



Biologit raajat pillugit siunnersuinerat 2014

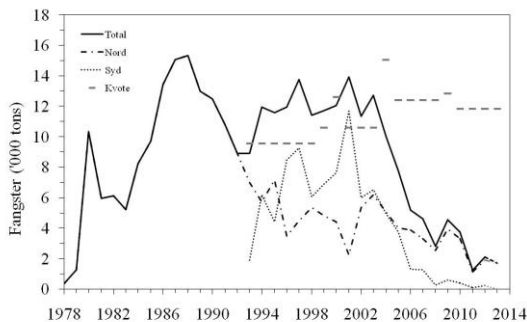
Nuuk 1. oktober 2013

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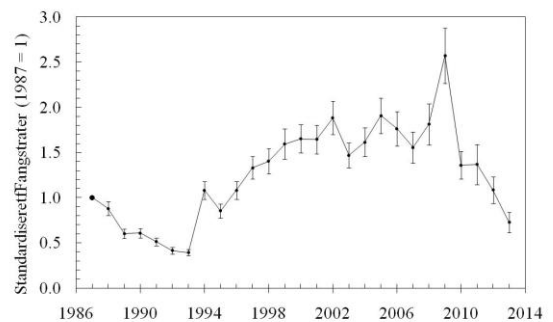
Kitaata Tunullu imartaanni 2014-imi raajartassiissutigineqarsinnaasut pillugit biologit siunnersuinerannik ilisimatitsissut

Kalaallit Nunaata kitaata imartaanni raajarni arnermut tunngatillugu 2014-imut pisassiissutigineqarsinnaasutut innersuussut siornamut sanilliullugu allannguuteqarani 80.000 tonsiuvoq (takuuk eqikkaaneq naatsuaq quppernerup aappaani ilanngussarlu 1)

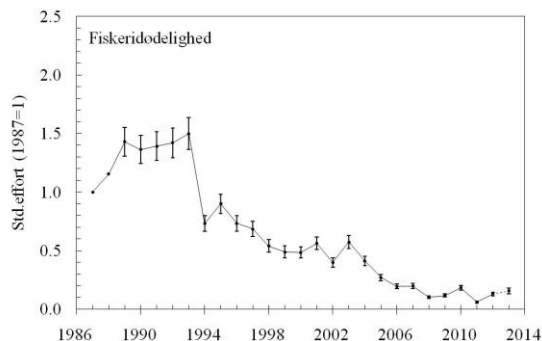
Tunup imartaanni 2014-imi raajartassiissutigineqarsinnaasutut innersuussut tassaavoq pisassat maanna pisaasartut amerlassusiat qaangissanngikkaat, tassa 2.000 tons. Taama siunnersuineranut tunngaviuvoq aalisarnermit nalunaarsuutit aammalu biologit misissuisarnerinit paasissutissat paasinarsisimmassuk tamaani peqassuseq ukiuni kingulliunerusuni appariartorsimasoq, maannalu pisaasartut 2.000 tonsit missaanniittartut siunissaq ungasinnerusoq eqqarsaatigalugu piujuartitsinermik tunngaveqanngimmata. Imartami kujasinnerumaartumi (avannarpasissuseq 65°-imiit kujammut) peqassutsimik naliliineq nangaanartoqalaarpoq, tamaanimi raajarni arnarneq ukiut 2000-kkut qiteqqunneranniilli appasinnikuummat. Tamaanimi raajaqassutsip appariarnera saarulliit takkussuuttut amerlanerulernerannut (saarulliit raajartortaramik) naapertuuppoq.



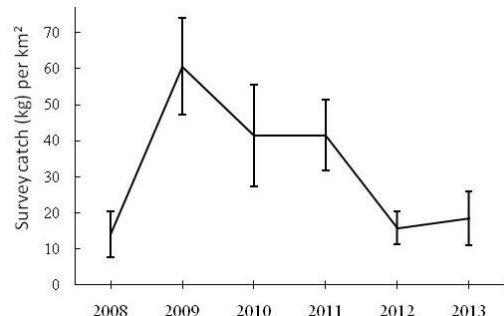
Tak. 1. Tunumi pisaasartut.



Tak. 2. Aalisarnermit nalunaarsuutinit peqassuseq (kalinnermi ataatsimi pisat).



Tak. 3. Peqassutsimut aalisarnerup tamakkiisumik ilanngartuinerana.



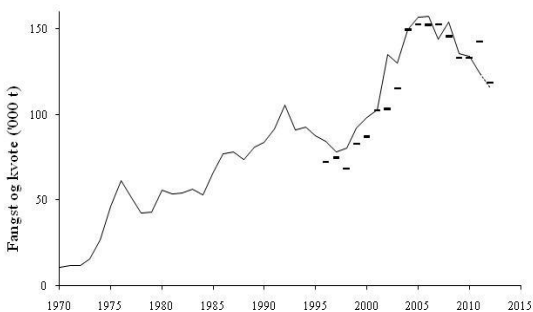
Tak. 4. Misissuinerneq peqassutsip nalilernerana.

Kalaallit Nunaata kitaata imartaani raajarniarnermut tunngatillugu 2014-imut pisassiissutigineqarsinnaasutut innersuussut siornamut sanilliullugu allannguuteqarani 80.000 tonsiuvoq. Tamaani peqassuseq malunnaatilimmik allannguuteqarsimangilaq 2014-imilu pisassiissutigineqartut 80.000 tonsiussappata, piujuartitsinissaq qulakkeerniarlugu raajaqassutsip annerpaamik ilanngarneqarsinnaanerata (Z_{msy}) 32 %-imik qaangersinnaanera aarlerinaateqarpoq, tamanna siorna siunnersuinermit allannguuteqanngilaq.

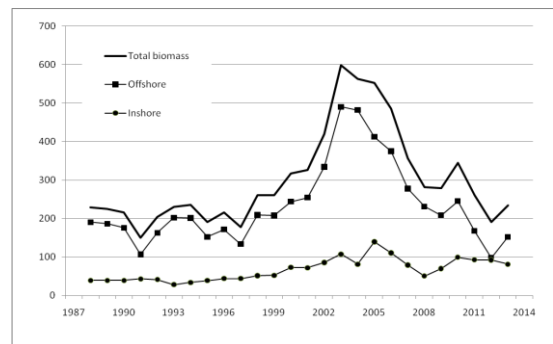
Naatsorsueriaatsimi siunnersuinermi atorneqartumi ilanngunneqartarput pisaasartut (tassa peqassutsimut tamakkiisumik ilanngaat), kalinnermi ataatsimi pisaasartut amerlassusiat (CPUE – raajarniarnermi nalunaarsuutiniit), biologit misissuisarnerinit paasissutissat (peqassuseq oqimaassusinngorlugu paasinjarlugu misissuinerit), kiisalu saarulleqassutsip oqimaassusinngorlugu annertussusilernera (tassa saarulliit raajatortarmata). Ukiormanna naatsorsuusiornerni siornamut sanilliussilluni allanngortoqarpallaarsimangilaq (takutitassiaq 7).

Biologit 2013-imi misissuineranni paasinarsivoq peqassuseq siornamut sanilliullugu qaffariaateqalaarsimasoq, kisiannili maannakkut peqassuseq ukiut 20-t matuma siornamut sanilliullugu suli appasissumiippoq (takutitassiaq 6). Aamma raajaaqqanik siunissami aalisarneqalerumaartussanik peqassutsip pilersorneqarnera suli appasittuarsinnarpoq (takutitassiaq 8), raajaqatigiillu pineqartut aatsaat taamak arnalluttaqartigipput, taamaalilluni raajarniarnermi suffisussaagaluartunik ikilisaasoqarluni. Imartani raajarniarfiusartuni saarulleqassuseq 2012-imi 2013-imilu qaffariaateqarsimavoq, taamaattumillu raajanik ilanngartuinerat qaffariaateqarsimalluni.

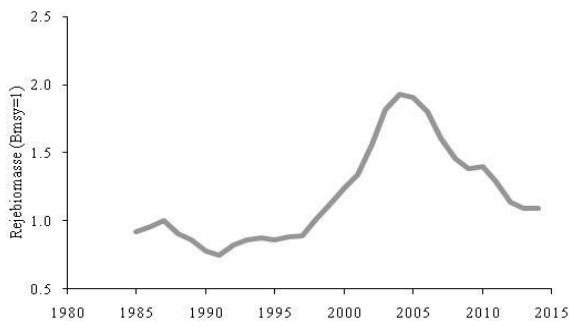
Raajartarineqartartut tamakkerlutik 1998-imi 80.000 tonsiniit ukiuni 2004-miit 2008-p tungaanut ukiumut 150.000 tonsit missaannut qaffariaateqarput. Kingorna pisassiissutaasartut appaavigineqarnerisa kingunerisaanik pisaasartut 2009-miit appariartorsimapput. Raajarniarnermi peqassutsimik tikkuut (nalunaaquttap akunneranut pisat kiilunngorlugit) 2008-miilli appariartorsimavoq. Imartat raajarniarfiusartut ukiuni arlaqartuni milliartorlutik eqimmaakkaluttuinnarsimapput, raajarniarnierlu maannakkut Store Hellefiskebankep Qeqertarsuullu Tunuata avannaaniunerusoq ingerlanneqarluni.



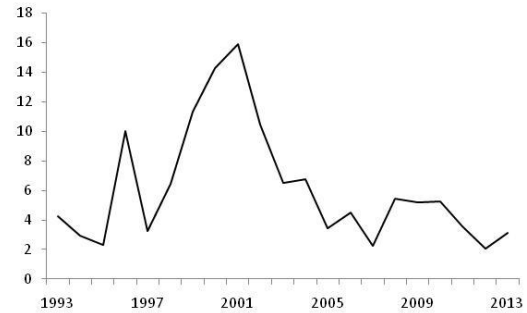
Tak. 5. Pisat tamakkiisut ('000 tons)



Tak. 6. Biologit misissuineranni peqassuseq – avataani sinerissallu qanittuani



Tak. 7. Naatsorsuusionerit tunngavigalugit raajaqassutsip nikerarnera.



Tak. 8. Marlunnik ukiullit amerlassusiat 1993- 2013.

Ilanngussami 1-imi 2-milu atuarneqarsinnaapput NAFO-p Kalaallit Nunaata kitaanut Tunumullu siunnersuinerisa eqikkarnerat tuluttoortoq. Ataatsimiinnermi kingullermi Atlantikup avannaata raajaqassusianik nalilersuisoqarpoq, tamakkiisumillu nalunaarusiami Flemish Cap-imut, Grand Bank-imut kiisalu Barentshav-imi Skagerak-imilu raajaqassutsip killiffia siunnersuinerillu atuarneqarsinnaapput.

Pinngortitaleriffik katillugit allaaserisanik arfineq marlunnik saqqummiussaqaarpoq, taakkulu nunatta imartaani raajartassiisutissatut siunnersuutitut tunuliaqutaapput. Raajat pillugit biologit siunnersuineri kingullermik NAFO/ICES-p 9.–19. september ataatsimiinnerani suliarineqarput. Ataatsimiinnermi ilisimatusartartut 16-t nunanit Canada, EU, Norge, Rusland aammalu nunatsinniit peqataapput. Pinngortitaleriffimmiit peqataapput seniorforsker Michael Kingsley, ilisimatusartartoq Nanette Hammeken Arboe, ilisimatusartartoq AnnDorte Burmeister aamma Immikkoortortami pisortaq Helle Siegstad. Siunnersuinerit pisortatigoortut NAFO-p nittartagaani pissarsiarineqarsinnaapput - www.NAFO.int NAFO-mit siunnersuinerit pillugit nalunaarusiaq tuluttoortoq A4 quppernerit 100-t sinneqartup assilineri Aalisarnermut Aqutsisoqarfimmut ilanngullugu nassiunneqarpoq.

Malugiuk NAFO/ICES-p Atlantikup avannaani raajaqatigiiaat pillugit 2014-imi nalilersuiluni ataatsimiinnissaa Nuummi pissammat.

Siunnersuinerup tunuliaqutai pillugit Pinngortitaleriffik aqutsisunut raajarnianullu saqqummiilluni ataatsimeeqatigiinnissamut aggersaassaaq, tassani apeqquteqartarnerit ilisimasanillu saqqummeeqatigiinnerit ingerlanneqarsinnaassapput.

Inussiarnersumik inuulluaqqusillunga

Helle Siegstad, Immikkoortortami pisortaq

Bilag 1: Northern Shrimp in Subarea 1 and Div. 0A

Advice for 2014

Scientific Council advises that catches in 2014 should not exceed 80 000 t. Scientific Council observed no significant changes in the state of the stock. A catch of 80 000 t in 2014 would entail an estimated mortality risk of 32% and would not, in the medium term, entail a high risk of driving the stock below B_{msy} .

Management objectives

Scientific Council is aware of the Greenland management plan for shrimp and of general management objectives specified in the Greenland Fisheries Act; however the contents of these have not been conveyed to the Council. Canada requested Scientific Council to provide advice on this stock within the context of the NAFO Precautionary Approach Framework (SCS Doc. 13/04).

Advice is based on risk analysis coming from a quantitative model, and on qualitative evaluation of biomass and stock-composition indices.

Objective	Status	Comment/consideration
Apply Precautionary Approach	●	Stock status is both estimated and forecast relative to precautionary reference points

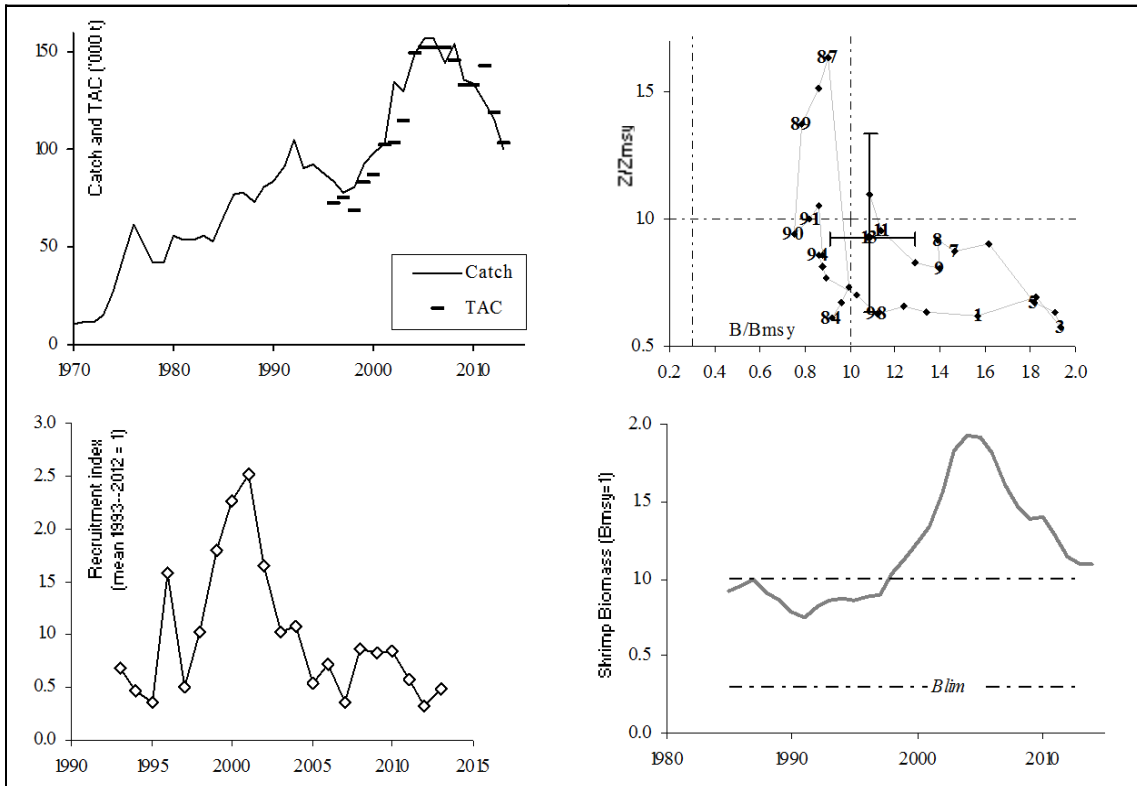
● OK

Management unit

The stock, considered distinct from all others, is distributed throughout Subarea 1, extends into Div. 0A east of 60°30'W, and is assessed as a single stock.

Stock status

Biomass is estimated to have been declining since 2004, but at the end of 2013 is projected to be about 10% above B_{msy} . Total mortality in 2013 is not projected to exceed Z_{msy} . But the stock comprises a high proportion of females, so fishing will risk removing much of the spawning-stock biomass, and recruitment to both the fishable and the spawning stocks in both short and medium terms are all expected to remain low.



Reference points

B_{lim} is 30% of B_{MSY} and the limit reference point for mortality is Z_{MSY} (FC Doc. 04/18).

Projections

Projections for 2014 and 2016 were made with catch levels ranging from 50 to 110 Kt/yr and a cod stock biomass at 40 Kt.

2014				2016			
Catch (Kt/yr)	Probability (%) of transgressing:			Catch (Kt/yr)	Probability (%) of transgressing:		
	B_{msy}	B_{lim}	Z_{lim}		B_{msy}	B_{lim}	Z_{lim}
50	34.3	1.8	18.3	50	30.1	3.1	19.3
60	35.2	1.7	21.4	60	31.3	3.1	23.2
70	36.2	1.8	26.5	70	34.4	3.2	28.1
75	36.4	1.7	29.0	75	35.4	3.5	30.9
80	37.5	2.0	32.3	80	37.6	3.6	34.2
85	37.6	1.8	36.3	85	38.6	3.4	37.3
90	38.3	1.9	39.2	90	39.7	3.7	40.7
100	39.3	1.7	45.9	100	42.4	3.6	47.3
110	40.1	1.8	52.1	110	44.5	3.9	54.0

Assessment

The analytical assessment was run with the same methods as in 2011–12 and with updated data series; the cod-stock estimate for 2012 was 2½ times that used in the 2012 assessment. The model converged with no pathologies and most of the error CVs had similar values to those of previous years. The CV of the term for cod predation was larger than in 2012 (SCR Doc. 13/054).

Human impact

Mortality in the directed fishery has been well documented. Other human impacts, including bycatch in other fisheries prosecuted on the same grounds, have not.

Biological and Environmental Interactions

Cod is an important predator on shrimps. This assessment incorporates this interaction.

Fishery

Shrimps are caught in a directed trawl fishery. Bycatch of fish in the shrimp fishery is around 1% by weight. The fishery is regulated by TAC, and bycatch reduction measures include moving rules and Nordmøre grates.

Recent catches and TACs (t) have been as follows:

	2006	2007	2008	2009	2010	2011	2012	2013
NIPAG	157 315	144 190	152 749	135 458	133 990	123 985	115 975	100 000 ¹
STATLANT 21	156 976	144 123	148 550	133 990	129 179	123 195	115 080	—
Enacted TAC ²	152 380	152 417	145 717	132 987	132 987	142 597	118 596	102 767

¹ provisional—projected to year end; ² sum of TACs autonomously set by Canada and Greenland.

Effects of the fishery on the ecosystem

Measures to reduce effects of the fishery on the ecosystem include area closures and moving rules to protect sponges and cold-water corals, and gear modifications to reduce damage to benthic communities.

Special comments

The future trajectory of the stock is likely to depend on the evolution of the stock of cod, which has recently been erratic and is difficult to predict.

Source of Information

SCR Docs 04/75, 04/76, 08/6, 11/053, 11/057, 11/058, 12/44, 13/54, 13/56, 13/57, 13/58, 13/59, SCS Doc. 04/12.

Bilag 2: Northern Shrimp in Denmark Strait and off East Greenland

Recommendation for 2014

Stock size indicators have declined over the most recent 5 years. Although the exploitation index has been low, average catches for that period appear not to be sustainable. Scientific Council advises that catches should not exceed the current catch level of 2 000 t.

Management objectives

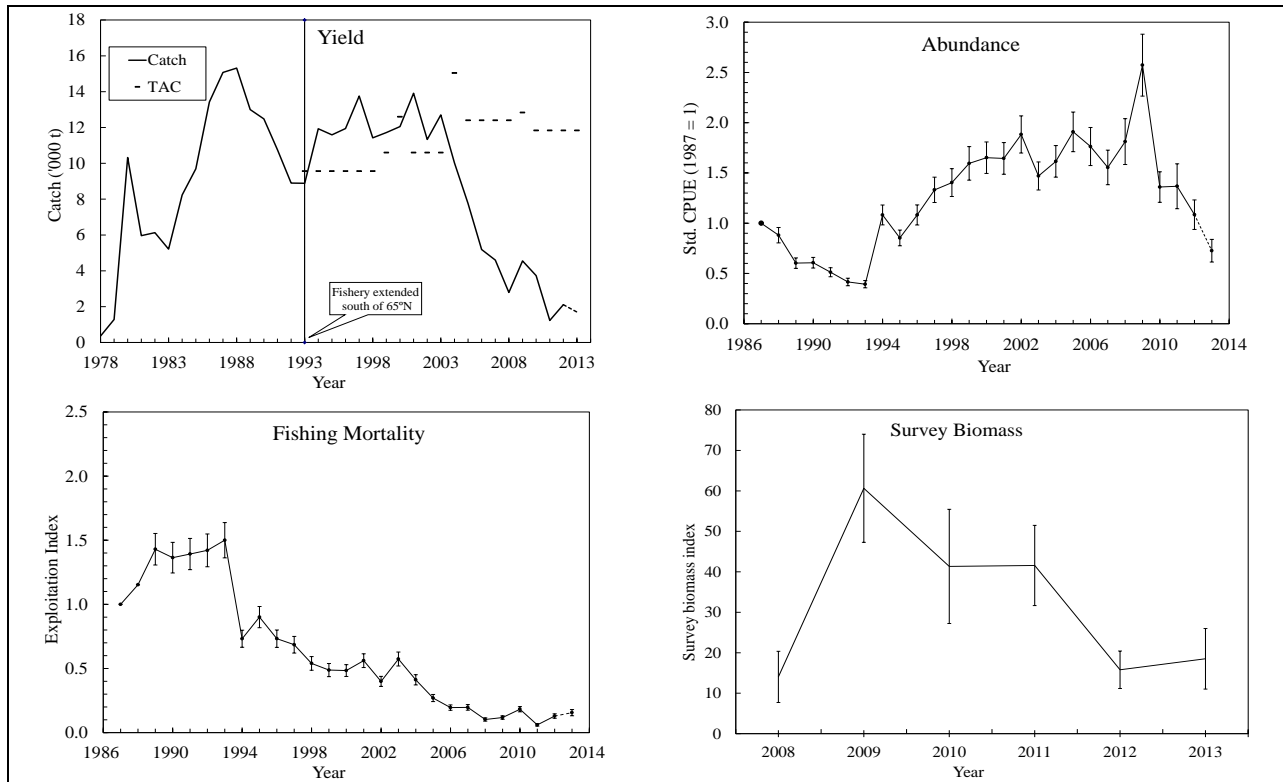
Scientific Council is aware of general management objectives specified in the Greenland Fisheries Act; however the contents of these have not been conveyed to the Council.

Advice is based on qualitative evaluation of biomass indices in relation to historic levels.

Management unit

The shrimp stock is distributed off East Greenland in ICES Div. XIVb and Va and is assessed as a single population.

Stock status



The decrease in stock size continued in 2013 despite several years of very low exploitation rates.

Reference points

No reference points have been established for this stock

Projections

Quantitative assessment of risk at various catch options is not possible for this stock at this time.

Assessment

No analytical assessment is available. Evaluation of stock status is based upon interpretation of commercial fishery and research survey data.

Human impact

Mortality in the directed fishery has been well documented. Other human impacts, including bycatch in other fisheries prosecuted on the same grounds, have not.

Biological and Environmental Interactions

Cod is an important predator on shrimp. The cod stock has been increasing in East Greenland waters in recent years.

Fishery

Shrimp is caught in a directed trawl fishery. The fishery is regulated by TAC and bycatch reduction measure include move on rules and Nordmøre grates.

Recent catches were as follows:

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013 ¹
NIPAG	10016	7753	5189	4600	2794	4555	3735	1235	2109	1702
Enacted TAC	15043	12400	12400	12400	12400	12835	11835	12400	12400	12400

¹ To July 2013

Effects of the fishery on the ecosystem

Measures to reduce effects of the fishery on the ecosystem include move-on rules to protect sponges and cold-water corals, and gear modifications to reduce damage to benthic communities.

Special comments

The southern area (South of 65°N) is currently lightly fished and the state of the stock in this area is uncertain.

Source of Information

SCR Doc. 13/062, 13/067

c) Harvest Control Rules and B_{msy}

Scientific Council was requested by Denmark on behalf of Greenland and the Faroe Islands to: *report on whether the pending harvest control rules will be able to keep the stock at or above B_{msy} .*

The Scientific Council responded:

Scientific Council has been informed of the harvest control rules (HCR) included in the shrimp management plan promulgated in 2010.

Scientific Council considered a report of a simple simulation that, within its limitations, confirmed Scientific Council's initial evaluation that the mortality-risk limits included in the management plan were conservative and would be highly likely to keep the stock at or above B_{msy} , but would also be likely to entail a high cost in forgone catches. Scientific Council has noted that the biomass-risk criteria that are included in this HCR cannot be met in the short term by catch controls, so in that respect the HCR is difficult to implement.

However, Scientific Council was not clear whether this HCR is the 'pending harvest control rule' referred to in the request or whether alternatives are already being considered, and therefore encourages the Greenland Government to make further progress in refining its proposals with respect to formulating, testing and implementing a possibly revised HCR.

Scientific Council draws attention to its earlier caution that thorough testing of an HCR is likely to be a lengthy and complex task, and to require the participation of all parties concerned in the fishery (SCS Doc. 11/21).