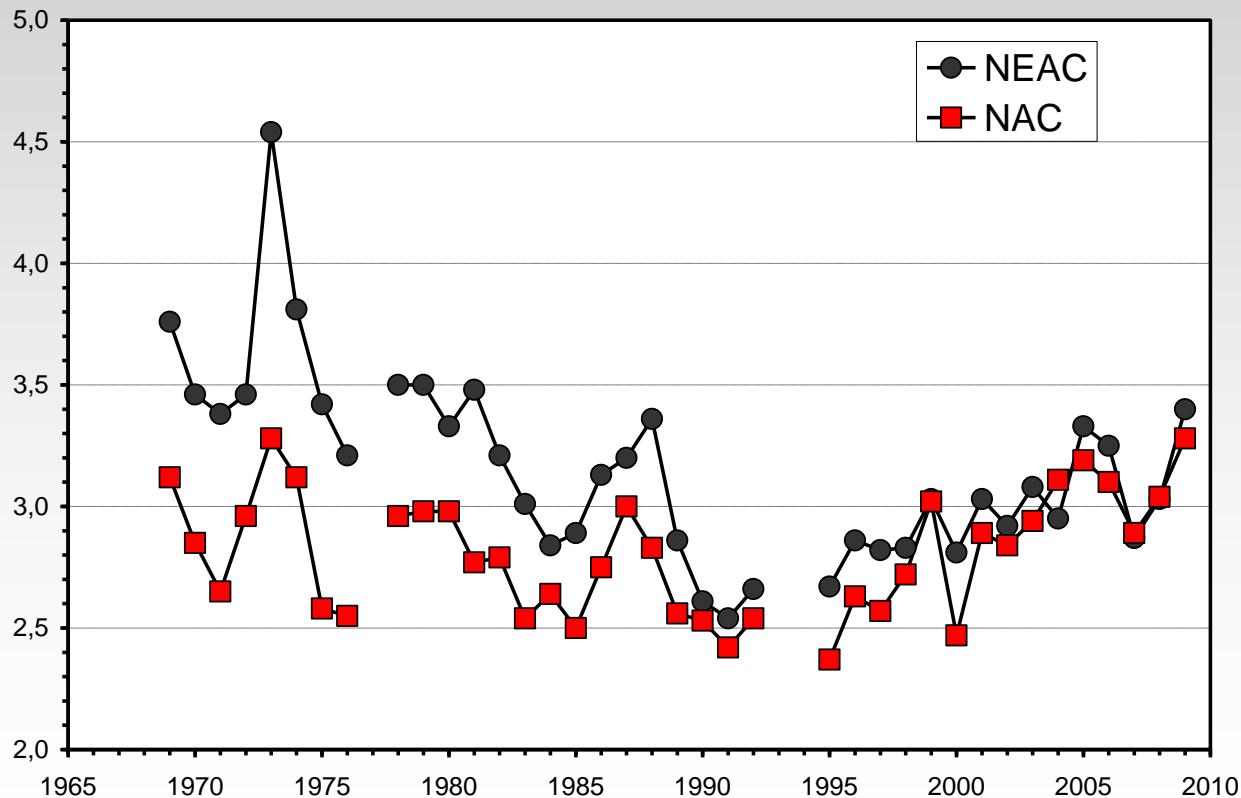
Sea ages of samples

Biological Characteristics

Weight of salmon

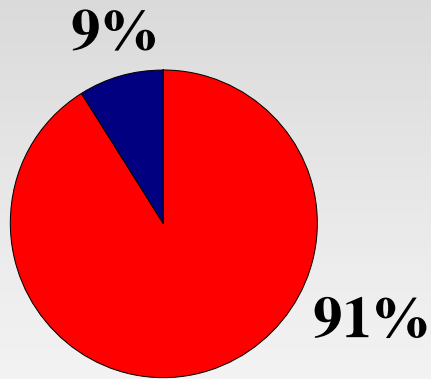
- Mean weights in 2009 were the highest since the late 1980's
- Mean weights of NAC and NEAC salmon are similar, in contrast to 1970's to 1990 when NEAC salmon were heavier

Whole weight (kg) (unadjusted for sampling date)

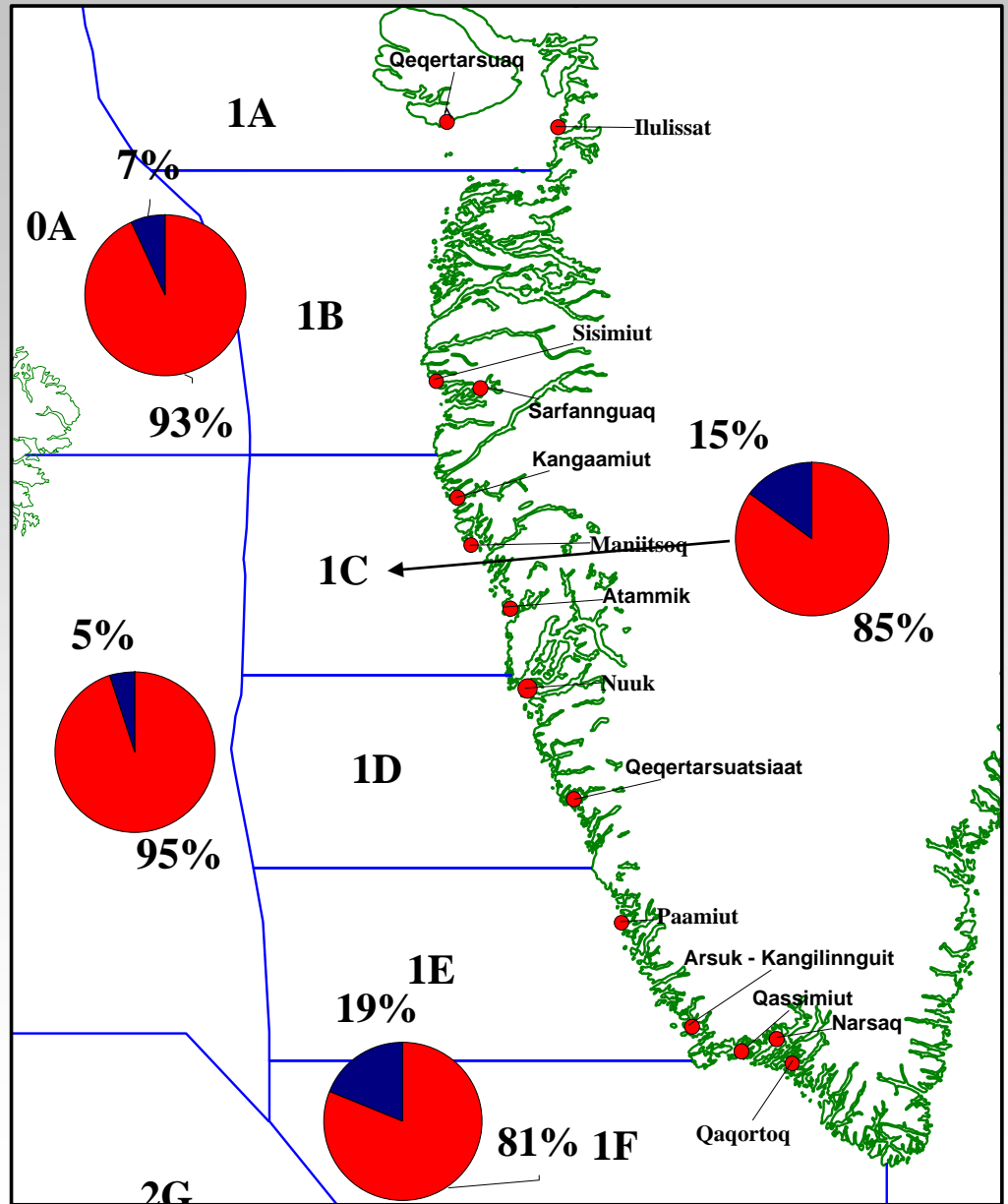


Origin of catches

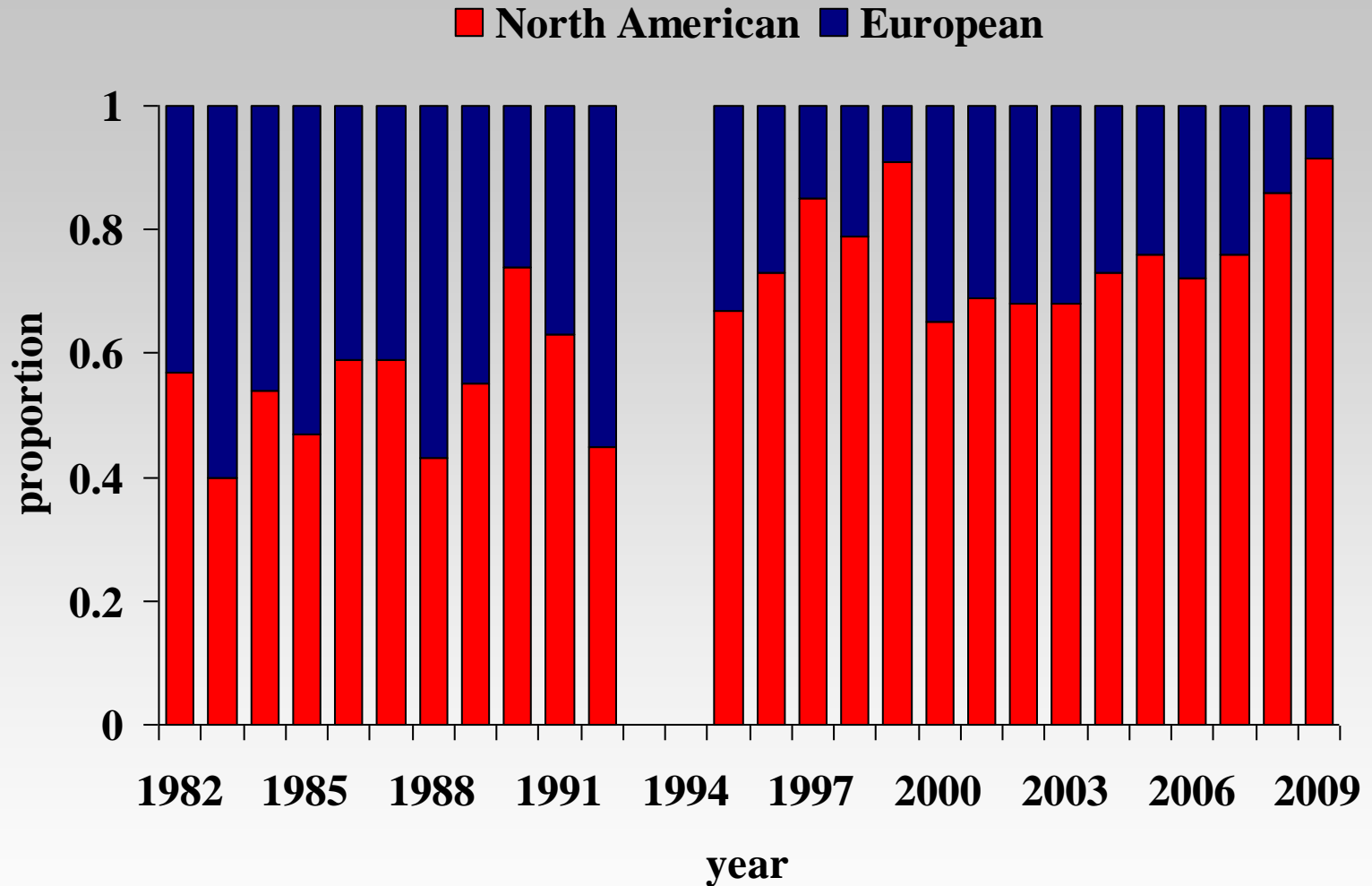
2009 Continent of Origin by NAFO Divisions



■ North American Origin
■ European Origin



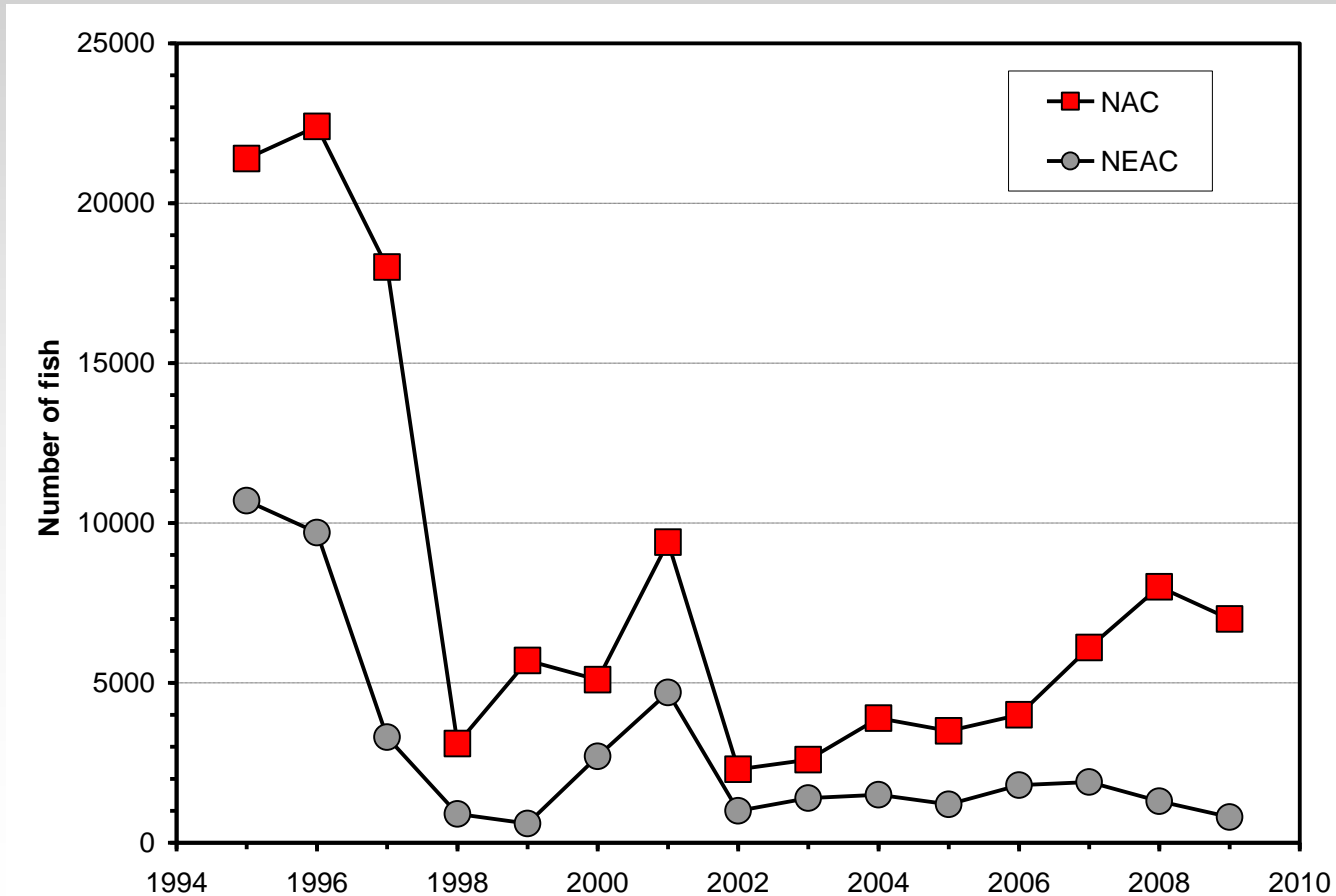
Origin of catches



- Proportion NAC has been increasing since the early 1980's

Number of salmon caught at WG

- Number of salmon caught at WG in 2009
 - 7000 from NAC
 - 800 from NEAC



Tag recoveries and tag reports in 2009

- Four CWT tags recovered by samplers
- Nine tags reported by fishers (2 from East Greenland)

Tag type	Country	Release river (location)	Recaptured at
			West Greenland
Carlin	CAN	Gulf - SW Miramichi	Narsaq (1F)
Streamer	CAN	Gulf - Restigouche	Qaqortoq (1F)
Carlin	USA	Penobscot (West Endfield)	Narsaq (1F)
Carlin	NOR	Alta	Qaqortoq (1F)
Streamer	CAN	Gulf – Restigouche	Ivittuut (1E)
Carlin	CAN	Gulf - SW Miramichi	Sisimiut (1B)
Carlin	CAN	SW Miramichi	Sisimiut (1B)
			East Greenland
Carlin	NOR	Eira	Tasiilaq
Carlin	NOR	Figgio	65 37 N, 37 27 W

Clarification of the levels of reported and unreported catch in the subsistence fishery since 2002

- People participating in salmon fishery are required to report all catches to Greenland Fisheries Licence Office (GFLK) immediately after the fishery has taken place
- **Catch reports (two types)**
 - fish caught for personal use : id. of fisherman, number of salmon caught, gutted weight, and community of fisherman
 - catch is sold: id. of fisherman, number of salmon caught, gutted weight, community, landing site, vessel number, and vessel size.
- Both reports request a date but date may not necessarily be when the fishery took place.

Unreported catch

- Scattered nature of the fishery
- Information campaigns launched to encourage people to apply for a license and report their catches
- The increase in reported catches, issued licenses and number of people reporting their catches, may reflect an increased awareness for reporting and therefore success of these campaigns
- Difficult to say whether the observed increase in salmon catches is a true increase in total catch (reported and unreported) or the result of a decrease in unreported catch

Source of uncertainty of unreported catch

Commercial fishers

- Require a licence to sell their catch and are required to report this catch
- Number of commercial fishers who obtain a licence is known, it is unclear what level of catch sold is reported
- Obligated to report any catch taken for personal consumption but unclear what level is reported
- Supposed to obtain a licence to fish but not all do so and the level of unreporting in this situation is unclear

Source of uncertainty of unreported catch

Private fishers

- Anybody in Greenland can fish for salmon if it is for private consumption and they are required to report this catch
- Number of individuals who fish privately for salmon is not known
- Accuracy of the reporting by the private fishers is uncertain
- Level of catch by private fishers is largely unknown

Reports received by the authorities are not always correctly filled in and this may lead to a loss of catch information

Recommendations

Several sources of unreported landings remain unquantified, therefore:

- Basic catch returns should be completed by all fishers both commercial and private
- Total number of commercial and private fishers must be known
- To verify the returns, a follow-up mechanism where some or all of the data can be verified would be required to ensure that the data being received are accurate

Recommendations

- ICES supports proposal for a logbook program for commercial and private fishers in the salmon fishery at West Greenland
- Continuation of the broad geographic sampling program to more accurately estimate continent of origin and biological characteristics in the mixed stock fishery at West Greenland
 - Enhanced Sampling Programme should be repeated in 2010.

Acknowledgements

Members (23) of participating countries (13) to Working Group on North Atlantic Salmon, March 22-31, 2010