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Correction of Reported Past Catches of Northern Shrimp Within the Greenland EEZ  
to Conform to a Revision of Reporting Practices

by

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**Abstract**

Catches of shrimp taken in the Greenland Exclusive Economic Zone (EEZ) have so far been reported without accounting for "over-packing" – the quantum of surplus weight in a certain packaging (e.g. in 5 kg cartons) – or the difference between the product weight and live weight. On 1 January 2004 this practice will change by the enforcement of new legislation to ensure that total removals by fishing are reported in units of live weight.

To be able to state management advice derived from the stock assessments in the units of the future catch reporting, a correction of the input catch data series are warranted. This paper describes how and presents the corrected catch series for the shrimp fisheries conducted off West- and East Greenland within the Greenland EEZ.

**Methods and Results**

Based on test-weightings of sample packs by observers on board and information from the fishing industry, mean over-packing factors and live-weight conversion factors for the main product categories were estimated:

Product	Over-packing factor	Live weight conversion factor
1 Japan/Italy	1.200	1.000
2 Sea cooked	1.146	1.050
3 Industry	1.416	1.050
4 Raw, iced	1.090	1.000

Total reported catch,  $C_{tot}$ , was divided into these four product categories,  $C_p$ , by information from vessel logs 1987-2003. The product mix given as fractions of total reported catch was as follows:

Year	Fraction of total catch, West Greenland				Fraction of total catch East Greenland			
	Japan/Italy	Sea cooked	Industry	Raw, iced	Japan/Italy	Sea cooked	Industry	Raw, iced
1987	0.099	0.369	0.259	0.273	0.468	0.314	0.218	0.000
1988	0.095	0.364	0.259	0.282	0.550	0.300	0.150	0.000
1989	0.085	0.278	0.316	0.320	0.640	0.240	0.120	0.000
1990	0.116	0.361	0.219	0.304	0.581	0.365	0.054	0.000
1991	0.133	0.333	0.208	0.326	0.591	0.229	0.180	0.000
1992	0.130	0.256	0.257	0.356	0.573	0.302	0.124	0.000
1993	0.130	0.329	0.194	0.346	0.507	0.359	0.133	0.000
1994	0.116	0.329	0.215	0.341	0.445	0.376	0.178	0.000
1995	0.118	0.300	0.269	0.313	0.412	0.432	0.156	0.000
1996	0.122	0.349	0.200	0.330	0.399	0.463	0.138	0.000
1997	0.095	0.388	0.171	0.347	0.366	0.481	0.153	0.000
1998	0.125	0.375	0.186	0.314	0.322	0.462	0.217	0.000
1999	0.130	0.346	0.187	0.338	0.350	0.458	0.192	0.000
2000	0.117	0.350	0.189	0.345	0.282	0.522	0.196	0.000
2001	0.097	0.370	0.189	0.344	0.442	0.368	0.190	0.000
2002	0.104	0.411	0.185	0.300	0.218	0.591	0.191	0.000
2003	0.132	0.383	0.176	0.309	0.316	0.506	0.178	0.000

The calculation of an overall correction factor, *corr*, to be applied to the existing series of annual catches could then be made by multiplying the catch-fraction of product *p* by its over-packing factor,  $O_p$ , and live-weight conversion factor,  $W_p$ , and then summing over all product categories:

$$corr = \sum_{p=1}^4 \frac{C_p}{C_{tot}} O_p W_p$$

For the years prior to 1987 when no information was available for deriving the product mix, the mean of the calculated 1987-2003 overall correction factors was used.

The resulting overall correction factors and adjusted catch series for the shrimp fisheries in the Greenland EEZ are as follows:

Year	West Greenland			East Greenland		
	Reported, t	Corr, %	Corrected, t	Reported, t	Corr, %	Corrected, t
1970	8559	122.8	10515			
1971	9437	122.8	11593			
1972	9656	122.8	11862			
1973	12642	122.8	15530			
1974	22009	122.8	27038			
1975	37890	122.8	46547			
1976	49674	122.8	61023			
1977	41643	122.8	51158			
1978	34347	122.8	42195			
1979	33458	122.8	41102	800	125.1	1001
1980	43278	122.8	53166	7646	125.1	9566
1981	39516	122.8	48545	4667	125.1	5839
1982	42515	122.8	52229	4902	125.1	6133
1983	41354	122.8	50803	4132	125.1	5169
1984	41241	122.8	50664	5989	125.1	7493
1985	51396	122.8	63139	6316	125.1	7902
1986	60134	122.8	73873	9814	125.1	12278
1987	57641	124.6	71836	10848	126.7	13743
1988	54392	124.5	67735	11125	124.8	13882
1989	58422	125.7	73436	9416	124.0	11673
1990	63184	123.1	77793	9994	122.1	12199
1991	69092	122.6	84701	8192	125.6	10292
1992	79258	123.6	97994	5764	124.1	7151
1993	70123	122.0	85522	5095	124.3	6333
1994	71811	122.6	88039	8298	125.6	10418
1995	68329	124.4	85027	8355	124.9	10437
1996	66610	122.3	81463	9147	124.4	11378
1997	64000	121.3	77611	8733	124.8	10898
1998	65170	122.1	79562	7900	126.6	10001
1999	73985	121.8	90145	8698	125.9	10950
2000	78337	121.8	95424	9462	126.0	11921
2001	81398	121.8	99156	11043	125.9	13901
2002	103000	122.2	125894	8025	125.8	10098
2003	105000	121.9	127955	8550	125.5	10731