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MONITORING OF THE MARINE BIOSPHERE AROUND ICELAND IN 1998 - 2000

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Skýrsluágrip Rannsóknastofnunar fiskiðnaðarins
Icelandic Fisheries Laboratories Report Summary

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Ágrip á íslensku:

Í þessari skýrslu eru birtar niðurstöður vöktunarverkefnis á vegum AMSUM hópsins fyrir árin 1998-2000. Markmið þessa hóps, sem starfar á vegum utanríkisráðuneytisins, er að uppfylla skuldbindingar Íslands varðandi Oslóar- og Parísarsamninginn (OSPAR), auk AMAP (Arctic Monitoring Assessment Program) verkefnisins.

Mæld voru ýmis ólífræn snefilefni og klórlífræn efni í sandkola og þorski sem veiddur var 1999 og 2000, og í kræklingi sem safnað var 1998 og 1999.

Vöktunarmælingar sem þessar hafa farið fram síðan 1990 og eru niðurstöður fyrir allt tímabilið bornar saman á súluritum. Einnig er fjallað lítillega um mat á eldri gögnum.

Lykilorð á íslensku: OSPAR, AMAP, vöktun á lífríki sjávar, ólífræn snefilefni, klórlífræn efni, þorskur, sandkoli, kræklingur.

Summary in English:

This report shows results of marine monitoring in Iceland 1998 -2000. The work is overseen by the AMSUM group which is appointed by the Icelandic Foreign Office to fulfil the OSPAR and AMAP aggreements.

Metals and organochlorines were analysed in cod and dab caught 1999 and 2000, and in mussel collected in 1998 and 1999.

Marine monitoring began in Iceland in 1990. Assessments of older data is discussed and comparisons for the whole period made with histograms.

English keywords: OSPAR, AMAP, marine monitoring, metals, organochlorines, cod, dab, mussel.

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I. INTRODUCTION

Annual monitoring of heavy metals in marine biota around Iceland began in 1989 and the monitoring of organochlorine compounds in 1991. The work is done to fulfil the requirements of the Oslo and Paris agreement (OSPAR) and the Arctic Monitoring Assessment Program (AMAP). The project is overseen by the AMSUM group which includes representatives from the Icelandic Radiation Protection Agency, the Marine Research Institute, the Environmental and Food Agency of Iceland, the Icelandic Meteorological Office, the Icelandic Fisheries Laboratories (IFL), and the Ministry for the Environment which finances the project. The IFL is the coordinator for marine biota monitoring and responsible for methods relating to sampling, preparation and analysis of samples. The first report, which included data covering the years 1989 to 1992, was published in 1995 (1). In 1997 and 1999, work was done to examine the effect of the nutritional status of Icelandic cod (*Gadus morhua*) on macroconstituents and trace elements in the liver, making use of data on cod livers from 1989-1998 (2, 3). Data for mussel (*Mytilus edulis*), collected in 1996-1997, and for cod and dab (*Limanda limanda*), caught in 1997-1998, was published in 1998 and 1999 (4, 5). A summary report on pollutant monitoring in Iceland was published in 1999. Pollution in the ocean, on land, in the atmosphere and in different species was looked at, the most recent data on marine biota being from 1996 (6). The following report will give results of heavy metal and organochlorine analyses for mussel (*Mytilus edulis*), collected in the waters around Iceland in 1998 and 1999, and for cod (*Gadus morhua*) and dab (*Limanda limanda*), collected in Icelandic territorial waters in 1999 and 2000.

To meet the requirements of OSPAR and AMAP, data covering the years 1989 - 1999 has been submitted to the ICES databank (ices.dk).

II. SAMPLING AND PREPARATION OF SAMPLES

The Marine Research Institute handles all sampling, whereas IFL is responsible for the storage of samples, preparation and chemical analysis.

2.1 Sampling

Sampling was carried out in the annual bottom trawl survey and standard sampling guidelines (JMP) were used. Scientists at the Marine Research Institute determined

sex and age of the fish caught. In the period from 1998 to 2000, samples of mussel, cod, dab and polar cod (*Boreogadus saida*) were collected. Analysis has been done on all species except polar cod. In 1998 and 1999, mussel were collected from 10 and 9 sites, respectively, around the country. The locations of the sampling sites are shown in map I and coordinates are given in appendix III. Cod was caught at three areas in 1999, on the fishing grounds off the eastcoast (Austfirdir) and in the northeast and northwest. Cod was also caught at three locations in 2000, in the northeast, the northwest and in the west off the Vestfirdir peninsula. Dab was caught at 4 fishing grounds in 1999, in the northwest, the southwest, the east (Austfirdir) and in the west off the Vestfirdir peninsula. In 2000, dab was caught at three sites, in the southwest, the northwest and in the west off the Vestfirdir peninsula, but only the sample from the southwest has been analysed. Sampling sites for cod and dab are shown in map II and coordinates are given in appendices I and II. Polar cod was also collected in the northwest fisheries in 1999 and 2000 and in the northeast in 2000 but these samples have not been analysed.

Map 1. Mussel (*Mytilus edulis*) sampling sites 1998 and 1999.

Map 2. Locations for sampling of cod (*Gadus morhua*) and dab (*Limanda limanda*) 1999 and 2000.

2.2 Preparation of samples

Each sample of mussel contained 50 ± 5 individuals. Each mussel was weighed and its length (4-6 cm), height and width measured. The flesh and the shell were then weighed separately (Appendix III). After each sample (50 individuals) had been homogenized it was kept frozen until analysis took place.

Cod was picked 30-45cm long and dab in the range 20-35cm, each sample containing 25 ± 5 individuals (Appendices I and II). At the time of sampling, total weight as well as the sex of each fish was determined, livers were put in preweighed and pre-cleaned glass jars and, finally, the fish was gutted. All samples were kept frozen until further preparation for analysis took place. Later, the otoliths were removed for age determination the fish was filleted, skinned, and the flesh weighed. Finally, each sample of flesh (25 ± 5 individuals) was homogenized. The livers of each dab sample were pooled together into one sample but the livers of each cod sample were divided

into subsamples, according to the weight of the livers. All liver samples were homogenized and kept frozen until the time of analysis.

III. ANALYSIS

3.1 Metals and organic contaminants in biota

The trace metal analysis of lead, cadmium, copper, zinc, mercury, arsenic and selenium took place at the IFL as well as analysis of the supporting parameters dry matter and fat. The following organic compounds were analysed at the Department of Pharmacology and Toxicology at the University of Iceland: 11 PCBs, HCB, a-HCH, b-HCH and g-HCH, p,p'-DDT o,p'-DDT, p,p'-DDE and p,p'-DDD, transnonachlor, a-chlordan, g-chlordan, oxychlordan, TOX-26, Tox-50 and Tox-62. Table 1 presents all the parameters measured in each sample.

Table 1. Parameters measured in different samples.

Species	Number of samples	Number of individuals	Type of sample	Number of groups	Inorganic contaminants	Organic contaminants	Other
Mussel (*Mytilus edulis*)							
1998	10	50	Whole soft body		Cd, Cu, Zn, Pb,As, Se, Hg	X*	dry matter and fat
1999	9	50	Whole soft body		Cd, Cu, Zn, Pb, As, Se, Hg	X*	
Cod (*Gadus morhua*)							
1999	3	25	Flesh	3	Hg		
Labels:							
Cod-NA-99			Liver	17	Cd, Cu, Zn, Pb, As, Se	X*	
Cod-VF-99							
Cod-AF-99							dry matter and fat
Cod (*Gadus morhua*)							
2000	3	25	Flesh	3	Hg		
Labels:							
Cod-NA-00			Liver	15	Cd, Cu, Zn, Pb, As, Se	X*	
Cod-NV-00							
Cod-VF-00							
Dab (*Limanda limanda*)							
1999	4	25	Flesh	4	Hg		
Labels:							
Dab-NV-99			Liver	4	Cd, Cu, Zn, Pb,As, Se	X*	
Dab-SV-99							
Dab-AF-99							dry matter and fat
Dab-VF-99							
Dab (*Limanda limanda*)			Flesh	1	Hg		
2000	1	25					
Label:			Liver	1	Cd, Cu, Zn, Pb, As, Se	X*	
Dab-SV-00							

X* : PCB28, PCB31, PCB52, PCB101, PCB105, PCB118, PCB138, PCB153, PCB156, PCB170, PCB180, a, b, g-HCH, HCB, p,p'-DDT, o,p'-DDT, p,p'-DDE, p,p'-DDD, transnonachlor, a-chlordan, g-chlordan, oxychlordan, TOX-26, Tox-50, Tox-62.

3.2 Methods

All containers and tools, coming in contact with the samples during preparation, except for mercury analysis, were rinsed with concentrated nitric acid and then rinsed thoroughly with deionized Milli-Q water. All glassware used for mercury analysis was soaked in potassium chromate solution and then rinsed with Milli-Q water. Samples were homogenized with Ultra Turax T25 homogenizer, which was cleaned with a mixture of 2% Na_2EDTA and $Na_3Citrate$ and Milli-Q water.

3.2.1 Metals

Methods of the IFL trace analytical laboratory manuals were used for all metal analysis. For **mercury** analysis, the samples were decomposed in $HNO_3/H_2SO_4/KMnO_4$ (wheaton glass flasks, waterbath) and excessive MnO_4 was titrated just before measurement. After decompostion, Hg was analysed by cold vapor atomic absorption with acidic $SnCl_2$ as a reducing agent. For the **other metals,** decomposition took place in quartz decomposition tubes (bombs) containing nitric acid. For each sample, 3-4 sub samples, differing in weight, were decomposed. An air heated oven was used for decomposition and two heating programs are in use, depending on the fat content of the samples. After the bombs had cooled down, their content was transferred to a beaker and then dried on a hot plate at a moderate temperature and all liquid evaporated off. The residue in the beaker was dissolved with appropriate amount of 0,1M HNO_3. Additional dilution was sometimes required for zinc. Finally, the solutions were analysed within 24 hours with standards made in HNO_3 by FAA/impact bead using D_2-background correction. Samples for the analysis of **arsenic** required more intense breakdown than the other metals. The contents of the bombs were transfered to 10ml volumetric flasks with milliRO/milliQ water then 1 - 5 ml of this solution was decomposed further in $HCL/HNO_3Mg(NO_3)_26H_2O$, first in a beaker on a hotplate until dry, then ashed at 500°C. The ashed material was dissolved in con. HCL and brought to 25 ml volume with milliRO/milliQ water and was ready for analysis of Arsenic. For **selenium** dried material was transfered with HCl for reduction of Se (VI) to Se (IV). After the solution had been brought to volume with Milli-Q water it was ready for analysis. Arsenic and selenium were analysed with hydride generation atomic absorption.

3.2.2 Organic compounds

All containers and tools coming in contact with the samples were rinsed with a 1:1 mixture of acetone:hexane (p.a., Merck). The homogenized samples were extracted with a mixture of acetone:hexane (2.5:1) (suprasolve, Merck) and then with hexane/ether (9:1). This was repeated once. The combined organic phases were shaken with a dilute saline/phosphoric acid solution, which was later extracted with hexane. Organic solvents were evaporated to dryness at 40º C under N_2. Liver samples were dissolved in 2000 µl and mussel samples in 200 µl isoctane (p.a., Merck) containing tetrachloronaphtalene (ISTD) and lipids were removed with concentrated sulfuric acid.

Organochlorines were analysed by GC-ECD using HP5890 Series II with an automatic injector (HP7673). Chemstation from HP was used for data analysis. All samples were analysed on two different columns, and the lower value reported. These were: DB5, 60 m, 0.25 mm i.d., 0.25 µm film and DB1701, 60 m, 0.25 mm i.d., 0.25 µm film. Carriergas: Helium. Inlet: 270°C, ECD: 310°C.
Oven: DB5: 85°C for 2 min, 30°C/min to 210°C, 210°C for 28 min, 2°C/min to 250°C, 7°C/min to 310°C, 310°C for 7 min. DB1701: 85°C for 2 min, 30°C/min to 210°C, 210°C for 25 min, 2°C/min to 260°C, 7°C/min to 290°C, 290°C for 8 min. Quantification was obtained by running a set of standards of 7 different concentration levels with the samples using the ISTD method.

3.2.3 Supporting parameters

For each sample, supporting parameters were measured in two sub samples. **Dry matter** was determined as loss of weight after drying in 105 ± 2°C for 4 hours. **Fat** was determined with Soxhlet extraction. After the dry weight measurement, 5g of sample (mixed with Sea sand) were extracted with 200mL of diethylether for 6 hours. Most of the ether phase was distilled off and the extracted fat weighed after vacuum suction at room temperature, drying in an oven at 105°C for 5min and cooling in a desicator

3.3 Quality assurance

The quality of **metal** analysis was checked in several ways. Certified reference materials are routinely treated and analysed in the same manner as the samples. For all the elements measured, standard additions to tissue homogenates prior to decomposition were in place. The additions corresponded to 50, 100 and 150% increase of the expected concentrations. Results for analysis of reference materials, recovery of standard additions and limits of detection are shown in tables 2 a) and b) and 3 a) and b). Also shown are Z scores for the reference materials and detection limits for each element. The trace analytical lab at the IFL has participated in Quasimeme and Quash with satisfactory results. The average fieldblank (C_B), derived from the sample field blanks, and three times its standard deviation ($3xS_B$) were used to evaluate the limit of detection (LOD).

For **organic contaminants,** a solvent blank and sample of certified reference material was extracted with each batch of samples. A certified standard solution was also run with the samples to check own standards. The limit of detection was estimated to be 3 x STDEV of the blanks

Table 2. Results for trace metals in certified reference materials and recoveries of additions to tissue homogenates of mussel (*Mytilus edulis*) for a) 1998 and b) 1999.

a)

Analyte	Mussel Tissue BCR 278/634 µg/g	I Z I*	TORT-2 NRCC µg/g	I Z I*	Albacore tuna NBS µg/g	I Z I*	Recovery, % Mussel	MLOD ** µg/g
As							102±3	2,8
Measured	6,58±0,12	0,92			2,84±0,06	1,11		
Certified	5,9±0,2				3,30±0,40			
Cd							111±1	0,87
Measured	0,359±0,016	0,44	32,3±1,0	1,67				
Certified	0,340±0,025		26,7±0,6					
Cu								0,05
Measured	10,10±0,06	0,42	109±5	0,25				
Certified	9,60±0,16		106±10					
Hg							93±3	0,01
Measured	0,188±0,006	0,01			0,89±0,1	0,52		
Certified	0,188±0,007				0,95±0,1			
Pb							102±11	0,06
Measured	1,85±0,19	0,26						
Certified	1,91±0,04							
Se							109±2	0,65
Measured	1,86±0,12	0,95			4,07±0,14	1,04		
Certified	1,66±0,04				3,60±0,40			
Zn							100±4	9,2
Measured	71±1	0,52	191±6	0,47				
Certified	76±2		180±6					

b)

Analyte	Mussel Tissue BCR 278/634 µg/g	IZI*	TORT-2 NRCC µg/g	IZI*	Albacore tuna NBS µg/g	IZI*	Recovery, % Kræklingur	MLOD** µg/g
As								
Measured	5,5 ± 0,3	0,53	17,7 ± 0,3	1,43	2,65 ± 0,16	1,58	119 ± 2	2,6
Certified	5,9 ± 0,2		21,6 ± 1,8		3,30±0,40			
Cd								
Measured	0,37 ± 0,01	0,66	26,2 ± 0,6	0,14			104 ± 1	0,22
Certified	0,34 ±0,02		26,7±0,6					
Cu								
Measured	9,64 ± 0,32	0,03	104 ± 2				100 ± 9	2,58
Certified	9,60±0,16		106±10					
Hg								
Measured	0,174 ± 0,002	0,61			0,99 ± 0,03	0,34	108 ± 19	0,043
Certified	0,188±0,007				0,95±0,1			
Pb								
Measured	1590 ± 188	1,34	0,36 ± 0,03	0,32				
Certified	1910 ± 40		0,35 ± 0,13					
Se								
Measured	1,67 ± 0,04	0,07	5,18 ± 0,57	0,64	3,21 ± 0,40	0,86	86 ± 6	0,22
Certified	1,66±0,04		5,63 ± 0,67		3,60±0,40			
Zn								
Measured	80 ± 1	0,45	187 ± 6	0,3	15,0 ± 1,3	0,82	80 ± 7	9,1
Certified	76 ± 2		180±6		13,6 ± 1			

* Z-score (mesarured value-certified value)/certified value*0,125)
**MLOD is on dry weight basis

Table 3. Results for trace metals in certified reference materials and recoveries of additions to tissue homogenates of cod (*Gadus morhua*) and dab (*Limanda limanda*) for a) 1999 and b) 2000.

a)

Analyte	DOLT-2 NRCC µg/g	IZI*	DORM-2 NRCC µg/g	IZI*	Albacore t. NBS µg/g	IZI*	TORT-2 NRCC µg/g	IZI*	Recovery, % Lifur	Hold	MLOD** µg/g Lifur	MLOD** µg/g Hold
As									83±2		1,3	
Measured	16,3±0,6	0,13			2,8±0,1	1,11						
Certified	16,6±1,1				3,3±0,4							
Cd									123±3		0,023	
Measured	21,2±0,4	0,15	0,045±0,001	0,34			32,3±1,0	1,67				
Certified	20,8±0,5		0,043±0,008				26,7±0,6					
Cu									111±6		0,17	
Measured	29,8±0,8	1,2	2,33±0,04	0,02			109±5	0,25				
Certified	25,8±1,1		2,34±0,16				106±10					
Hg										102±1		0,003
Measured			4,46±0,08	0,31	0,89±0,01	0,52						
Certified			4,64±0,26		0,95±0,01							
Se									82±6		0,2	
Measured	6,18±0,38	0,16			4,07±0,14	1,04						
Certified	6,06±0,49				3,60±0,40							
Zn									85±7		3,0	
Measured	87,4±2,7	0,15	22,6±0,8	0,92	14,5±2,1	0,55	193±5	0,57				
Certified	85,8±2,5		25,6±2,3		13,6±1,0		180±6					
Pb									109±5		0,075	
Measured							0,36±0,03	0,32				
Certified							0,35±0,13					

b)

Analyte	DORM-2 NRCC µg/g	IZI*	Albacore t. NBS µg/g	IZI*	LUTS-1 NRCC µg/g	IZI*	TORT-2 NRCC µg/g	IZI*	Recovery, % Liver	Flesh	MLOD** µg/g Liver	MLOD** µg/g Flesh
As									114 ± 6		1,2	
Measured	18,5 ± 2,1	0,24	2,65 ± 0,16	1,58			17,7 ± 0,3	1,43				
Certified	18,0 ± 1,1		3,3 ± 0,4				21,6 ± 1,8					
Cd									113 ± 6		0,029	
Measured					2,46 ± 0,06	0,89	26,2 ± 0,6	0,14				
Certified					2,21 ± 0,15		26,7±0,6					
Cu									111 ± 6		0,18	
Measured	2,33 ± 0,18	0,04			17,4 ± 0,08	0,74	104 ± 2	0,17				
Certified	2,34±0,16				15,9 ± 1,2		106±10					
Hg									103 ± 6			0,005
Measured	4,55 ± 0,10	0,15	0,99 ± 0,03	0,34								
Certified	4,64±0,26		0,95±0,01									
Pb											0,062	
Measured							0,36 ± 0,03	0,32	95 ± 9			
Certified							0,35 ± 0,13					
Se											0,34	
Measured			3,21 ± 0,40	0,86	0,61 ± 0,06	0,39	5,18 ± 0,57	0,64	111 ± 3			
Certified			3,60±0,40		0,64 ± 0,05		5,63 ± 0,67					
Zn									100 ± 4		0,92	
Measured	24,4 ± 0,7	0,36	15,0 ± 1,3	0,82	14,6 ± 0,4	1,44	187 ± 6	0,30				
Certified	25,6±2,3		13,6 ± 1		12,4 ± 0,8		180 ± 6					

* Z-score (mesarured value-certified value)/certified value*0,125)

**MLOD is on wet weight basis

IV. RESULTS

4.1 Heavy metals

Results for metals are presented in appendix IV. Results for cod, dab and mussel samples are presented in tables 4 - 6. Results for mussel are on a dry weight basis but for cod and dab the results are on a wet weight basis. Data from previous years (4,5,6) is shown with the new data in graphs 1,2 and 3. The graphs can be helpful in pointing out if there are major changes in concentrations between years. The bar (in graph 1) representing northwest (NV) in 2000 includes measurements from two locations in that area labelled vestfjords (VF) and NV (appendix I). A and V in graphs and tables in appendices IV(metals) and V(organics) stand for east and west (i.e. SA means southeast etc.).

Cod: Tables 4a and 4b show results and detection limits for metal analysis of cod in 1999 and 2000, respectively. Graph 1 shows how these metal concentrations (ww) fit in with previous years in different locations beginning with the year 1990. In an Icelandic summary report (6), an assessment of data until 1996 was done. It was assumed that the quantity of a metal is a function of the quantity of fat in the liver and the age of the fish. The statistical analysis showed significant annual variation of heavy metals in cod from Icelandic fishing grounds in 1990-1996 but no trends were observed. Also, the Northwest fishing grounds had significantly higher concentration of cadmium than other fishing grounds around Iceland. Spatial and temporal comparisons with other countries can be difficult because concentration of an analyte depends on the quantity of fat in the liver but data is usually available only as concentration. Comparison with other northen locations has been done in the past were wet weight concentrations and possibly different sampling years were used (6, graph 6 appendix IV). The horizontal red line in graph 6 shows the ICES85 75% baseline which is based on monitoring studies in 1985 (7). This older comparison suggests that Zn, Cu, and Hg concentrations in cod from Icelandic fishing grounds have been low compared to other northen locations whereas Cd concentration has been conciderably higher. It has been suggested that Cd in cod from Iceland is of volcanic origin (6).

Audunsson (3) has introduced a model which describes the interrelationship between the levels of trace elements in cod liver and the biological and biochemical covariables that may affect these levels. According to Audunsson, for meaningful spatial comparisons of Icelandic waters and other fisherises the effects on trace element concentrations in cod livers from those other areas have to be known as well, the same being true for temporal trends studies. Audunsson´s model suggests that a common basis for spatial and temporal comparison of cod livers be a hypothetical cod liver of 100% lean fraction from one year old cod (3).

Data for 1996-2000 has not been evaluated using statistical models but graph 1 shows no obvious indications toward different behaviour in metal concentration on a wet weight basis (graph 1)(6).

Dab: Tables 5a and 5b show result and detection limits for metal analysis of dab in 1999 and 2000, respectively. Graph 2 shows average metal concentration in dab 1990 - 2000. Concentration of cadmium, copper, zinc and mercury varies between years but the changes are not significant, as revealed by the bars showing the concentration range. For the year 2000, only one dab sample has been analysed.

Mussel: Results for metal concentration in mussel in 1998 and 1999 are shown in tables 6a and 6b. Pb measurements were unsuccessful for mussel picked 1999. Also the mussel samples from 1998 and 1999 were contaminated with copper during homogenization. The mussel samples are always received frozen and the flesh is removed from the shell before they have completely thawed out. It appears that variable amounts of frozen seawater may be present the the shell. This makes the wet weight concentration values questionable and only the dry weight values should be reported and used when comparing data. Graphs 3a, 3b, and 3c show results of metal analysis of mussel in 1990 – 1999, based on dry weight. The horizontal red line shows the ICES90 75% baseline (8). The sample from Hvassahraun in 1998 does not fulfil the JMP guidelines, since it only contained 29 individuals. Metal concentration in mussels varies considerably between years and different locations. Results show low values for Pb and Hg in mussel when compared with ICES90 75% baseline values. Cu and Zn are close to these values. The ICES90 75% baseline in graph 3a points to a high Cd concentration in Iceland, compared with other areas. However, likely

anthropogenic sources are missing (6). Cadmium appears to be high in mussels from Mjóifjörður, which is far from any known anthropogenic source. In contrast, Cd concentration at the Hvalfjord stations (Hvaleyri, Hvalstöð, Hvítanes) and at Straumsvík and Hvassahraun is much lower although human activity is much greater there, with aluminium factories and the capital of Reykjavík nearby.

4.2 Organic compounds

Results for organic compounds are presented in appendix V. Results for cod and dab are presented on a wet-weight basis in tables 7a,b and 8. Graphs 4 and 5 show new data and data from previous years (4, 5, 6). Results for mussel samples are presented on a dry-weight basis in tables 9a and b. Values for blindsamples and limits of detection are shown in tables 10a, b and c.

Cod: In table 7a and 8 are the results for cod livers in 1999 and 2000, respectively. In graph 4, results for 5 compounds measured in cod livers are shown at 4 major locations around the country 1991-2000. Sum of seven PCBs (PCB-28, PCB-52, PCB-101, PCB-118, PCB-138, PCB-153 and PCB-180) are about 90% of the 11 PCBs measured. Data for 1990-1996 was assessed in the summary report (6), using the same statistical model as mentioned above for the metals but omitting the age variable. Good correlation between PCBs, HCHs, HCB and DDTs was found for that period, pointing to a common source outside the country. Also, for that period PCB and DDE concentrations decreased between years, HCB concentration stayed the same. As for the metals, data for organic compounds in 1996-2000 has not been assessed with statistical models. From concentrations (ww), shown in graph 4, it is difficult to detect any trends with perhaps the exception of HCH which decreases noticeably in concentration after 1995 and continues to be at low levels in the following years.

Dab: Table 7b and 8 show results for dab livers 1999 and 2000. Graph 5 shows average concentrations of 4 organic contaminants in dab liver in 1991 - 2000.
Taking into account the fat content in the liver, concentration of PCBs, HCHs, HCB and DDE did not vary significantly between years in 1990 - 1995 (6). The effect of fat content in liver has not been evaluated for samples taken in 1996-2000. Graph 5

does not show any obvious changes in data in 1996-2000. Only one dab sample has been analysed for the year 2000, from a location in the south (SV).

Mussel: Results for analysis of organic contaminants in mussel in 1998 and 1999 are shown in tables 9a and 9b, respectively. For reasons descussed previously, wet weight concentration values are also questionable for the organic compounds and dry weight values are reported here. Dry matter % for each sample are shown in tables 6a and 6b. PCBs are the most common organochlorines found in mussel. PCB concentration in mussel around Iceland is comparable to what is found on remote beaches of west United States and similar to the lowest concentrations found in the United Kingdom and Ireland (6). In general, concentration of a-HCH, HCB and p,p'-DDE is low, close to or below the limits of detection. Measurements of concentration close to detection limits can be difficult and variations may be due to the analysis itself (6).

V. CONCLUSION

Iceland is a volcanic island and unique in terms of geology, oceanography and meteorology. High levels of heavy metals, particularly cadmium, occur naturally in the Icelandic environment. Therefore, natural background values need to be kept in mind when comparing contamination levels with other countries. However, even with heavy consumption the cadmium content of cod and other species in Icelandic waters are far below the TWI (Tolerable Weekly Intake) standard of WHO (9).
In addition, when comparing liver or mussel data it is necessary to keep in mind the factors (i.e. fat, age, dw) that may affect the quantity and concentration of trace elements.

Statistically analysed data for 1990 - 1996 suggests a common source of organochlorine compounds originating outside the country. Results for 1997 - 2000 do not show any major changes in concentration levels. They are similar to what is found in neighbouring areas, such as around the Forese islands, N-Norway and Labrador, but much lower than found in more polluted areas such as the North Sea.

This report adds to the information gathered every year to determine if there are any changes in the present status of the ocean around Iceland. There are no obvious indications that concentrations of contaminants are changing. However, a full statistical analysis of all data is needed to confirm that speculation.

VI. ACKNOWLEDGEMENT

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From UIPT: Kristín Ólafsdóttir, Elín V. Magnúsdóttir.

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VIII. APPENDICES

Appendix I.
Biological measurements of cod (*Gadus morhua*) 1999 and 2000

Appendix II.
Biological measurements of dab (*Limanda limanda*) 1999 and 2000

Appendix III.
Biological measurements of mussel (*Mytilus edulis*) 1998 and 1999

Appendix IV.
Results of trace metal analysis for cod (*Gadus Morhua*) and dab (*Limanda limanda*) 1999 and 2000 and for mussel (*Mytilus edulis*) 1998 and 1999.

Appendix V.
Results of organochlorine analysis for cod (*Gadus morhua*) and dab (*Limanda limanda*) 1999 and 2000 and for mussel (*Mytilus edulis*) 1998 and 1999

Appendix I

Biological Measurements of Cod (*Gadus Morhua*) 1999 and 2000

Species:	**Cod (*Gadus Morhua*)**	**exped./station**		date	**n**
Location:	**Eastfjords**	TB-1-99/99 **642247**	**125225**	**14.3.1999**	25
Length:	30-45cm				
Ship:	Bjartur				
Expd.leader:	Valur Bogason				
Arrival date/IFL#:	31.05.99/04778-04803				

Group	exped.-station	Weight jar IFL g	Weight jar and liver g	Weight liver g	Weight ungutted fish, g	Sex 0=female 1=male	Length cm	Weight gutted fish, g	Weight fillets g	Age
H 1	TB-1-99-99	92,48	100,64	8,16	253	0	31,0	218	117,8	2
	TB-1-99-99	92,77	103,76	10,99	237	0	30,0	201	73,6	2
	TB-1-99-99	92,32	103,60	11,28	272	0	32,0	229	83,7	2
	TB-1-99-99	92,54	104,33	11,79	327	1	33,0	263	151,8	2
	TB-1-99-99	92,45	105,81	13,36	694	1	43,0	215	210,9	3
	TB-1-99-99	92,62	106,22	13,60	321	1	32,0	268	173,2	2
	TB-1-99-99	101,18	115,06	13,88	342	0	33,0	300	119,7	2
	TB-1-99-99	102,36	116,82	14,46	399	0	36,0	349	66,3	3
			Sum	97,52	2845		270,0	2043,0	997,0	18,0
			Average	12,19	356	0,4	33,8	255,4	124,6	2,3
			STDEV	2,07	146		4,1	50	51,1	0,5
			Min	8,16	237		30,0	201	66,3	2
			Max	14,46	694		43,0	349	210,9	3
H 2	TB-1-99-99	91,71	108,95	17,24	697	1	43,0	621	76,2	4
	TB-1-99-99	91,75	109,21	17,46	410	0	38,0	359	138,3	3
	TB-1-99-99	92,01	110,06	18,05	510	0	39,0	439	67,9	4
	TB-1-99-99	101,07	119,46	18,39	529	0	36,0	461	166,7	3
	TB-1-99-99	92,26	111,32	19,06	533	0	40,0	474	97,6	3
			Sum	90,20	2679,0		196,0	2354,0	546,7	17,0
			Average	18,04	535,8	0,2	39,2	470,8	109,3	3,4
			STDEV	0,73	103,1		2,6	95,1	42,1	0,5
			Min	17,24	410		36,0	359	67,9	3
			Max	19,06	697		43,0	621	166,7	4
H 3	TB-1-99-99	103,31	128,97	25,66	746	1	44,0	750	203,7	4
	TB-1-99-99	92,17	119,37	27,20	673	0	42,0	577	119,1	4
			Sum	52,86	1419,0		86,0	1327,0	322,8	8,0
			Average	26,43	709,5		43,0	663,5	161,4	4,0
			STDEV	1,09	51,6	0,7	1,4	122,3	59,8	0,0
			Min	25,66	673		42,0	577	119,1	4
			Max	27,20	746		44,0	750	203,7	4
H 4	TB-1-99-99	92,83	128,87	36,04	752	1	44,0	596	185,3	4
	TB-1-99-99	92,43	129,87	37,44	755	1	43,0	648	208,0	4
	TB-1-99-99	91,79	129,92	38,13	800	1	44,0	680	208,4	4
	TB-1-99-99	103,30	145,06	41,76	753	1	44,0	648	176,8	4
	TB-1-99-99	92,59	135,64	43,05	730	1	43,0	614	190,3	4
			Sum	196,42	3790,0		218,0	3186,0	968,8	20,0
			Average	39,28	758,0	1,0	43,6	637,2	193,8	4,0
			STDEV	2,98	25,6		0,5	32,8	14,0	0,0
			Min	36,04	730		43,0	596	176,8	4
			Max	43,05	800		44,0	680	208,4	4
H 5	TB-1-99-99	91,66	141,77	50,11	763	0	44,0	626	220,9	4
	TB-1-99-99	92,73	143,67	50,94	753	0	41,0	636	231,4	3
	TB-1-99-99	92,77	145,74	52,97	834	1	45,0	700	191,1	3
	TB-1-99-99	92,26	147,54	55,28	788	1	44,0	667	204,2	4
			Sum	209,30	3138,0		174,0	2629,0	847,6	14,0
			Average	52,33	784,5	0,5	43,5	657,3	211,9	3,5
			STDEV	2,31	36,1		1,7	33,4	17,8	0,6
			Min	50,11	753		41,00	626	191,10	3
			Max	55,28	834		45,00	700	231,40	4
H 6	TB-1-99-99	102,80	180,38	77,58	953	0	45,0	747	238,5	4
H1, H2, H3, H4, H5, H6			**Sum**	723,88	14824,0		989,0	12286,0	3921,4	81,0
			Average	28,96	593,0	0,5	39,6	491,4	156,9	3,2
			STDEV	18,29	214,9		5,1	189,9	56,2	0,8
			Min	8,16	237,0		30,0	201,0	66,3	2,0
			Max	77,58	953,0		45,0	750,0	238,5	4,0

Species:	**Cod (*Gadus Morhua*)**	**exped./station**		date	**n**
Location:	**Northeast**	TB-1-99/25	**661171** **123032**	**6.3.1999**	25
Length:	30-45cm				
Ship:	Bjartur				
Expd.leader:	Valur Bogason				
Arrival date/IFL#:	31.05.99/04778-04803				

Group	exped.-station	Weight jar IFL g	Weight jar and liver g	Weight liver g	Weight ungutted fish, g	Sex 0=female 1=male	Length cm	Weight gutted fish, g	Weight fillets g	Age
H 1	TB-1-99-25	92,76	103,77	11,01	307	0	33,0	251	75,9	3
	TB-1-99-25	92,49	104,22	11,59	318	0	34,0	282	85,4	4
	TB-1-99-25	92,47	104,31	11,65	351	1	36,0	314	95,3	3
	TB-1-99-25	92,84	104,78	11,67	314	0	32,0	260	84,6	3
	TB-1-99-25	92,94	105,69	12,42	479	1	40,0	432	120,7	4
	TB-1-99-25	103,05	116,70	13,02	452	0	39,0	396	127,6	3
	TB-1-99-25	92,80	106,74	13,77	476	1	37,0	387	136,0	4
			Sum	85,13	2697,0		251,0	2322,0	725,5	24,0
			Average	12,16	385,3	0,4	35,9	331,7	103,6	3,4
			STDEV	0,96	80,0		3,0	72,7	24,0	0,5
			Min	11,01	307		32,0	251	75,9	3
			Max	13,77	479		40,0	432	136,0	4
H 2	TB-1-99-25	102,54	117,16	14,50	442	1	38,0	376	113,4	3
	TB-1-99-25	92,25	108,13	15,58	378	1	35,0	321	106,7	3
	TB-1-99-25	92,39	109,89	17,65	442	0	37,0	385	129,2	3
	TB-1-99-25	92,52	111,17	18,5	535	1	39,0	421	144,9	3
	TB-1-99-25	92,67	112,58	19,81	553	0	40,0	464	149,7	3
			Sum	86,04	2350,0		189,0	1967,0	643,9	15,0
			Average	17,21	470,0	0,6	37,8	393,4	128,8	3,0
			STDEV	2,16	72,7		1,9	53,3	18,9	0,0
			Min	14,50	378		35,0	321	106,7	3
			Max	19,81	553		40,0	464	149,7	3
H 3	TB-1-99-25	93,08	116,92	23,80	579	0	41,0	496	169,6	3
	TB-1-99-25	92,58	116,99	24,33	556	0	40,0	479	145,8	3
	TB-1-99-25	92,67	119,76	26,71	622	0	42,0	548	186,3	4
			Sum	74,84	1757,0		123,0	1523,0	501,7	10,0
			Average	24,95	585,7	0,0	41,0	507,7	167,2	3,3
			STDEV	1,55	33,5		1,0	35,9	20,4	0,6
			Min	23,80	556		40,0	479	145,8	3
			Max	26,71	622		42,0	548	186,3	4
H 4	TB-1-99-25	92,51	124,23	30,71	544	0	40,0	465	145,5	3
	TB-1-99-25	92,65	125,02	31,43	535	0	40,0	449	126,8	3
	TB-1-99-25	102,57	135,12	32,63	685	1	41,0	528	128,8	4
	TB-1-99-25	92,24	124,99	32,67	646	1	43,0	557	141,8	4
	TB-1-99-25	101,45	135,19	33,46	599	1	40,0	502	173,9	3
	TB-1-99-25	92,79	130,47	37,12	639	1	43,0	543	162,7	4
			Sum	198,02	3648,0		247,0	3044,0	879,5	21,0
			Average	33,00	608,0	0,7	41,2	507,3	146,6	3,5
			STDEV	2,24	59,7		1,5	43,3	18,6	0,5
			Min	30,71	535		40,0	449	126,8	3
			Max	37,12	685		43,0	557	173,9	4
H 5	TB-1-99-25	101,47	144,99	43,52	680	0	42,0	570	178,8	3
	TB-1-99-25	101,40	145,33	43,93	832	1	44,0	675	209,8	4
			Sum	87,45	1512,0		86,0	1245,0	388,6	7,0
			Average	43,73	756,0	0,5	43,0	622,5	194,3	3,5
			STDEV	0,29	107,5		1,4	74,2	21,9	0,7
			Min	43,52	680		42,0	570	178,8	3
			Max	43,93	832		44,0	675	209,8	4
H 6	TB-1-99-25	92,21	145,85	53,64	743	0	43,0	595	204,4	4
	TB-1-99-25	92,89	153,82	60,93	853	0	44,0	669	199,3	3
			Sum	114,57	1596,0		87,0	1264,0	403,7	7,0
			Average	57,29	798,0	0	43,5	632,0	201,9	3,5
			STDEV	5,15	77,8		0,7	52,3	3,6	0,7
			Min	53,64	743		43,0	595	199,3	3
			Max	60,93	853		44,0	669	204,4	4
H1, H2, H3, H4, H5, H6			**Sum**	646,05	13560,0		983,0	11365,0	3542,9	84,0
			Average	25,84	542,4	0	39,3	454,6	141,7	3,4
			STDEV	13,98	151,3		3,4	117,6	37,5	0,5
			Min	11,01	307,0		32,0	251,0	75,9	3,0
			Max	60,93	853,0		44,0	675,0	209,8	4,0

Species:	**Cod (*Gadus Morhua*)**	**exped./station**			date	**n**
Location:	**Westfjords**	TP1-99/73	662856	233207	**14.3.1999**	6
Length:	30-45cm	TP1-99/74	663345	233978	**14.3.1999**	3
Ship:	Páll Pálsson	TP1-99/75	663282	235717	**14.3.1999**	9
Expd.leader:	Sólmundur T. Einarsson	TP1-99/76	662629	234775	**14.3.1999**	7
Arrival date/IFL#:	31.05.99/04778-04803		**663004**	**234642**		

Group	exped.-station	Weight jar IFL g	Weight jar and liver g	Weight liver g	Weight ungutted fish, g	Sex 0=female 1=male	Length cm	Weight gutted fish, g	Weight fillets g	Age
H 1	TP-1-99-73	102,87	105,17	2,30	236	0	30,0	207	56,4	2
	TP-1-99-75	100,94	104,51	3,57	366	1	36,0	350	102,4	3
	TP-1-99-75	92,44	96,33	3,89	226	1	31,0	210	63,9	2
	TP-1-99-76	102,64	106,89	4,25	302	1	33,0	262	76,9	2
	TP-1-99-76	92,03	96,40	4,37	217	0	31,0	201	62,1	2
	TP-1-99-76	92,59	97,58	4,99	398	1	36,0	358	115,1	3
	TP-1-99-75	92,72	97,85	5,13	262	0	31,0	236	74,1	2
	TP-1-99-75	91,97	97,84	5,87	395	0	37,0	358	91,2	3
			Sum	34,37	2402,0		265,0	2182,0	642,1	19,0
			Average	4,30	300,3	0,5	33,1	272,8	80,3	2,4
			STDEV	1,09	76,4		2,8	71,1	20,8	0,5
			Min	2,30	217		30,0	201	56,4	2
			Max	5,87	398		37,0	358	115,1	3
H 2	TP-1-99-76	92,56	98,62	6,06	233	0	31,0	216	64,2	2
	TP-1-99-73	103,12	109,33	6,21	200	1	30,0	183	52,0	2
	TP-1-99-75	92,37	100,16	7,79	352	0	36,0	323	98,3	2
	TP-1-99-73	92,90	101,20	8,30	546	0	39,0	490	164,3	3
	TP-1-99-76	102,53	112,30	9,77	585	0	42,0	558	163,0	3
			Sum	38,13	1916,0		178,0	1770,0	541,8	12,0
			Average	7,63	383,2	0,2	35,6	354,0	108,4	2,4
			STDEV	1,54	176,3		5,1	165,3	53,3	0,5
			Min	6,06	200		30,0	183	52,0	2
			Max	9,77	585		42,0	558	164,3	3
H 3	TP-1-99-73	92,84	103,76	10,92	632	1	41,0	578	176,2	3
	TP-1-99-74	91,94	103,48	11,54	812	1	44,0	726	216,3	4
	TP-1-99-76	102,61	116,45	13,84	570	0	42,0	532	166,4	3
	TP-1-99-74	92,58	106,94	14,36	716	0	44,0	647	205,3	3
	TP-1-99-75	103,04	117,56	14,52	676	1	44,0	623	190,8	4
			Sum	65,18	3406,0		215,0	3106,0	955,0	17,0
			Average	13,04	681,2	0,6	43,0	621,2	191,0	3,4
			STDEV	1,68	91,0		1,4	73,3	20,4	0,5
			Min	10,92	570		41,0	532	166,4	3
			Max	14,52	812		44,0	726	216,3	4
H 4	TP-1-99-75	96,59	113,81	17,22	572	1	41,0	522	179,2	3
	TP-1-99-73	92,00	110,92	18,92	709	1	45,0	641	199,9	3
	TP-1-99-74	92,52	112,87	20,35	680	1	45,0	624	207,4	3
	TP-1-99-75	92,76	113,72	20,96	711	1	44,0	602	189,2	4
	TP-1-99-76	91,91	113,58	21,67	580	0	42,0	523	169,9	3
			Sum	99,12	3252,0		217,0	2912,0	945,6	16,0
			Average	19,82	650,4	0,8	43,4	582,4	189,1	3,2
			STDEV	1,77	69,1		1,8	56,4	15,2	0,4
			Min	17,22	572		41,0	522	169,9	3
			Max	21,67	711		45,0	641	207,4	4
H 5	TP-1-99-73	92,32	119,21	26,89	748	1	45,0	654	196,2	3
	TP-1-99-75	92,68	119,95	27,27	627	0	43,0	538	186,2	3
			Sum	54,16	1375,0		88,0	1192,0	382,4	6,0
			Average	27,08	687,5	0,5	44,0	596,0	191,2	3,0
			STDEV	0,27	85,6		1,4	82,0	7,1	0,0
			Min	26,89	627		43,0	538	186,2	3
			Max	27,27	748		45,0	654	196,2	3
H1, H2, H3, H4, H5			**Sum**	291	12351		963	11162	3467	70
			Average	11,6	494,0	0,5	38,5	446,5	138,7	2,8
			STDEV	7,6	199,9		5,5	177,9	58,0	0,6
			Min	2,3	200		30	183	52	2
			Max	27,3	812		45	726	216,3	4

Species:	**Cod (*Gadus Morhua*)**	**exped./station**			date	**n**
Location:	**Northeast**	TL-1-2000/34	664287	145129	**10.3.2000**	25
Length:	30-45cm					
Ship:	Ljósafell					
Expd.leader:	Valur Bogason					
Arrival date/IFL#:	23.3.2001/Rf-2000-3186-3191					

Group	exped.-station	Weight jar IFL g	Weight jar and liver g	Weight liver g	Weight ungutted fish, g	Sex 0=female 1=male	Length cm	Weight gutted fish, g	Weight fillets g	Age
H 1	TL-1-2000-34	93,12	96,92	3,80	213	1	30,0	192,4	69,4	3
	TL-1-2000-34	93,07	97,45	4,38	323	1	35,0	283,7	99,1	3
	TL-1-2000-34	93,05	97,78	4,73	333	0	35,0	291,4	113,7	3
	TL-1-2000-34	93,48	98,44	4,96	313	1	34,0	276	98,7	3
			Sum	17,87	1182,0		134,0	1043,5	380,9	12,0
			Average	4,47	295,5	0,8	33,5	260,9	95,2	3,0
			STDEV	0,50	55,6		2,4	46,1	18,6	0,0
			Min	3,80	213,0		30,0	192,4	69,4	3
			Max	4,96	333,0		35,0	291,4	113,7	3
H 2	TL-1-2000-34	93,04	98,63	5,59	303	0	33,0	267,7	98,2	3
	TL-1-2000-34	93,16	99,22	6,06	257	1	32,0	223,6	80,6	3
	TL-1-2000-34	93,10	99,27	6,17	286	0	34,0	250,9	95,6	3
	TL-1-2000-34	93,06	99,59	6,53	278	1	32,0	242,1	84	3
	TL-1-2000-34	93,16	100,60	7,44	520	1	41,0	461,8	141,3	3
			Sum	31,79	1644,0		172,0	1446,1	499,7	15,0
			Average	6,36	328,8	0,6	34,4	289,2	99,9	3,0
			STDEV	0,69	108,2		3,8	97,8	24,3	0,0
			Min	5,59	257,0		32,0	223,6	80,6	3
			Max	7,44	520,0		41,0	461,8	141,3	3
H 3	TL-1-2000-34	93,10	103,29	10,19	366	1	35,0	330,8	127,7	3
	TL-1-2000-34	92,89	103,90	11,01	427	1	37,0	367,8	120,4	4
	TL-1-2000-34	93,22	105,32	12,10	385	1	36,0	350,9	124,6	3
	TL-1-2000-34	93,31	106,16	12,85	490	0	39,0	428,4	135	3
	TL-1-2000-34	93,27	106,43	13,16	445	0	39,0	380,9	138,7	3
			Sum	59,31	2113,00		186,0	1858,8	646,4	16,0
			Average	11,86	422,60	0,6	37,2	371,8	129,3	3,2
			STDEV	1,25	49,20		1,8	36,8	7,5	0,4
			Min	10,19	366,00		35,0	330,8	120,4	3
			Max	13,16	490,00		39,0	428,4	138,7	4
H 4	TL-1-2000-34	93,07	107,40	14,33	383	1	36,0	331	107,7	3
	TL-1-2000-34	92,71	108,00	15,29	357	1	35,0	318,3	110,5	3
	TL-1-2000-34	92,97	109,12	16,15	439	1	37,0	388,9	129,9	4
	TL-1-2000-34	93,28	109,86	16,58	545	1	40,0	465	155,6	3
	TL-1-2000-34	93,22	110,20	16,98	521	0	40,0	446,7	167,2	3
	TL-1-2000-34	93,15	110,56	17,41	392	1	35,0	336,8	118,9	3
	TL-1-2000-34	93,03	110,86	17,83	515	0	40,0	445,2	164,1	3
			Sum	114,57	3152,0		263,0	2731,9	953,9	22,0
			Average	16,37	450,3	0,7	37,6	390,3	136,3	3,1
			STDEV	1,23	76,3		2,4	62,4	25,6	0,4
			Min	14,33	357,0		35,0	318,3	107,7	3
			Max	17,83	545,0		40,0	465,0	167,2	4
H 5	TL-1-2000-34	93,01	115,44	22,43	477	0	39,0	401,6	111	3
	TL-1-2000-34	93,02	116,92	23,90	590	1	42,0	522	195,4	3
	TL-1-2000-34	93,70	120,59	26,89	401	0	36,0	337,5	122,2	3
	TL-1-2000-34	93,01	122,37	29,36	551	1	40,0	467,7	178,6	3
			Sum	102,58	2019,00		157,0	1728,8	607,2	12,0
			Average	25,65	504,75	0,5	39,3	432,2	151,8	3,0
			STDEV	3,09	83,55		2,5	80,1	41,5	0,0
			Min	22,43	401,00		36,0	337,5	111,0	3
			Max	29,36	590,00		42,0	522,0	195,4	3
H1, H2, H3, H4, H5			**Sum**	326,12	10110,0		912,0	8809,1	3088,1	77,0
			Average	13,04	404,4	0,6	36,5	352,4	123,5	3,1
			STDEV	7,31	102,9		3,2	87,4	31,1	0,3
			Min	3,80	213,0		30,0	192,4	69,4	3
			Max	29,36	590,0		42,0	522,0	195,4	4

Species:	**Cod (*Gadus Morhua*)**	**exped./station**			date	**n**
Location:	**Northwest**	TB-1-2000/41	665541	225369	**11.3.2000**	25
Length:	30-45cm					
Ship:	Bjartur					
Expd.leader:	Jónbjörn P.					
Arrival date/IFL#:	23.3.2001/RF-2000-3192-3196					

Group	exped.-station	Weight jar IFL g	Weight jar and liver g	Weight liver g	Weight ungutted fish, g	Sex 0=female 1=male	Length cm	Weight gutted fish, g	Weight fillets g	Age
H 1	TB-1-2000-41	93,16	98,64	5,48	209	1	30,0	183,3	67,3	2
	TB-1-2000-41	93,19	98,83	5,64	427	0	39,0	385,3	123	3
			Sum	11,12	636,0		69,0	568,6	190,3	5,0
			Average	5,56	318,0	0,5	34,5	284,3	95,2	2,5
			STDEV	0,11	154,1		6,4	142,8	39,4	0,7
			Min	5,48	209,0		30,0	183,3	67,3	2
			Max	5,64	427,0		39,0	385,3	123,0	3
H 2	TB-1-2000-41	93,27	101,86	8,59	250	1	31,0	216,1	70,5	3
	TB-1-2000-41	92,96	102,24	9,28	209	0	30,0	181,9	64,8	2
	TB-1-2000-41	93,34	102,62	9,28	375	1	36,0	324,9	126	3
	TB-1-2000-41	93,38	103,79	10,41	224	0	31,0	194	77,6	2
			Sum	37,56	1058,0		128,0	916,9	338,9	10,0
			Average	9,39	264,5	0,5	32,0	229,2	84,7	2,5
			STDEV	0,75	75,6		2,7	65,3	28,0	0,6
			Min	8,59	209,0		30,0	181,9	64,8	2
			Max	10,41	375,0		36,0	324,9	126,0	3
H 3	TB-1-2000-41	93,34	106,08	12,74	397	1	37,0	348,1	119,3	3
	TB-1-2000-41	93,06	105,98	12,92	265	1	31,0	226,3	68,8	2
	TB-1-2000-41	93,15	106,34	13,19	297	1	32,0	254,2	82,1	2
	TB-1-2000-41	93,58	107,44	13,86	738	0	45,0	667,5	209,1	4
	TB-1-2000-41	92,87	107,82	14,95	389	1	38,0	343	110,4	3
	TB-1-2000-41	93,06	108,55	15,49	494	1	39,0	396,9	142,7	3
	TB-1-2000-41	93,14	108,88	15,74	483	1	38,0	410,4	129,6	3
	TB-1-2000-41	92,89	109,16	16,27	381	1	36,0	339,2	109,4	3
	TB-1-2000-41	93,25	110,61	17,36	559	0	40,0	492,1	161,5	3
	TB-1-2000-41	93,45	110,86	17,41	442	0	37,0	381,4	140,6	3
	TB-1-2000-41	93,28	111,27	17,99	567	0	40,0	499,4	163,7	3
			Sum	167,92	5012,0		413,0	4358,5	1437,2	32,0
			Average	15,27	455,6	0,6	37,5	396,2	130,7	2,9
			STDEV	1,90	134,2		3,8	123,0	39,5	0,5
			Min	12,74	265,0		31,0	226,3	68,8	2
			Max	17,99	738,0		45,0	667,5	209,1	4
H 4	TB-1-2000-41	93,34	113,33	19,99	410	1	37,0	360,7	120,1	3
	TB-1-2000-41	93,35	115,77	22,42	578	1	40,0	496,8	175,6	3
	TB-1-2000-41	92,90	116,67	23,77	629	1	42,0	542,3	193,9	3
	TB-1-2000-41	92,94	117,76	24,82	554	1	40,0	484,5	159,2	3
	TB-1-2000-41	93,27	119,18	25,91	560	0	40,0	483,7	155,8	3
	TB-1-2000-41	93,43	122,86	29,43	724	0	44,0	626,3	213,2	4
	TB-1-2000-41	93,18	122,65	29,47	498	1	38,0	421,3	158,4	3
			Sum	175,81	3953,0		281,0	3415,6	1176,2	22,0
			Average	25,12	564,7	0,7	40,1	487,9	168,0	3,1
			STDEV	3,50	98,5		2,3	84,5	30,0	0,4
			Min	19,99	410,0		37,0	360,7	120,1	3
			Max	29,47	724,0		44,0	626,3	213,2	4
H 5	TB-1-2000-41	93,17	169,01	75,84	677	0	43,0	510,8	154,9	4
H1, H2, H3, H4, H5			**Sum**	468,25	11336,0		934,0	9770,4	3297,5	73,0
			Average	18,73	453,4	0,6	37,4	390,8	131,9	2,9
			STDEV	13,67	157,5		4,4	134,7	43,9	0,6
			Min	5,48	209,0		30,0	181,9	64,8	2
			Max	75,84	738,0		45,0	667,5	213,2	4

Species:	**Cod (*Gadus Morhua*)**	**exped./station**			date	**n**
Location:	**Westfjords**	TP1-2000/86	660587	241390	**15.3.2000**	21
Length:	30-45cm	TP1-2000/81	661512	243911	**14.3.2000**	4
Ship:	Páll Pálsson		**660735**	**241793**		
Expd.leader:	Sólmundur T.Einarsson					
Arrival date/IFL#:	23.3.2001/Rf-2000-3197-3202					

Group	exped.-station	Weight jar IFL g	Weight jar and liver g	Weight liver g	Weight ungutted fish, g	Sex 0=female 1=male	Length cm	Weight gutted fish, g	Weight fillets g	Age
H 1	TP-1-2000-86	93,02	94,58	1,56	485	0	40,0	46,1	147	3
H 2	TP-1-2000-86	93,72	96,30	2,58	425	0	37,0	379,4	120,3	3
	TP-1-2000-86	93,12	96,07	2,95	496	0	39,0	456,7	148,5	3
	TP-1-2000-86	93,47	96,78	3,31	463	0	37,0	421,3	144,1	3
	TP-1-2000-86	93,21	96,53	3,32	579	0	41,0	528,4	172,9	3
	TP-1-2000-86	93,05	96,39	3,34	606	0	41,0	559,2	179,4	3
			Sum	15,50	2569		195,0	2345,0	765,2	15,0
			Average	3,10	514	0,0	39,0	469,0	153,0	3,0
			STDEV	0,33	77		2,0	74,4	23,8	0,0
			Min	2,58	425		37,0	379,4	120,3	3,0
			Max	3,34	606		41,0	559,2	179,4	3,0
H 3	TP-1-2000-86	93,08	97,09	4,01	406	1	36,0	370,7	119,3	3
	TP-1-2000-86	93,19	97,29	4,10	412	0	36,0	371	111,6	3
	TP-1-2000-86	93,28	97,45	4,17	418	0	36,0	377,6	121,1	3
	TP-1-2000-86	92,80	96,99	4,19	526	0	38,0	485,1	139,8	3
	TP-1-2000-86	93,29	97,71	4,42	632	0	44,0	692	218,8	3
	TP-1-2000-86	93,18	97,84	4,66	423	0	36,0	379,4	133,6	3
	TP-1-2000-86	93,41	98,35	4,94	647	1	43,0	591	198,4	3
	TP-1-2000-86	93,31	98,30	4,99	495	0	38,0	397,7	132,1	3
			Sum	35,48	3959		307,0	3664,5	1174,7	24,0
			Average	4,44	495	0,3	38,4	458,1	146,8	3,0
			STDEV	0,38	99		3,3	122,3	39,5	0,0
			Min	4,01	406		36,0	370,7	111,6	3,0
			Max	4,99	647		44,0	692,0	218,8	3,0
H 4	TP-1-2000-86	93,00	98,27	5,27	453	1	38,0	412,3	126,7	3
	TP-1-2000-86	93,19	98,93	5,74	585	1	40,0	522,9	161,3	3
	TP-1-2000-86	93,16	98,91	5,75	531	1	39,0	479,4	153,5	3
	TP-1-2000-81	93,19	99,34	6,15	603	1	40,0	535,7	178,8	3
	TP-1-2000-81	93,11	99,69	6,58	602	1	41,0	547,3	185,6	3
			Sum	29,49	2774		198,0	2497,6	805,9	15,0
			Average	5,90	555	1,0	39,6	499,5	161,2	3,0
			STDEV	0,49	64		1,1	55,1	23,2	0,0
			Min	5,27	453		38,0	412,3	126,7	3,0
			Max	6,58	603		41,0	547,3	185,6	3
H 5	TP-1-2000-86	92,91	100,27	7,36	516	0	39,0	456,6	136,1	3
	TP-1-2000-86	93,38	101,28	7,90	526	0	41,0	530,6	174,2	3
	TP-1-2000-86	93,28	101,26	7,98	590	1	39,0	514,3	159,9	3
			Sum	23,24	1632		119,0	1501,5	470,2	9,0
			Average	7,75	544	0,3	39,7	500,5	156,7	3,0
			STDEV	0,34	40		1,2	38,9	19,2	0,0
			Min	7,36	516		39,0	456,6	136,1	3,0
			Max	7,98	590		41,0	530,6	174,2	3,0
H 6	TP-1-2000-81	93,02	102,83	9,81	683	1	41,0	640,5	176,1	3
	TP-1-2000-86	93,15	103,22	10,07	674	0	43,0	616,6	198,9	3
	TP-1-2000-81	80,32	91,14	10,82	670	1	43,0	599,2	183,3	3
			Sum	30,70	2027,0		127,0	1856,3	558,3	9,0
			Average	10,23	675,7	0,7	42,3	618,8	186,1	3,0
			STDEV	0,52	6,7		1,2	20,7	11,7	0,0
			Min	9,81	670		41	599	176	3,0
			Max	10,82	683		43	641	199	3,0
H1, H2, H3, H4, H5, H6			**Sum**	135,97	13446,0		986,0	11911,0	3921,3	75,0
			Average	5,44	537,8	0,4	39,4	476,4	156,9	3,0
			STDEV	2,41	89,2		2,4	128,5	28,9	0,0
			Min	1,56	406,0		36,0	46,1	111,6	3,0
			Max	10,82	683,0		44,0	692,0	218,8	3,0

Appendix II

Biological Measurements of Dab (*Limanda limanda*) 1999 and 2000

Species:	**Dab (*Limanda limanda*)**	**exped./station**			date	**n**
Length:	20-35cm	TB-1-99-113	**641397**	**145048**	**16.3.1999**	25
Location:	**Eastfjords**					
Ship	Bjartur					
Exp.leader:	Valur Bogason					
Arrival date/IFL	30.05.99/04778-04803					

	expedition-station	Weight jar IFL g	Weight jar and liver g	Weight liver g	Weight ungutted fish, g	Sex 0=female 1=male	Length cm	Weight gutted fish, g	Weight fillets g	Age
1	TB-1-99-113	77,15	82,84	5,69	347	1	32,0	310	75,9	7
2	TB-1-99-113	75,37	78,74	3,37	18	1	26,0	162	30,7	6
3	TB-1-99-113	75,56	76,94	1,38	123	0	23,0	101	26,5	5
4	TB-1-99-113	75,12	83,30	8,18	334	0	31,0	286	68,7	6
5	TB-1-99-113	76,52	77,66	1,14	74	1	20,0	70	18,4	5
6	TB-1-99-113	74,70	76,32	1,62	338	1	33,0	318	59,6	6
7	TB-1-99-113	74,65	77,78	3,13	176	1	26,0	159	45,4	6
8	TB-1-99-113	76,28	82,68	6,40	233	0	28,0	197	57	7
9	TB-1-99-113	77,48	90,99	13,51	508	0	34,0	458	123,9	7
10	TB-1-99-113	82,62	86,90	4,28	205	1	26,0	177	46,5	7
11	TB-1-99-113	82,83	92,09	9,26	273	0	29,0	230	42,6	7
12	TB-1-99-113	75,51	76,67	1,16	117	0	23,0	102	31,1	5
13	TB-1-99-113	82,85	87,01	4,16	249	1	28,0	231	83,9	4
14	TB-1-99-113	75,36	77,81	2,45	198	1	26,0	174	51,3	6
15	TB-1-99-113	82,19	84,06	1,87	113	0	22,0	92	22	5
16	TB-1-99-113	74,68	76,99	2,31	168	0	26,0	146	46,1	5
17	TB-1-99-113	82,80	86,51	3,71	231	1	27,0	203	59,2	4
18	TB-1-99-113	83,07	84,74	1,67	115	0	21,0	93	23,4	5
19	TB-1-99-113	75,59	81,97	6,38	276	1	30,0	250	68,8	6
20	TB-1-99-113	75,64	76,72	1,08	85	0	21,0	65	22	4
21	TB-1-99-113	82,76	85,23	2,47	156	0	25,0	135	44,8	5
22	TB-1-99-113	75,30	76,67	1,37	100	1	22,0	85	25,4	5
23	TB-1-99-113	77,61	78,48	0,87	84	1	20,0	79	23,2	4
24	TB-1-99-113	82,78	83,94	1,16	74	0	20,0	57	16,3	6
25	TB-1-99-113	83,49	84,40	0,91	72	1	19,0	56	15,3	5
Average				3,58	186,7	0,5	25,5	169,4	45,1	5,5
STDEV				3,14	114,3		4,4	99,8	25,8	1,0
Min				0,87	18,0		19,0	56,0	15,3	4,0
Max				13,51	508,0		34,0	458,0	123,9	7,0

Species:	**Dab (*Limanda limanda*)**	**exped./station**			date	**n**
Length:	20-35cm	TP-1-99-72	662634	232957	**14.3.1999**	1
Location:	**Vestfjords**	TP-1-99-73	662856	233207	**14.3.1999**	2
Ship	Páll Pálsson	TP-1-99-75	663282	235717	**14.3.1999**	2
Exp.leader:	Sólmundur T.Einarsson	TP-1-99-76	662629	234775	**14.3.1999**	3
Arrival date/I	30.05.99/ 04778-04803	TP-1-99-77	662206	234124	**14.3.1999**	3
		TP-1-99-78	661838	235442	**15.3.1999**	1
		TP-1-99-79	662116	235270	**15.3.1999**	1
		TP-1-99-80	662180	240629	**15.3.1999**	3
		TP-1-99-81	660608	241372	**15.3.1999**	9
			661815	**235778**		

	expedition station	Weight jar IFL g	Weight jar and liver g	Weight liver g	Weight ungutted fish, g	Sex 0=female 1=male	Length cm	Weight gutted fish, g	Weight fillets g	Age
1	TP-1-99-72	75,43	81,43	6,00	308	0	30,0	286	88,5	5
2	TP-1-99-73	77,36	81,21	3,85	296	0	32,0	267	81,6	8
3	TP-1-99-73	76,46	80,68	4,22	262	0	30,0	231	85,3	5
4	TP-1-99-75	75,55	77,85	2,30	238	1	28,0	218	75,2	6
5	TP-1-99-75	77,35	79,60	2,25	173	1	25,0	154	57,4	5
6	TP-1-99-76	75,32	81,46	6,14	296	0	30,0	255	85,8	6
7	TP-1-99-76	74,69	79,02	4,33	265	0	29,0	234	75,6	6
8	TP-1-99-76	75,45	78,11	2,66	205	1	27,0	193	67,7	5
9	TP-1-99-77	75,94	81,85	5,91	294	0	30,0	258	91,1	6
10	TP-1-99-77	76,60	78,28	1,68	93	0	21,0	83	21,3	4
11	TP-1-99-77	83,01	87,00	3,99	175	1	26,0	162	48,5	4
12	TP-1-99-78	75,51	78,17	2,66	220	1	28,0	197	63,1	6
13	TP-1-99-79	77,74	85,26	7,52	298	0	30,0	263	90,5	5
14	TP-1-99-80	76,39	77,96	1,57	135	1	24,0	123	39,1	4
15	TP-1-99-80	76,46	77,82	1,36	159	1	26,0	142	44,7	5
16	TP-1-99-80	75,45	77,00	1,55	160	1	25,0	146	51,6	5
17	TP-1-99-81	74,88	78,29	3,41	283	0	30,0	253	86,3	4
18	TP-1-99-81	76,61	78,30	1,69	176	0	26,0	153	48,1	4
19	TP-1-99-81	81,59	85,30	3,71	362	1	32,0	330	103,8	7
20	TP-1-99-81	82,79	87,33	4,54	345	0	33,0	288	40,7	6
21	TP-1-99-81	83,30	85,37	2,07	239	0	28,0	213	66,9	4
22	TP-1-99-81	82,78	89,67	6,89	398	0	34,0	356	67	7
23	TP-1-99-81	75,64	77,52	1,88	190	1	27,0	171	51,9	4
24	TP-1-99-81	74,85	77,54	2,69	270	0	31,0	246	70,8	5
25	TP-1-99-81	76,28	77,09	0,81	114	0	23,0	98	33,4	4
Average				3,43	238,2	0,4	28,2	212,8	65,4	5,2
STDEV				1,88	79,1		3,2	70,0	21,2	1,1
Min				0,81	93,0		21,0	83,0	21,3	4,0
Max				7,52	398,0		34,0	356,0	103,8	8,0

Species:	**Dab (*Limanda limanda*)**	**exped./station**			date	**n**
Length:	20-35cm	TBR-1-99/47	**653506**	**210337**	**8.3.1999**	25
Location:	**Northwest**					
Ship	Brettingur					
Exp.leader:	Jónbjörn Pálsson					
Arrival date/IFL#:	30.05.99/04778-04803					

	expedition station	Weight jar IFL g	Weight jar and liver g	Weight liver g	Weight ungutted fish, g	Sex 0=female 1=male	Length cm	Weight gutted fish, g	Weight fillets g	Age
1	TBR-1-99-47	75,19	82,13	6,94	455	0	33,0	389	124,1	9
2	TBR-1-99-47	75,56	82,88	7,32	378	0	35,0	343	80,8	11
3	TBR-1-99-47	74,93	77,42	2,49	232	1	28,0	216	52,5	x
4	TBR-1-99-47	76,91	78,72	1,81	151	1	24,0	139	30,6	5
5	TBR-1-99-47	75,41	79,21	3,80	239	0	29,0	228	49,4	5
6	TBR-1-99-47	74,82	76,91	2,09	208	0	27,0	196	50,6	10
7	TBR-1-99-47	75,48	77,78	2,30	271	1	31,0	269	63,5	9
8	TBR-1-99-47	77,28	80,86	3,58	228	1	28,0	219	52,2	8
9	TBR-1-99-47	76,69	78,62	1,93	244	0	29,0	234	67,9	5
10	TBR-1-99-47	74,72	79,00	4,28	285	1	31,0	261	79,1	9
11	TBR-1-99-47	74,64	78,31	3,67	332	1	33,0	308	77,7	6
12	TBR-1-99-47	74,56	77,65	3,09	170	0	25,0	159	44,9	6
13	TBR-1-99-47	75,44	80,92	5,48	345	0	31,0	315	71,5	8
14	TBR-1-99-47	75,28	76,55	1,27	107	1	22,0	97	21,4	5
15	TBR-1-99-47	74,91	80,60	5,69	352	0	32,0	315	98,3	7
16	TBR-1-99-47	76,67	81,17	4,50	275	0	30,0	252	77,6	11
17	TBR-1-99-47	75,79	77,20	1,41	102	1	22,0	90	21,4	5
18	TBR-1-99-47	76,84	78,48	1,64	224	1	28,0	211	42,4	8
19	TBR-1-99-47	74,84	82,46	7,62	339	0	32,0	309	85,2	7
20	TBR-1-99-47	77,43	79,79	2,36	207	1	27,0	198	62,6	5
21	TBR-1-99-47	76,46	79,67	3,21	166	0	25,0	153	41,2	5
22	TBR-1-99-47	74,70	80,95	6,25	312	0	31,0	287	59,5	4
23	TBR-1-99-47	77,74	82,75	5,01	327	0	32,0	299	58,9	8
24	TBR-1-99-47	75,05	76,66	1,61	121	1	23,0	115	31,8	8
25	TBR-1-99-47	83,42	84,53	1,11	145	1	24,0	139	27,9	6
Average				3,62	248,6	0,5	28,5	229,6	58,9	7,1
STDEV				2,01	92,0		3,7	80,8	24,7	2,1
Min				1,11	102,0		22,0	90,0	21,4	4,0
Max				7,62	455,0		35,0	389,0	124,1	11,0

Species:	**Dab (*Limanda limanda*)**	**exped./station**			Date	**n**
Length:	20-35cm	TV-1-99-94	**633325**	**201936**	**15.3.1999**	25
Location:	**Southwest**					
Ship:	Vestmannaey					
Exp.leader:	Einar Jónsson					
Arrival date/IFL#:	30.05.99/ 04778-04803					

	expedition station	Weight jar IFL g	Weight jar and liver g	Weight liver g	Weight ungutted fish, g	Sex 0=female 1=male	Length cm	Weight gutted fish, g	Weight fillets g	Age
1	TV-1-99-94	76,54	79,87	3,33	169	0	25,0	156	22,1	6
2	TV-1-99-94	74,92	77,77	2,85	216	0	28,0	201	19	8
3	TV-1-99-94	75,58	78,90	3,32	299	1	29,0	269	21,2	7
4	TV-1-99-94	77,21	79,77	2,56	195	1	27,0	176	38,5	9
5	TV-1-99-94	81,29	82,74	1,45	129	1	23,0	117	25,5	4
6	TV-1-99-94	75,50	79,93	4,43	192	0	27,0	169	35,1	6
7	TV-1-99-94	76,46	81,64	5,18	222	0	27,0	195	42,9	7
8	TV-1-99-94	77,43	79,16	1,73	192	1	28,0	178	32	6
9	TV-1-99-94	75,20	76,39	1,19	106	1	22,0	97	19,9	4
10	TV-1-99-94	76,40	80,48	4,08	124	0	23,0	102	29	5
11	TV-1-99-94	77,31	79,25	1,94	104	0	22,0	89	20,3	6
12	TV-1-99-94	75,44	80,45	5,01	202	0	27,0	200	54	6
13	TV-1-99-94	77,61	82,08	4,47	154	0	24,0	133	32,6	6
14	TV-1-99-94	75,50	77,06	1,56	100	1	22,0	86	21,3	6
15	TV-1-99-94	75,39	77,79	2,40	182	1	26,0	162	38,7	6
16	TV-1-99-94	75,52	80,92	5,40	184	0	26,0	156	34,7	7
17	TV-1-99-94	76,34	77,45	1,11	106	1	23,0	92	26,1	x
18	TV-1-99-94	77,09	79,32	2,23	127	0	24,0	112	29,6	5
19	TV-1-99-94	76,97	79,13	2,16	91	0	21,0	78	18,3	5
20	TV-1-99-94	75,76	79,64	3,88	166	0	26,0	144	36,5	6
21	TV-1-99-94	74,86	76,84	1,98	216	1	27,0	186	48	8
22	TV-1-99-94	74,56	77,97	3,41	152	0	24,0	129	34,6	7
23	TV-1-99-94	76,73	78,76	2,03	90	0	21,0	74	12,7	5
24	TV-1-99-94	74,68	75,74	1,06	82	1	20,0	69	21,6	x
25	TV-1-99-94	76,27	77,26	0,99	87	1	22,0	77	24,7	3
Average				2,79	155,5	0,4	24,6	137,9	29,6	6,0
STDEV				1,38	54,9		2,6	51,4	10,1	1,4
Min				0,99	82,0		20,0	69,0	12,7	3,0
Max				5,40	299,0		29,0	269,0	54,0	9,0

Species:	**Dab (*Limanda limanda*)**	**exped./station**			**date**	**n**
Length:	20-35cm	TJ1-2000/82	633196	203521	**16.3.2000**	25
Location:	**Southwest**					
Ship	Jón Vídalín					
Exp.leader:	Einar Jónsson					
IFL#:	27.03.00/Rf-2000-3212					

	expedition-station	Weight jar IFL g	Weight jar and liver g	Weight liver g	Weight ungutted fish, g	Sex 0=female 1=male	Length cm	Weight gutted fish, g	Weight fillets g	Age
26	TJ1-2000-82	80,23	80,95	0,72	86	1	21,0	77,4	13,4	4
27	TJ1-2000-82	80,32	81,00	0,68	102	1	22,0	91,1	22,6	6
28	TJ1-2000-82	80,07	81,50	1,43	131	1	23,0	110,4	28,7	8
29	TJ1-2000-82	80,08	81,61	1,53	120	1	23,0	102,3	20,3	8
30	TJ1-2000-82	80,11	80,81	0,70	78	1	20,0	69,6	14,6	5
31	TJ1-2000-82	79,67	80,57	0,90	87	1	20,0	79,1	25,2	7
32	TJ1-2000-82	79,47	80,29	0,82	103	1	23,0	94,5	27,7	6
33	TJ1-2000-82	79,91	86,10	6,19	357	0	32,0	314,2	94,9	5
34	TJ1-2000-82	79,13	81,04	1,91	189	1	26,0	174,4	51,7	3
35	TJ1-2000-82	80,16	84,84	4,68	176	0	24,0	151,9	55,2	7
36	TJ1-2000-82	79,98	82,17	2,19	151	1	25,0	132,8	51,6	9
37	TJ1-2000-82	80,27	83,25	2,98	196	1	27,0	168,9	57,5	7
38	TJ1-2000-82	80,30	82,87	2,57	132	1	24,0	119,6	41,4	8
39	TJ1-2000-82	80,43	84,14	3,71	240	1	30,0	217,4	79,6	5
40	TJ1-2000-82	79,82	80,73	0,91	120	1	23,0	109,3	38,9	8
41	TJ1-2000-82	80,36	86,58	6,22	189	0	25,0	155,8	46,5	7
42	TJ1-2000-82	80,52	81,44	0,92	78	1	20,0	70,4	26,0	4
43	TJ1-2000-82	80,04	81,20	1,16	104	1	22,0	94,5	22,6	5
44	TJ1-2000-82	80,07	81,98	1,91	133	1	23,0	118,4	43,5	5
45	TJ1-2000-82	80,21	88,71	8,50	300	0	28,0	249,2	72,3	8
46	TJ1-2000-82	79,25	80,47	1,22	103	1	22,0	87,9	30,1	7
47	TJ1-2000-82	79,18	80,78	1,60	129	1	23,0	105,9	29,3	7
48	TJ1-2000-82	79,47	86,31	6,84	280	1	30,0	241,9	93,0	9
49	TJ1-2000-82	79,37	95,66	16,29	569	0	35,0	486,9	134,6	9
50	TJ1-2000-82	79,53	82,60	3,07	196	1	27,0	175,2	70,3	5
Average				3,19	174,0	0,8	24,7	152,0	47,7	6,5
STDEV				3,50	109,9		3,9	93,8	29,5	1,7
Min				0,68	78,0		20,0	69,6	13,4	3,0
Max				16,29	569,0		35,0	486,9	134,6	9,0

Appendix III

Biological Measurements of Blue Mussel (*Mytilus edulis*) 1998 and 1999

Species:	**Mussel (Mytilus edulis)**	Date of sampling:	**6.8.1998**
Length:	4-6 cm	Sampled by:	Marine Inst.
Location:	**Mjóifjörður I (Botn)**	Date of preparation:	17.1.2000
Coordinates:	651115-140012	IFL#:	RF-2000-834

	Length (mm)	**Width (mm)**	**Height (mm)**	**Total weight (g)**	**Weight soft body (g)**	**Weight shell (g)**
1	55,60	27,00	22,35	17,09	9,30	7,69
2	55,60	26,15	25,25	19,00	10,44	8,54
3	58,25	27,00	20,30	15,55	7,38	8,,09
4	45,55	23,70	17,05	9,62	5,54	4,06
5	51,70	23,60	20,00	13,72	7,80	5,85
6	41,65	20,35	15,30	6,35	3,30	2,93
7	39,60	20,80	13,75	5,51	3,31	2,15
8	52,00	23,60	21,05	13,66	8,13	5,45
9	52,25	26,15	19,80	13,31	7,97	5,31
10	62,20	29,30	23,30	21,35	12,81	8,48
11	42,80	21,30	16,55	7,11	4,44	2,61
12	42,05	20,25	13,65	7,81	4,33	3,44
13	51,75	26,45	22,55	10,26	9,25	6,98
14	56,70	26,40	18,65	14,71	9,15	5,51
15	57,50	24,90	22,45	14,43	6,91	7,47
16	44,60	23,55	17,00	8,48	4,90	3,55
17	51,90	26,70	20,65	13,38	8,41	4,91
18	53,55	25,65	22,40	16,72	9,25	7,41
19	53,60	26,95	22,85	15,06	7,39	7,63
20	61,10	25,80	24,15	23,76	11,68	12,00
21	40,30	40,50	15,95	6,82	3,77	2,95
22	46,70	23,20	17,80	10,22	6,06	4,12
23	54,60	24,80	21,40	15,78	8,34	7,37
24	53,75	26,70	23,45	16,99	9,00	7,80
25	58,60	27,75	20,10	17,66	10,13	7,50
26	44,40	22,70	16,10	7,54	3,79	3,61
27	42,70	21,10	13,80	7,89	4,48	3,43
28	42,00	17,40	17,90	8,00	4,35	3,59
29	46,70	22,30	19,50	12,22	6,17	5,99
30	58,35	26,40	24,60	20,87	9,93	9,89
31	47,10	24,45	13,50	10,67	6,37	4,11
32	48,85	21,70	21,60	12,09	6,68	5,32
33	59,45	26,85	23,80	20,25	11,67	8,49
34	56,25	27,00	23,00	19,17	10,88	8,23
35	60,25	31,15	23,70	23,36	13,80	9,47
36	40,85	19,60	14,75	5,34	3,21	2,11
37	52,35	25,35	20,40	16,17	8,60	7,46
38	53,75	26,10	19,00	15,00	7,71	7,15
39	57,05	24,70	21,60	18,29	9,94	8,30
40	57,55	27,40	22,20	17,92	10,40	7,40
41	45,60	20,55	16,25	7,55	4,39	3,10
42	43,60	20,25	17,10	7,57	4,13	3,40
43	53,10	26,15	13,70	14,32	7,45	6,77
44	54,15	26,40	21,20	14,71	8,43	6,22
45	59,60	29,50	20,95	19,09	10,40	8,64
46	32,85	13,75	14,60	4,56	2,19	2,34
47	42,40	20,40	16,90	7,07	3,83	3,20
48	50,50	24,20	18,10	11,51	7,07	4,27
49	50,35	25,60	17,50	12,07	6,50	5,60
50	57,65	25,25	20,20	14,92	7,80	6,94
	Lenght	**Width**	**Height**	**Total weight**	**Weight soft body**	**Weight shell**
Average	50,83	24,70	19,39	13,25	7,38	5,85
STDEV	6,91	3,96	3,35	5,04	2,77	2,36
Min	32,85	13,75	13,50	4,56	2,19	2,11
Max	62,20	40,50	25,25	23,76	13,80	12,00

Species:	**Mussel (Mytilus edulis)**	Date of sampling:	6.8.1998
Length:	4-6 cm	Sampled by:	Marine Inst.
Location:	**Mjóifjörður II**	Date of preparation:	18.2.2000
Coordinates:	651212-134900	IFL#:	Rf-200-835

	Length (mm)	**Width (mm)**	**Height (mm)**	**Total weight (g)**	**Weight soft body (g)**	**Weight shell (g)**
1	41,90	21,75	13,80	8,46	5,23	3,16
2	45,80	21,30	17,75	8,69	5,31	3,34
3	46,10	27,30	20,55	12,21	7,22	4,93
4	51,20	25,40	19,40	12,76	7,57	5,16
5	50,75	26,45	20,50	11,67	6,01	5,60
6	40,00	20,35	17,25	5,52	3,20	2,27
7	39,55	22,60	17,60	8,73	4,89	3,77
8	45,75	24,35	16,60	8,80	4,61	4,14
9	50,25	24,40	20,45	12,29	7,88	5,38
10	49,00	27,10	19,45	11,25	5,93	5,26
11	41,80	21,85	16,90	7,38	4,40	2,95
12	45,90	22,90	17,65	8,96	5,25	3,60
13	45,45	24,50	18,45	9,51	5,90	3,58
14	47,35	52,20	18,10	10,51	10,35	4,07
15	55,50	28,75	21,15	15,90	9,93	5,94
16	46,60	24,25	18,70	11,10	6,24	4,69
17	45,60	24,20	17,50	9,85	5,98	3,86
18	49,25	23,50	21,55	9,04	4,86	4,11
19	53,65	26,80	22,65	15,08	9,89	5,15
20	51,90	25,55	21,25	13,12	8,71	4,36
21	42,50	22,65	17,90	8,80	5,27	3,47
22	46,35	24,30	20,50	11,76	7,17	4,54
23	46,00	23,25	17,60	9,19	5,53	3,63
24	56,80	26,80	25,30	17,90	11,51	6,34
25	52,80	26,55	20,75	13,21	8,63	4,53
26	41,80	21,70	17,70	7,55	3,71	3,79
27	45,80	24,50	21,00	10,92	6,34	4,53
28	48,40	25,35	20,45	12,22	7,50	4,63
29	49,00	24,55	19,70	9,89	5,82	4,04
30	54,00	30,65	21,00	15,78	10,23	5,51
31	43,85	21,70	20,50	9,74	5,43	4,22
32	43,05	23,40	17,80	8,78	5,17	3,58
33	48,40	26,50	19,35	11,53	6,66	4,84
34	51,10	26,80	21,15	12,87	7,80	4,96
35	51,80	28,35	22,40	14,29	9,17	5,06
36	41,80	22,50	16,20	7,93	4,66	3,23
37	43,75	23,50	13,85	9,52	5,90	3,60
38	46,90	25,35	20,10	12,60	7,28	5,29
39	47,10	23,60	18,50	10,52	6,53	3,93
40	52,35	25,40	20,15	10,88	6,05	4,73
41	41,20	23,00	16,00	7,35	4,59	2,71
42	40,10	21,00	15,00	6,60	3,57	2,99
43	46,60	22,10	18,65	9,13	5,20	3,83
44	45,00	21,75	19,00	9,51	5,63	3,85
45	46,35	23,75	18,00	9,73	6,20	3,50
46	47,90	24,35	20,00	11,10	6,88	4,15
47	48,50	23,00	18,65	11,86	6,75	5,05
48	53,10	26,60	23,90	16,48	10,36	6,06
49	52,80	28,15	20,00	14,02	8,62	5,32
50	47,50	23,50	13,65	8,54	4,57	3,94
	Length	**Width**	**Height**	**Total weight**	**Weight soft body**	**Weight shell**
Average	47,32	25,00	19,04	10,82	6,56	4,30
STDEV	4,24	4,51	2,41	2,66	1,95	0,91
Min	39,55	20,35	13,65	5,52	3,20	2,27
Max	56,80	52,20	25,30	17,90	11,51	6,34

Species:	**Mussel (Mytilus edulis)**	Date of sampling:	6.8.1998
Length:	4-6 cm	Sampled by:	Marine Inst.
Location:	**Mjóifjörður III (Dalatangi)**	Date of preparation:	18.1.2000
Coordinates:	651612-133430	IFL#:	Rf-2000-836

	Length (mm)	**Width (mm)**	**Height (mm)**	**Total weight (g)**	**Weight soft body (g)**	**Weight shell (g)**
1	41,05	21,90	18,85	9,46	4,84	4,56
2	41,70	22,25	12,75	9,88	4,79	5,03
3	43,60	19,96	12,05	8,54	4,61	3,76
4	48,15	24,10	18,55	14,86	5,93	5,85
5	52,00	23,50	21,15	14,85	6,85	7,93
6	40,85	19,80	10,65	6,48	3,21	3,22
7	42,40	22,95	11,50	8,24	4,49	3,68
8	47,50	24,10	19,85	11,79	6,15	5,22
9	46,85	21,60	20,75	13,25	6,26	6,86
10	49,60	20,90	22,55	13,91	7,88	5,88
11	48,90	21,80	18,60	11,52	6,26	5,21
12	49,40	20,30	20,80	12,96	6,53	6,33
13	49,70	20,35	23,30	14,86	7,79	6,90
14	51,10	23,30	21,90	17,99	9,84	8,13
15	46,10	25,00	22,10	15,42	8,99	6,39
16	41,80	20,15	18,25	8,74	4,73	3,94
17	44,85	21,90	19,65	11,66	5,72	5,61
18	47,10	23,10	20,70	14,41	7,34	7,02
19	42,15	20,30	19,00	8,14	3,41	4,71
20	49,15	24,90	19,90	11,51	6,42	5,00
21	45,10	21,70	18,45	9,85	4,93	4,82
22	45,70	22,65	19,60	14,61	5,46	6,10
23	46,65	24,00	11,30	9,32	5,02	3,96
24	51,30	24,95	21,15	16,71	9,03	6,84
25	54,55	21,75	19,80	14,45	8,43	6,00
26	41,90	12,75	19,10	9,69	4,72	4,85
27	42,90	25,50	19,20	12,50	7,09	5,40
28	51,65	24,00	19,10	14,48	7,67	6,70
29	56,30	25,90	21,50	18,16	9,94	8,19
30	54,55	25,60	22,40	18,90	10,18	8,64
31	41,05	21,15	15,00	7,34	3,94	3,32
32	44,00	21,05	20,15	11,05	5,39	5,59
33	47,00	19,45	21,00	12,29	5,55	6,63
34	49,65	22,70	19,00	12,96	6,65	6,26
35	54,60	22,10	22,90	17,62	9,41	8,15
36	42,65	19,30	13,45	10,08	4,83	5,17
37	41,55	22,10	11,40	8,42	4,14	4,14
38	44,40	22,60	11,50	9,54	5,1	4,34
39	49,95	26,40	19,00	13,73	7,39	6,29
40	51,40	25,40	23,65	19,45	10,41	8,96
41	41,00	18,05	15,55	6,97	3,33	3,48
42	45,70	20,40	18,20	8,91	4,01	4,83
43	47,70	25,20	12,95	10,51	6,16	4,26
44	47,50	22,55	20,40	10,72	6,03	4,62
45	45,50	20,85	18,35	10,13	4,89	5,14
46	46,95	21,25	13,50	11,41	6,05	5,25
47	44,90	20,40	19,40	10,22	5,24	4,97
48	44,55	21,50	12,75	8,87	4,82	4,00
49	52,50	23,70	23,70	18,23	8,30	9,79
50	48,50	23,10	22,40	13,19	7,27	5,81
	Length	**Width**	**Height**	**Total weight**	**Weight soft body**	**Weight shell**
Average	46,91	22,20	18,37	12,18	6,27	5,67
STDEV	4,11	2,39	3,78	3,36	1,89	1,55
Min	40,85	12,75	10,65	6,48	3,21	3,22
Max	56,30	26,40	23,70	19,45	10,41	9,79

Species:	**Mussel (Mytilus edulis)**	Date of sampling:	**August 1998**
Length:	4-6 cm	Sampled by:	Marine Inst.
Location:	**Grímsey**	Date of preparation:	28.1.2000
Coordinates:	663400-180170	IFL#:	Rf-2000-833

	Length (mm)	**Width (mm)**	**Height (mm)**	**Total weight (g)**	**Weight soft body (g)**	**Weight shell (g)**
1	44,50	21,10	9,95	7,27	4,01	3,15
2	46,40	21,60	18,70	10,59	4,54	5,95
3	43,50	23,40	11,10	7,98	4,12	3,84
4	48,20	24,20	21,20	13,01	6,80	6,16
5	44,40	23,30	15,45	8,23	4,89	3,28
6	41,30	19,00	14,20	4,77	3,16	2,54
7	42,85	20,80	11,40	9,27	4,34	4,91
8	44,85	22,50	13,00	9,96	5,72	4,18
9	46,90	23,70	13,35	9,68	5,09	4,56
10	43,30	19,30	16,40	6,14	2,31	3,77
11	40,10	20,10	14,80	6,30	3,82	2,42
12	41,30	20,70	16,00	7,14	4,23	2,86
13	46,00	21,10	20,30	8,92	4,82	4,05
14	45,50	24 ,1	12,70	8, 85	4,41	4,42
15	46,80	25,10	20,60	13,15	7,18	5,91
16	42,30	21,50	11,80	7,82	4,35	3,37
17	48,40	22,50	20,50	14,70	6,10	8,60
18	48,10	25,50	12,10	9,49	4,78	4,61
19	49,70	26,50	19,15	13,21	7,31	5,92
20	52,80	25,30	20,85	13,39	7,08	6,27
21	44,90	23,15	21,00	14,20	5,81	8,36
22	47,50	23,40	11,90	8,55	4,09	4,43
23	49,10	23,60	22,20	14,74	7,17	7,51
24	52,15	21,75	24,35	15,74	6,51	9,13
25	59,50	29,60	25,30	22,32	12,39	9,84
26	40,60	20,00	15,10	4,92	2,41	2,46
27	40,00	22,60	13,10	6,98	2,74	4,22
28	43,40	21,10	16,00	7,45	4,24	3,17
29	45,40	22,80	12,30	8,92	5,04	3,75
30	44,25	20,70	12,00	8,41	4,68	3,68
31	50,00	25,50	19,80	12,58	6,78	5,71
32	44,20	22,80	16,50	7,49	3,81	3,65
33	42,20	20,70	15,50	6,68	3,89	2,77
34	43,85	21,60	17,00	7,28	3,72	3,50
35	40,30	20,10	11,40	6,19	2,82	3,33
36	43,40	21,70	18,10	7,55	3,74	3,74
37	42,80	21,80	12,10	8,80	3,35	5,39
38	42,25	24,00	19,30	11,63	5,46	6,15
39	43,20	21,30	11,80	6,28	3,24	3,02
40	49,20	23,50	13,25	11,65	6,22	5,40
41	42,25	22,30	15,70	6,32	3,42	2,84
42	42,35	21,50	12,40	10,29	4,81	5,34
43	43,60	23,50	11,50	8,34	4,61	3,71
44	40,30	21,10	19,90	9,59	3,79	5,73
45	47,80	25,00	20,15	12,06	6,96	5,00
46	47,40	22,10	18,50	9,72	4,97	4,72
47	59,80	24,15	24,60	20,10	8,11	11,95
48	52,70	24,25	20,30	12,54	6,40	6,10
49	51,75	23,15	20,25	15,17	5,87	9,12
50	50,04	24,10	13,00	10,25	4,48	5,66
	Length	**Width**	**Height**	**Total weight**	**Weight soft body**	**Weight shell**
Average	45,87	22,65	16,36	10,08	5,01	5,00
STDEV	4,48	2,01	4,11	3,68	1,77	2,10
Min	40,00	19,00	9,95	4,77	2,31	2,42
Max	59,80	29,60	25,30	22,32	12,39	11,95

Species:	**Mussel (Mytilus edulis)**	Date of sampling:	24.8.1998
Length:	4-6 cm	Sampled by:	Marine Inst.
Location:	**Vestmannaeyjar (Klettshelli)**	Date of preparation:	28.1.2000
Coordinates:	632700-201496	IFL#:	Rf-2000-837

	Length (mm)	**Width (mm)**	**Height (mm)**	**Total weight (g)**	**Weight soft body (g)**	**Weight shell (g)**
1	60,00	31,60	25,15	25,73	15,89	9,70
2	41,50	20,50	13,25	7,66	3,34	4,19
3	43,50	24,45	11,60	9,84	5,89	3,84
4	50,09	23,75	23,00	13,51	8,03	5,12
5	52,65	26,65	20,80	13,38	8,53	4,71
6	45,25	24,30	18,75	8,92	4,05	4,76
7	43,75	20,30	20,50	11,67	6,52	5,05
8	44,20	23,10	12,80	8,90	4,59	4,07
9	43,00	21,15	12,40	6,09	2,55	3,54
10	44,60	22,00	19,60	8,20	4,36	3,76
11	45,00	22,95	20,00	10,72	6,52	4,16
12	41,50	22,40	12,20	6,58	2,81	3,67
13	43,85	28,90	13,10	10,20	5,76	4,34
14	44,25	21,60	21,10	10,95	6,32	4,45
15	47,70	25,60	20,95	13,10	7,61	5,46
16	51,30	29,60	26,50	16,77	8,91	7,66
17	42,65	22,70	26,00	14,72	7,18	7,37
18	51,00	22,40	21,80	14,33	8,61	5,58
19	50,20	24,80	20,40	15,34	9,22	6,10
20	48,30	24,85	20,00	9,55	4,93	4,54
21	51,80	28,65	24,50	15,41	7,66	7,72
22	43,25	24,70	19,25	10,25	6,31	3,79
23	50,90	22,25	21,10	14,19	9,24	4,84
24	42,20	23,50	21,25	11,90	6,91	4,87
25	46,70	20,90	29,00	17,50	8,88	8,53
26	53,60	26,10	22,80	16,56	9,30	7,06
27	44,10	26,10	19,00	9,94	6,19	3,66
28	45,85	22,60	20,00	8,56	3,92	4,58
29	49,15	23,70	20,75	12,45	7,17	5,16
30	50,90	22,90	23,10	13,40	6,11	7,18
31	47,30	24,80	20,10	12,90	7,18	5,66
32	40,55	20,00	19,35	7,71	4,44	3,18
33	51,00	21,20	22,00	10,65	5,00	5,49
34	60,00	31,40	27,70	26,82	16,38	10,32
35	50,00	20,20	26,70	17,91	9,01	8,79
36	48,50	24,10	22,10	12,08	5,79	6,29
37	42,50	21,40	19,65	19,13	4,02	5,06
38	49,35	25,50	22,10	14,65	9,73	4,85
39	53,35	25,00	29,50	27,24	13,19	13,97
40	59,45	27,60	28,60	25,80	14,70	10,06
41	56,55	24,50	33,30	29,91	16,81	13,02
42	54,10	30,40	20,50	18,79	10,19	8,47
43	54,20	28,35	24,85	21,48	12,76	8,64
44	53,20	30,50	22,50	16,16	9,67	6,42
45	51,50	23,70	23,10	13,28	6,45	6,79
46	54,60	24,10	30,90	26,84	14,10	12,67
47	58,00	34,30	21,10	21,07	12,45	8,52
48	58,00	27,30	25,10	20,29	12,32	7,80
49	57,70	26,80	27,70	19,52	8,65	10,86
50	50,20	24,80	30,40	26,99	7,95	18,99
	Length	**Width**	**Height**	**Total weight**	**Weight soft body**	**Weight shell**
Average	49,26	24,82	21,96	15,11	8,08	6,71
STDEV	5,43	3,30	4,95	6,17	3,55	3,17
Min	40,55	20,00	11,60	6,09	2,55	3,18
Max	60,00	34,30	33,30	29,91	16,81	18,99

Species:	**Mussel (Mytilus edulis)**	Date of sampling:	**13.8.1998**
Length:	4-6 cm	Sampled by:	Marine Inst.
Location:	**Hvaleyri**	Date of preparation:	3.2.2000
Coordinates:	642050-214390	IFL#:	Rf-2000-1056

	Length (mm)	**Width (mm)**	**Height (mm)**	**Total weight (g)**	**Weight soft body (g)**	**Weight shell (g)**
1	40,00	18,70	11,60	6,39	3,55	2,78
2	40,06	19,55	11,70	6,80	3,65	3,08
3	47,60	20,00	21,60	13,07	6,36	6,55
4	49,90	23,4	19,90	12,78	7,37	5,13
5	51,30	25,10	24,70	21,98	10,93	10,88
6	59,75	29,40	21,60	26,66	14,77	11,39
7	44,85	22,20	12,65	8,02	4,77	3,13
8	49,25	24,45	20,35	12,71	7,37	5,16
9	45,10	23,00	19,90	11,88	6,75	5,07
10	51,30	26,60	22,10	16,41	10,15	6,15
11	44,45	22,60	10,80	7,44	3,86	3,49
12	44,30	23,60	13,50	9,19	5,15	3,99
13	60,00	23,25	23,00	20,72	12,56	8,09
14	55,20	22,90	26,30	23,11	12,53	10,43
15	53,30	23,40	20,30	14,50	8,52	5,73
16	42,65	19,10	12,10	6,99	3,57	3,31
17	42,80	19,45	11,20	6,98	4,30	2,63
18	40,30	19,45	14,60	6,59	3,76	5,45
19	40,30	19,00	11,20	6,29	3,55	2,64
20	51,35	24,60	24,30	14,27	8,55	5,67
21	42,15	21,15	12,60	8,23	4,74	3,43
22	52,50	24,00	22,00	15,87	8,23	7,47
23	52,50	21,80	20,50	12,44	7,00	5,37
24	55,80	21,00	22,25	16,85	9,23	7,46
25	40,00	13,00	15,10	4,82	2,61	2,17
26	44,40	21,80	11,25	7,85	4,56	3,25
27	43,40	22,30	11,30	8,55	4,52	4,00
28	53,50	25,80	24,00	21,90	11,75	10,07
29	60,00	24,70	23,85	19,08	11,16	7,92
30	56,40	21,60	23,25	18,46	11,49	6,88
31	40,70	12,70	12,00	7,47	3,55	3,78
32	54,60	24,00	22,80	16,15	9,34	6,77
33	41,70	13,60	15,,7	6,34	3,69	2,55
34	45,10	21,80	19,00	8,43	5,07	3,30
35	60,00	28,00	25,15	24,29	12,86	10,99
36	41,40	19,40	13,20	9,08	4,43	4,60
37	40,20	12,90	11,15	6,77	3,70	3,02
38	44,40	22,10	12,50	9,24	5,29	3,91
39	53,30	25,20	21,10	13,39	7,91	5,46
40	47,30	23,70	13,70	9,63	4,82	4,73
41	47,00	22,70	13,00	11,65	5,81	5,62
42	42,60	20,90	18,10	7,60	3,91	3,66
43	40,15	16,60	15,50	6,15	3,53	2,59
44	41,80	18,45	16,20	7,28	3,98	3,23
45	40,20	19,20	15,50	6,51	3,52	2,88
46	46,85	22,85	18,85	10,76	6,20	4,42
47	41,20	19,30	19,20	7,55	4,36	3,14
48	44,00	19,45	15,55	7,41	4,15	3,17
49	40,55	19,40	16,25	7,88	4,02	3,78
50	40,90	20,60	17,35	7,96	4,39	3,46
	Length	**Width**	**Height**	**Total weight**	**Weight soft body**	**Weight shell**
Average	46,97	21,40	17,46	11,57	6,44	5,08
STDEV	6,34	3,57	4,79	5,61	3,16	2,45
Min	40,00	12,70	10,80	4,82	2,61	2,17
Max	60,00	29,40	26,30	26,66	14,77	11,39

Species:	**Mussel (Mytilus edulis)**	Date of sampling:	14.8.1998
Length:	4-6 cm	Sampled by:	Marine Inst.
Location:	**Hvalstöð**	Date of preparation:	4.2.2000
Coordinates:	642375-212670	IFL#:	Rf-2000-1054

	Length (mm)	**Width (mm)**	**Height (mm)**	**Total weight (g)**	**Weight soft body (g)**	**Weight shell (g)**
1	43,20	19,85	12,00	8,03	4,59	3,38
2	44,35	19,90	16,45	8,31	4,75	3,51
3	52,30	25,25	23,60	18,39	9,25	9,06
4	52,50	23,00	24,90	18,40	9,33	9,03
5	43,00	19,05	13,10	7,74	3,93	3,77
6	43,10	20,00	19,50	9,79	4,88	4,83
7	49,75	22,50	18,75	10,76	4,46	6,26
8	50,45	22,90	21,25	13,68	7,82	5,80
9	49,50	24,20	20,15	10,85	5,04	5,74
10	56,75	26,00	24,80	22,00	11,56	10,37
11	41,50	19,20	14,75	6,52	3,70	2,76
12	45,90	22,00	17,80	9,90	5,49	4,33
13	52,25	28,00	18,85	12,93	7,03	5,87
14	53,05	24,00	21,65	15,00	8,80	6,18
15	54,40	25,65	24,80	19,11	10,55	8,53
16	43,85	20,65	17,25	8,18	4,79	3,35
17	44,15	20,90	20,40	11,13	5,80	5,29
18	47,20	20,40	18,50	9,57	5,83	3,74
19	49,50	24,25	18,55	12,87	6,93	5,92
20	50,20	21,65	22,90	14,70	7,74	6,92
21	46,50	20,60	16,70	8,53	4,96	3,52
22	47,55	23,00	20,30	12,60	6,69	5,82
23	53,60	24,70	25,75	17,30	9,69	7,47
24	52,50	25,25	25,35	19,39	10,60	8,77
25	58,50	28,00	27,50	25,96	13,48	12,40
26	49,00	24,50	22,80	14,28	7,10	7,07
27	49,00	23,90	19,25	12,61	6,50	6,00
28	50,00	24,00	19,55	12,85	7,20	5,62
29	54,75	23,75	23,25	19,14	10,15	8,95
30	55,15	27,30	23,00	18,52	11,42	7,04
31	45,00	20,60	19,50	10,60	5,40	5,13
32	47,40	21,20	18,80	9,36	4,91	4,41
33	53,90	25,75	20,45	16,17	8,41	7,16
34	54,85	26,30	22,15	14,99	7,91	7,04
35	55,00	26,00	24,50	20,33	10,26	10,01
36	53,35	25,75	24,90	18,91	9,89	8,95
37	42,70	20,15	17,25	8,70	4,61	4,05
38	46,70	20,80	18,70	9,33	5,81	3,48
39	48,40	24,65	22,50	14,46	7,18	7,27
40	52,40	22,70	21,15	13,93	7,83	6,08
41	54,20	24,80	22,30	16,92	9,37	7,51
42	43,60	20,50	19,20	8,42	4,42	3,96
43	47,70	22,50	19,50	10,57	5,78	4,75
44	43,75	21,00	17,10	7,49	3,38	4,09
45	41,40	18,60	16,00	5,89	3,38	2,48
46	45,00	21,65	13,50	9,98	5,75	4,22
47	47,90	22,20	20,20	11,76	5,98	5,23
48	54,85	21,75	20,80	13,14	7,85	5,27
49	55,90	27,15	24,80	19,16	11,28	7,75
50	54,30	25,10	20,75	16,47	9,14	7,79
	Length	**Width**	**Height**	**Total weight**	**Weight soft body**	**Weight shell**
Average	49,44	23,07	20,35	13,31	7,17	6,08
STDEV	4,61	2,51	3,45	4,57	2,48	2,19
Min	41,40	18,60	12,00	5,89	3,38	2,48
Max	58,50	28,00	27,50	25,96	13,48	12,40

Species:	**Mussel (Mytilus edulis)**	Date of sampling:	**13.8.1998**
Length:	4-6 cm	Sampled by:	Marine Inst.
Location:	**Hvítanes**	Date of preparation:	15.2.2000
Coordinates:	642185-212970	IFL#:	Rf-2000-1057

	Length (mm)	**Width (mm)**	**Height (mm)**	**Total weight (g)**	**Weight soft body (g)**	**Weight shell (g)**
1	43,00	20,75	15,55	6,33	3,55	2,75
2	42,30	20,90	13,10	7,74	5,11	2,58
3	44,60	20,35	16,00	5,89	3,15	2,71
4	43,40	20,10	17,40	6,68	4,09	2,55
5	52,35	21,80	19,20	13,32	6,28	4,99
6	45,85	20,00	16,50	7,31	4,44	2,86
7	47,25	19,15	17,75	8,65	5,33	3,31
8	44,00	20,00	17,70	8,49	5,34	3,12
9	57,65	22,10	19,55	12,52	6,79	5,70
10	53,15	27,65	21,80	16,87	10,01	6,84
11	42,30	19,40	15,50	5,61	3,35	2,22
12	42,10	13,65	16,00	5,94	3,55	2,40
13	44,30	20,25	16,50	7,90	4,19	3,69
14	46,50	22,00	18,25	9,58	5,66	3,91
15	54,80	23,65	21,40	16,35	10,27	6,05
16	40,00	17,75	14,40	4,76	2,53	2,20
17	40,02	13,50	13,40	5,08	3,19	1,86
18	43,60	19,65	15,50	6,20	3,99	2,18
19	48,30	21,50	20,50	10,06	6,59	3,43
20	49,70	21,75	19,60	11,56	7,33	4,19
21	43,50	20,15	14,60	6,02	4,09	1,88
22	44,00	18,75	16,50	6,46	4,06	2,33
23	47,65	22,60	19,65	10,92	6,77	4,12
24	59,75	26,50	26,00	21,68	13,62	8,01
25	59,50	27,00	23,25	13,42	6,58	6,78
26	42,70	20,50	17,15	7,41	4,10	3,27
27	40,00	13,25	16,10	5,36	3,39	1,93
28	51,70	23,00	21,20	14,36	8,44	5,89
29	54,90	23,90	21,30	14,29	9,28	4,98
30	59,00	25,10	21,85	16,35	9,03	7,29
31	40,90	18,85	15,20	6,14	3,92	2,14
32	45,85	20,30	16,70	7,33	4,55	2,73
33	43,10	18,10	17,50	6,96	4,59	2,31
34	41,90	19,45	15,75	7,20	4,20	2,99
35	41,20	18,70	19,65	8,55	5,13	3,37
36	50,70	23,00	20,00	11,47	6,89	4,42
37	46,50	21,60	16,70	8,65	5,31	3,32
38	42,00	18,50	16,55	5,91	3,73	2,14
39	52,20	23,60	19,40	10,24	5,77	4,42
40	57,40	25,30	23,20	15,48	9,92	5,48
41	41,30	18,15	14,00	5,59	3,34	2,24
42	42,50	19,00	17,30	6,92	4,00	2,88
43	44,60	19,35	17,20	7,75	4,89	2,79
44	42,25	20,15	14,45	5,74	3,79	1,89
45	43,00	19,85	17,15	8,53	5,22	3,27
46	50,80	22,70	19,20	11,61	7,34	4,21
47	52,65	22,10	21,70	10,56	5,89	4,66
48	56,00	27,65	22,10	18,96	11,08	7,80
49	47,10	21,00	18,90	9,03	5,91	3,11
50	43,65	20,25	15,75	6,87	4,16	2,66
	Length	**Width**	**Height**	**Total weight**	**Weight soft body**	**Weight shell**
Average	47,07	20,89	18,03	9,45	5,67	3,70
STDEV	5,78	3,11	2,85	3,99	2,39	1,65
Min	40,00	13,25	13,10	4,76	2,53	1,86
Max	59,75	27,65	26,00	21,68	13,62	8,01

Species:	**Mussel (Mytilus edulis)**	Date of sampling:	**12.8.1998**
Length:	4-6 cm	Sampled by:	Marine Inst.
Location:	**Straumsvík**	Date of preparation:	3.2.2000
Coordinates:	640260-220250	IFL#:	Rf-2000-1055

	Length (mm)	**Width (mm)**	**Height (mm)**	**Total weight (g)**	**Weight soft body (g)**	**Weight shell (g)**
1	47,40	22,40	22,20	13,88	7,50	6,01
2	52,65	23,45	18,30	11,43	6,33	5,00
3	46,50	20,35	18,70	9,92	5,70	4,19
4	53,80	24,80	22,10	15,65	9,40	6,00
5	59,10	20,90	23,75	16,32	9,06	7,15
6	48,80	22,30	18,60	10,95	6,58	4,34
7	50,30	23,00	19,60	10,07	5,34	4,66
8	49,30	22,00	19,20	10,30	6,29	3,97
9	49,10	24,20	21,30	13,81	7,89	5,86
10	47,80	22,40	19,60	11,81	6,71	5,07
11	59,65	24,90	23,70	20,35	10,94	9,33
12	54,40	24,25	22,90	15,97	9,63	5,84
13	46,70	22,00	18,45	7,93	3,96	3,94
14	53,65	24,00	21,70	15,06	8,95	6,03
15	49,10	24,55	19,00	11,12	7,13	3,95
16	54,00	23,90	22,60	15,37	9,11	6,18
17	46,40	23,10	19,30	10,74	6,24	4,48
18	48,45	24,00	18,50	11,08	6,56	4,41
19	56,70	25,70	23,75	18,39	10,28	8,06
20	56,85	23,30	23,00	14,49	8,05	6,41
21	41,20	20,90	16,40	7,26	4,15	3,06
22	49,15	22,45	18,10	9,73	5,52	4,17
23	50,55	20,15	21,20	11,80	6,94	4,81
24	53,70	23,10	20,70	13,76	8,00	5,67
25	56,50	26,30	20,70	15,72	8,73	6,88
26	43,30	21,20	18,00	7,50	4,27	3,16
27	53,70	24,70	23,80	16,85	10,06	6,64
28	52,70	22,90	22,90	12,21	6,19	6,00
29	52,60	24,90	21,25	15,10	9,07	5,97
30	55,30	26,10	20,20	14,23	8,64	5,55
31	48,15	21,50	21,30	11,17	7,11	4,02
32	43,00	21,10	18,60	9,25	5,37	3,82
33	44,70	22,70	17,00	9,16	5,44	3,69
34	48,60	18,70	19,65	10,20	6,05	4,10
35	55,20	25,90	23,70	19,45	10,47	8,89
36	43,00	13,10	12,70	7,67	4,63	2,94
37	44,70	20,30	13,50	9,45	5,36	4,05
38	45,10	18,80	12,20	7,61	4,5	3,07
39	47,70	22,50	19,30	10,54	5,63	4,85
40	57,00	25,00	22,90	20,08	10,38	9,64
41	51,00	24,60	24,50	16,92	9,78	11,00
42	43,30	23,55	18,80	17,65	10,26	7,07
43	42,80	22,00	18,80	9,57	5,45	4,06
44	42,80	19,70	15,50	6,84	3,56	3,22
45	48,20	21,80	17,20	8,95	5,45	3,30
46	55,00	24,70	24,80	10,25	6,06	4,02
47	44,45	20,75	17,20	8,38	4,47	3,59
48	51,20	23,70	23,05	16,50	8,28	8,01
49	44,30	20,00	19,25	8,18	3,29	4,46
50	45,10	20,35	18,60	7,46	3,57	3,65
	Length	**Width**	**Height**	**Total weight**	**Weight soft body**	**Weight shell**
Average	49,69	22,58	19,96	12,28	6,97	5,28
STDEV	4,85	2,36	2,95	3,72	2,13	1,86
Min	41,20	13,10	12,20	6,84	3,29	2,94
Max	59,65	26,30	24,80	20,35	10,94	11,00

Species:	**Mussel (Mytilus edulis)**	Date of sampling:	**12.8.1998**
Length:	4-6 cm	Sampled by:	Marine Inst.
Location:	**Hvassahraun**	Date of preparation:	2.3.2000
Coordinates:	640125-220900	IFL#:	Rf-2000-1058

	Length (mm)	**Width (mm)**	**Height (mm)**	**Total weight (g)**	**Weight soft body (g)**	**Weight shell (g)**
1	43,20	21,25	17,10	6,20	3,88	2,29
2	42,15	20,60	15,80	7,22	4,33	2,83
3	48,55	22,80	19,00	10,83	6,08	4,71
4	49,35	24,00	21,00	14,46	7,33	7,09
5	57,10	28,10	24,60	21,18	11,45	9,59
6	55,25	27,70	24,55	19,88	10,46	9,37
7	58,00	26,80	24,00	19,43	11,00	8,36
8	40,75	21,90	15,70	7,72	4,09	3,61
9	49,30	25,35	19,85	13,19	7,55	5,58
10	50,00	25,35	23,45	15,57	8,84	6,68
11	55,00	27,50	23,10	17,72	9,77	7,90
12	60,00	25,30	26,50	24,55	12,47	12,03
13	41,15	21,65	17,30	8,23	4,59	3,59
14	47,30	22,85	20,40	10,82	6,37	4,41
15	47,65	24,00	18,30	10,45	5,32	5,09
16	48,00	23,20	22,10	12,75	7,02	5,64
17	49,35	25,80	20,50	14,27	8,04	6,19
18	50,90	25,35	25,00	13,90	7,58	6,28
19	58,50	26,00	27,40	26,31	13,98	12,27
20	60,00	28,40	25,25	24,22	14,44	9,75
21	65,00	29,25	27,35	30,76	18,72	11,99
22	43,90	21,25	17,65	8,55	4,62	3,89
23	47,10	22,40	17,50	9,32	4,90	4,37
24	40,10	22,75	16,20	8,00	4,41	3,54
25	47,75	21,35	19,15	10,60	5,81	4,69
26	47,70	24,35	17,50	11,08	5,73	5,29
27	53,65	25,65	21,25	15,95	9,21	6,68
28	51,60	26,15	22,15	16,52	9,04	7,45
29	54,65	26,75	22,60	20,23	9,66	10,50

	Length	**Width**	**Height**	**Total weight**	**Weight soft body**	**Weight shell**
Meðaltal	50,45	24,61	21,11	14,82	8,16	6,61
Staðalfrávik	6,39	2,44	3,56	6,36	3,61	2,86
Min	40,10	20,60	15,70	6,20	3,88	2,29
Max	65,00	29,25	27,40	30,76	18,72	12,27

Species:	**Mussel (*Mytilus edulis*)**	Date of sampling:	**13.8.1999**
Length:	4-6cm	Sampled by:	Marine Inst.
Location:	**Mjóifjörður I (Botn)**	Date of preparaion	14.8.2000
Coodinates:	651115-140012	IFL#:	Rf-2000-7765

	Length (mm)	**Width (mm)**	**Height (mm)**	**Total weight (g)**	**Weight soft body (g)**	**Weight shell (g)**
1	43,50	22,90	14,10	6,73	3,75	2,87
2	43,70	25,00	16,80	8,00	4,66	3,16
3	50,50	24,80	20,30	12,35	6,09	6,14
4	55,60	25,00	19,80	12,08	7,72	4,29
5	59,40	27,70	22,85	18,69	9,67	8,95
6	50,30	27,40	18,80	13,36	7,00	6,30
7	50,60	28,50	18,90	11,73	6,77	4,89
8	54,60	26,45	18,75	13,45	8,30	5,04
9	55,60	24,60	20,55	13,99	7,86	6,11
10	62,60	28,00	23,90	22,84	13,05	9,61
11	48,85	24,00	18,75	9,50	4,78	4,67
12	45,15	22,85	15,80	6,62	3,49	3,00
13	43,00	23,85	12,95	11,88	6,62	5,16
14	51,10	23,50	21,15	9,22	5,54	3,67
15	40,00	20,50	14,70	4,70	2,67	2,00
16	49,45	24,15	18,70	10,97	5,95	4,90
17	46,90	23,20	16,55	8,63	5,10	3,52
18	48,35	24,20	18,25	10,17	6,00	4,15
19	55,40	24,10	20,85	15,56	8,22	8,62
20	58,90	31,45	23,75	20,65	12,31	8,21
21	52,85	25,40	19,20	12,25	7,69	4,46
22	58,05	22,80	21,55	13,54	7,37	6,11
23	53,01	26,80	21,55	14,22	8,75	5,39
24	58,08	29,00	24,80	19,25	11,86	7,26
25	54,80	25,30	19,95	14,90	8,30	6,53
26	59,75	29,50	24,90	22,99	11,36	11,40
27	48,55	24,40	20,65	11,63	7,12	4,46
28	56,15	28,20	24,10	18,50	11,02	7,39
29	46,40	23,40	12,40	8,55	5,36	3,12
30	58,70	28,90	22,35	18,64	10,97	7,51
31	58,80	26,55	24,60	18,59	11,51	6,90
32	50,75	24,35	16,30	10,64	6,13	4,46
33	49,35	24,75	16,70	9,43	5,88	3,50
34	50,15	24,45	16,80	9,55	5,14	4,36
35	51,70	26,65	19,95	13,59	7,68	5,74
36	59,95	26,40	24,10	18,75	9,39	9,23
37	60,00	27,75	22,80	19,73	11,53	8,11
38	48,60	23,60	18,40	10,37	6,15	4,11
39	45,55	23,00	19,50	10,08	5,09	4,78
40	57,70	27,40	23,45	18,04	10,56	7,09
41	57,20	28,60	22,60	20,10	10,73	9,33
42	48,70	24,00	13,10	10,41	6,31	4,01
43	55,70	24,75	21,60	14,84	8,16	6,65
44	45,70	17,60	21,50	10,09	4,99	5,06
45	49,70	24,60	19,10	11,38	6,34	4,96
46	49,75	25,60	21,60	13,60	8,12	5,42
47	58,70	27,60	22,20	17,47	9,68	7,64
48	48,90	23,50	18,80	11,95	6,28	5,62
49	48,40	25,10	21,00	13,16	6,98	6,07
50	60,00	28,50	22,10	17,91	9,85	7,95
	Length	**Width**	**Height**	**Total weight**	**Weight soft body**	**Weight shell**
Average	52,30	25,41	19,88	13,51	7,64	5,80
STDEV	5,50	2,47	3,21	4,39	2,50	2,04
Min	40,00	17,60	12,40	4,70	2,67	2,00
Max	62,60	31,45	24,90	22,99	13,05	11,40

Species:	**Mussel (*Mytilus edulis*)**	Date of sampling:	**12.8.1999**
Length:	4-6 cm	Sampled by:	Marine Inst.
Location:	**Mjóifjörður II**	Date of preparaion:	15.8.2000
Coodinates:	651212-134900	IFL#:	Rf-2000-7767

	Length (mm)	**Width (mm)**	**Height (mm)**	**Total weight (g)**	**Weight soft body (g)**	**Weight shell (g)**
1	51,00	28,50	20,50	14,81	8,85	5,87
2	48,70	21,00	19,60	12,17	7,60	4,55
3	46,80	26,70	20,60	12,60	7,40	5,09
4	46,10	22,25	17,60	9,24	5,30	3,77
5	48,00	24,70	20,00	11,26	6,26	4,92
6	47,90	27,25	18,50	11,61	6,74	4,77
7	52,50	28,50	20,60	14,55	8,48	6,05
8	53,80	28,60	22,30	16,96	10,28	6,57
9	50,50	25,50	19,65	12,55	7,77	4,72
10	50,70	26,40	23,10	15,53	9,81	5,63
11	47,75	21,80	17,90	9,54	5,55	3,98
12	43,40	22,40	17,20	8,39	5,04	3,33
13	50,00	26,60	21,00	13,05	7,66	5,33
14	54,50	29,00	22,40	18,16	10,30	7,82
15	47,60	25,80	19,10	10,94	6,37	4,54
16	58,15	29,60	25,25	20,14	10,96	8,86
17	46,10	23,60	17,20	9,50	5,14	4,32
18	45,50	23,70	17,50	9,60	5,56	3,97
19	47,80	27,30	13,50	12,20	6,96	5,21
20	57,50	28,00	23,00	18,55	11,49	6,74
21	47,60	24,50	19,80	11,56	7,00	4,50
22	45,10	22,50	19,35	10,09	6,28	3,75
23	43,90	23,35	20,00	10,10	6,10	3,98
24	44,00	23,50	19,80	10,75	6,00	4,69
25	44,10	24,50	19,40	9,72	5,74	3,95
26	50,00	25,60	19,60	11,24	6,25	4,92
27	56,15	29,20	23,10	20,81	12,49	8,20
28	56,50	28,20	26,10	20,75	12,45	8,25
29	52,10	26,00	22,60	17,05	9,8	6,97
30	54,00	27,60	22,10	16,52	9,80	6,63
31	43,80	23,50	12,80	9,04	5,37	3,61
32	47,60	24,00	19,60	11,08	6,94	4,09
33	51,15	28,50	24,40	14,30	7,03	7,25
34	47,30	22,20	20,40	10,42	6,35	4,03
35	48,90	26,70	19,50	12,22	7,08	5,09
36	41,20	21,70	17,20	7,89	4,18	3,64
37	41,80	22,90	16,10	7,68	4,63	3,04
38	44,80	24,40	18,90	10,48	6,13	4,53
39	43,30	22,60	17,10	8,84	5,08	3,73
40	50,00	28,40	21,70	18,15	10,14	7,97
41	40,50	28,00	16,00	7,02	4,09	2,90
42	42,70	22,50	15,60	7,36	4,16	3,13
43	44,30	23,50	18,40	7,48	5,68	3,79
44	42,80	21,60	15,30	6,87	3,76	3,09
45	40,10	21,50	16,50	7,11	3,97	3,09
46	49,50	25,50	19,20	12,01	6,99	4,97
47	41,80	23,50	17,90	8,86	4,70	4,13
48	44,20	23,20	18,40	9,39	5,49	3,76
49	46,70	22,10	17,70	9,82	5,62	4,14
50	48,40	25,30	22,80	14,12	8,22	5,88
	Length	**Width**	**Height**	**Total weight**	**Weight soft body**	**Weight shell**
Average	47,77	25,08	19,48	12,00	7,02	4,95
STDEV	4,51	2,51	2,79	3,78	2,25	1,53
Min	40,10	21,00	12,80	6,87	3,76	2,90
Max	58,15	29,60	26,10	20,81	12,49	8,86

Species:	**Mussel (*Mytilus edulis*)**	Date of sampling:	**12.8.1999**
Length:	4-6 cm	Sampled by:	Marine Inst.
Location:	**Mjóifjörður III (Dalatangi)**	Date of preparaion:	15.8.2000
Coodinates:	651612-133430	IFL#:	Rf-2000-7766

	Length (mm)	**Widht (mm)**	**Height (mm)**	**Total weight (g)**	**Weight soft body (g)**	**Weight shell (g)**
1	42,90	22,00	15,70	7,73	4,21	3,46
2	47,65	24,70	19,35	12,83	6,64	6,12
3	45,55	23,15	19,60	11,87	5,77	5,95
4	47,70	23,50	18,40	10,23	5,69	4,44
5	44,00	22,20	18,35	10,03	5,13	4,80
6	47,30	22,90	19,60	12,48	6,44	6,01
7	44,00	20,50	21,40	10,45	5,07	5,31
8	47,70	23,45	19,60	11,33	6,30	4,84
9	44,85	22,60	19,80	9,91	4,60	4,88
10	43,30	21,40	16,90	8,07	4,84	3,12
11	53,00	23,75	22,30	12,07	8,58	8,33
12	53,30	25,80	22,40	16,32	9,04	7,24
13	43,15	21,85	17,60	8,73	5,29	3,41
14	47,70	22,20	18,15	9,69	5,14	4,52
15	43,70	22,00	15,50	7,47	3,89	3,56
16	41,25	18,80	18,30	8,69	4,64	3,95
17	44,50	22,30	17,80	9,09	4,95	4,01
18	43,90	21,20	19,30	11,52	4,96	6,52
19	50,15	25,55	21,40	14,47	7,82	6,57
20	41,45	20,95	12,00	7,34	4,32	2,99
21	51,50	24,15	19,80	11,07	6,05	4,93
22	42,50	18,30	16,90	8,14	4,42	3,71
23	41,90	20,80	15,55	6,70	3,76	2,85
24	40,00	20,95	14,60	6,08	3,11	2,90
25	43,90	22,50	18,80	10,62	5,76	4,79
26	47,00	25,20	22,00	14,87	7,48	7,33
27	43,50	19,90	15,95	11,65	6,35	5,19
28	41,95	19,70	16,00	7,02	3,87	3,04
29	47,50	22,70	19,45	10,91	5,67	5,18
30	45,00	22,80	19,00	8,96	4,64	4,28
31	44,80	23,00	18,70	10,24	5,76	4,42
32	52,20	24,20	22,20	15,61	8,58	7,04
33	51,20	25,45	23,80	17,64	10,02	7,59
34	45,15	20,40	15,35	7,26	4,05	3,12
35	50,20	26,60	22,80	16,94	9,40	7,42
36	40,00	20,30	15,50	6,60	3,78	2,73
37	41,10	24,50	15,00	6,43	3,59	2,80
38	53,75	24,00	21,20	13,91	7,91	5,94
39	44,00	20,50	13,10	9,66	5,01	6,94
40	46,20	22,40	18,80	10,72	5,32	4,34
41	43,55	20,60	16,25	6,56	3,51	3,03
42	45,90	22,00	22,80	16,30	8,17	8,10
43	45,30	21,85	15,65	8,17	4,99	3,14
44	47,40	24,00	19,10	10,52	6,15	4,26
45	46,40	22,30	19,40	11,60	6,45	5,24
46	42,70	21,20	16,40	8,12	4,24	3,79
47	47,25	20,70	18,50	10,92	5,63	5,28
48	53,50	23,60	23,80	15,97	8,81	7,10
49	51,30	24,00	19,90	13,39	7,53	5,79
50	53,90	24,60	22,40	17,38	9,43	7,80
	Length	**Widht**	**Height**	**Total weight**	**Weight soft body**	**Weight shell**
Average	46,15	22,48	18,64	10,81	5,86	5,00
STDEV	3,85	1,85	2,79	3,19	1,78	1,63
Min	40,00	18,30	12,00	6,08	3,11	2,73
Max	53,90	26,60	23,80	17,64	10,02	8,33

Species:	**Mussel (*Mytilus edulis*)**	Date of sampling:	**August 1999**
Length:	4-6 cm	Sampled by:	Marine Inst.
Location:	**Grímsey**	Date of preparaion:	19.4.2000
Coodinates:	663400-180170	IFL#:	Rf-2000-7764

	Length (mm)	**Widht (mm)**	**Height (mm)**	**Total weight (g)**	**Weight soft body (g)**	**Weight shell (g)**
1	43,25	22,00	17,35	7,26	3,11	4,11
2	41,60	21,80	18,20	9,53	5,38	4,07
3	50,45	26,00	20,00	12,03	5,26	6,71
4	52,00	24,35	20,50	16,04	8,15	7,86
5	51,90	24,50	22,65	13,31	6,08	7,16
6	53,75	26,35	20,55	13,08	4,92	8,05
7	42,00	19,00	19,75	9,77	5,01	4,59
8	46,00	21,80	18,40	10,38	5,85	4,46
9	48,00	23,90	19,15	12,42	6,60	5,73
10	51,40	24,00	19,70	11,20	5,04	6,06
11	43,30	21,00	17,70	8,72	4,66	4,01
12	44,75	22,50	19,00	11,41	5,87	5,48
13	53,75	27,00	21,50	16,77	9,45	7,30
14	49,20	24,60	22,00	16,35	7,87	8,45
15	42,15	21,00	15,20	6,24	2,68	3,41
16	43,50	22,00	18,30	9,75	4,88	4,82
17	47,10	21,40	19,30	10,91	6,02	4,88
18	46,00	22,65	20,00	10,50	4,69	5,76
19	48,50	24,10	21,70	12,41	4,77	7,54
20	58,85	24,55	19,00	12,24	7,09	5,04
21	47,50	13,30	15,80	6,60	2,66	3,90
22	44,80	21,80	17,00	9,06	5,03	4,00
23	45,35	21,75	18,00	8,47	3,99	4,46
24	47,50	21,90	18,85	10,93	6,40	4,46
25	42,45	22,30	17,60	8,95	4,70	4,15
26	43,80	28,50	18,00	7,09	2,99	4,02
27	52,15	23,80	20,20	12,67	6,55	6,10
28	52,70	23,40	18,25	11,22	5,91	5,25
29	50,20	24,55	17,30	9,44	4,55	4,84
30	61,10	28,75	21,75	19,92	11,63	8,26
31	43,25	21,60	17,30	8,22	4,64	3,50
32	41,75	21,50	16,00	7,64	3,77	3,81
33	46,75	23,75	21,90	12,74	7,48	5,22
34	51,00	25,60	20,40	14,54	7,25	7,26
35	51,50	21,00	23,30	17,07	6,01	11,02
36	43,75	20,80	18,90	9,01	4,56	4,40
37	40,00	19,40	16,20	6,61	2,17	4,36
38	44,00	21,50	17,00	8,29	4,73	3,49
39	45,00	21,70	18,00	8,14	3,77	4,32
40	45,90	20,00	18,10	9,67	4,93	4,70
41	54,00	24,10	19,00	12,98	6,73	6,20
42	49,20	24,70	18,50	11,74	6,86	4,85
43	53,10	23,80	19,00	13,60	6,76	6,79
44	51,25	24,50	21,35	14,26	7,97	6,25
45	49,20	23,50	20,75	12,42	6,81	5,58
46	44,90	23,20	20,60	9,97	5,27	4,65
47	49,00	23,80	21,10	13,35	7,78	5,51
48	47,40	21,40	18,70	9,19	4,00	5,14
49	49,50	25,00	20,50	14,41	8,12	6,28
50	61,00	29,20	24,10	23,25	12,95	10,26
	Length	**Widht**	**Height**	**Total weight**	**Weight soft body**	**Weight shell**
Average	48,13	23,09	19,27	11,44	5,81	5,57
STDEV	4,87	2,65	1,97	3,45	2,08	1,70
Min	40,00	13,30	15,20	6,24	2,17	3,41
Max	61,10	29,20	24,10	23,25	12,95	11,02

Species:	**Mussel (*Mytilus edulis*)**	Date of sampling:	**11.8.1999**
Length:	4-6 cm	Sampled by:	Marine Inst.
Location:	**Hvaleyri (Eyri Hvalfirði)**	Date of preparaion:	29.5.2000
Coodinates:	642050-214390	IFL#:	Rf-2000-7769

	Length (mm)	**Widht (mm)**	**Height (mm)**	**Total weight (g)**	**Weight soft body (g)**	**Weight shell (g)**
1	41,90	20,50	11,60	6,39	4,05	2,69
2	51,50	25,50	20,80	6,80	7,52	6,32
3	42,10	20,60	20,80	13,07	4,48	3,54
4	54,40	24,3	23,40	12,78	7,98	7,90
5	50,60	24,70	20,50	21,98	6,60	3,99
6	60,30	26,90	25,50	26,66	13,42	9,06
7	60,20	24,40	27,60	8,02	14,65	12,05
8	51,50	22,90	22,60	12,71	5,50	3,95
9	43,00	22,10	13,60	11,88	4,20	3,99
10	43,70	23,70	19,20	16,41	6,33	4,22
11	55,00	22,50	23,60	7,44	9,62	8,16
12	52,40	23,90	22,10	9,19	7,16	6,77
13	57,40	26,90	21,80	20,72	12,95	12,07
14	57,00	25,00	22,90	23,11	9,54	8,21
15	56,20	25,20	23,40	14,50	9,34	6,77
16	57,50	28,40	25,60	6,99	11,62	9,20
17	61,90	26,90	23,00	6,98	13,35	9,38
18	53,70	24,10	21,50	6,59	7,84	4,92
19	62,50	29,20	25,10	6,29	12,06	11,22
20	61,60	26,50	26,50	14,27	12,71	8,86
21	51,50	23,60	22,90	8,23	7,88	6,14
22	55,20	24,50	23,60	15,87	9,04	8,30
23	57,90	24,90	25,60	12,44	11,34	8,25
24	48,20	23,20	20,30	16,85	5,86	4,81
25	41,00	20,60	20,30	4,82	3,24	3,62
26	43,90	21,50	19,90	7,85	5,06	4,28
27	47,10	22,50	18,30	8,55	5,84	3,73
28	45,50	21,60	19,10	21,90	4,62	3,74
29	45,50	20,90	11,50	19,08	4,43	2,56
30	47,90	22,60	19,90	18,46	5,73	3,93
31	40,90	13,90	11,20	7,47	3,54	2,40
32	47,00	23,40	19,40	16,15	6,07	3,68
33	49,60	23,80	20,90	6,34	5,13	5,35
34	50,10	21,70	20,50	8,43	6,32	5,12
35	43,20	24,00	18,10	24,29	3,49	3,13
36	60,50	29,10	25,80	9,08	13,20	9,57
37	45,60	21,90	13,10	6,77	4,74	3,54
38	40,20	13,30	13,50	9,24	1,71	2,15
39	40,00	19,10	17,90	13,39	2,27	2,86
40	41,20	19,50	14,50	9,63	2,29	2,38
41	43,30	21,20	12,40	11,65	3,96	3,13
42	39,70	19,10	11,70	7,60	3,31	2,94
43	44,90	21,90	11,00	6,15	3,02	2,54
44	39,90	18,10	14,90	7,28	2,19	1,97
45	40,00	18,80	11,40	6,51	2,51	2,50
46	41,20	20,50	12,30	10,76	3,08	3,25
47	40,00	20,20	14,20	7,55	1,65	2,25
48	41,70	13,70	15,40	7,41	1,94	2,48
49	45,40	21,20	18,60	7,88	2,67	3,24
50	60,50	32,20	19,00	7,96	16,99	11,73
	Length	**Widht**	**Height**	**Total weight**	**Weight soft body**	**Weight shell**
Average	49,06	22,73	19,17	11,57	6,68	5,38
STDEV	7,35	3,71	4,80	5,61	3,96	2,97
Min	39,70	13,30	11,00	4,82	1,65	1,97
Max	62,50	32,20	27,60	26,66	16,99	12,07

Species:	**Mussel (*Mytilus edulis*)**	Date of sampling:	**11.8.1999**
Length:	4-6 cm	Sampled by:	Marine Inst.
Location:	**Hvalstöð**	Date of preparaion:	10.6.2000
Coodinates:	642375-212670	IFL#:	Rf-2000-7770

	Length (mm)	**Width (mm)**	**Height (mm)**	**Total weight (g)**	**Weight soft body (g)**	**Weight shell (g)**
1	42,65	19,35	21,30	10,15	5,55	4,55
2	42,90	19,55	21,20	10,80	5,85	4,92
3	47,00	21,00	21,00	11,53	6,29	5,21
4	46,60	21,00	18,10	10,54	5,50	4,97
5	49,20	23,35	22,90	15,02	7,94	7,05
6	44,50	21,70	21,70	10,25	5,67	4,53
7	44,60	22,50	22,40	10,28	5,82	4,40
8	47,00	22,75	21,35	11,18	6,53	4,58
9	53,85	25,00	22,00	17,81	9,84	7,93
10	57,20	24,75	24,45	18,92	9,93	8,94
11	41,75	19,90	19,75	9,30	5,16	4,09
12	40,15	19,10	19,25	7,94	4,61	3,29
13	52,75	22,25	23,40	16,93	8,87	8,05
14	54,00	24,10	22,70	17,56	8,43	9,06
15	60,35	27,30	25,25	23,86	13,59	10,22
16	42,60	20,50	20,00	8,91	5,25	3,60
17	42,00	19,50	20,60	10,42	5,67	4,74
18	43,90	18,20	21,50	9,72	5,24	4,50
19	47,00	22,75	20,65	12,38	6,68	5,69
20	52,90	23,25	20,75	15,11	8,07	8,02
21	51,90	21,35	23,75	16,49	8,62	7,82
22	55,45	23,40	21,75	17,03	8,82	8,16
23	46,75	21,20	19,70	11,51	6,09	5,37
24	46,75	20,10	21,60	11,17	6,50	4,66
25	50,35	22,65	20,00	12,84	7,01	5,80
26	54,50	23,30	22,40	16,90	9,21	7,64
27	50,60	22,50	20,00	14,01	7,59	5,38
28	54,85	24,00	23,00	20,44	10,38	10,04
29	44,30	20,00	18,15	9,34	5,13	4,16
30	47,70	20,00	19,00	11,20	6,19	4,97
31	50,40	25,45	25,20	tóm	tóm	tóm
32	50,25	20,40	20,45	12,01	6,47	5,49
33	49,10	21,25	24,55	15,06	8,08	6,89
34	60,30	28,80	24,00	22,48	12,61	9,85
35	50,10	21,80	20,60	12,80	7,29	5,45
36	46,35	21,25	18,55	10,75	6,06	4,65
37	49,60	23,70	21,10	13,87	7,67	6,19
38	48,75	23,50	23,70	16,46	6,3	8,08
39	53,25	24,55	22,00	18,44	8,89	9,50
40	59,60	26,10	24,00	22,11	12,60	9,41
41	42,20	20,25	19,25	8,90	4,76	4,11
42	44,90	19,35	19,30	9,76	5,30	4,44
43	55,00	24,25	23,55	19,75	10,31	9,35
44	57,40	23,10	24,15	19,25	10,07	9,23
45	56,00	25,90	23,10	21,62	11,26	10,35
46	60,10	28,50	24,55	24,56	12,80	11,74
47	43,80	19,20	18,00	8,59	4,80	3,74
48	43,50	18,70	22,00	11,01	6,04	4,95
49	50,15	23,00	20,80	14,15	7,53	6,59
50	55,80	27,00	22,10	18,20	10,69	7,49
	Length	**Width**	**Height**	**Total weight**	**Weight soft body**	**Weight shell**
Average	49,65	22,45	21,61	14,27	7,66	6,53
STDEV	5,54	2,57	1,95	4,51	2,37	2,22
Min	40,15	18,20	18,00	7,94	4,61	3,29
Max	60,35	28,80	25,25	24,56	13,59	11,74

Species:	**Mussel (*Mytilus edulis*)**	Date of sampling:	**11.8.1999**
Length:	4-6 cm	Sampled by:	Marine Inst.
Location:	**Hvítanes, Hvalfjörður**	Date of preparaion:	15.8.2000
Coodinates:	642185-212970	IFL#:	Rf-2000-7768

	Length (mm)	**Width (mm)**	**Height (mm)**	**Total weight (g)**	**Weight soft body (g)**	**Weight shell (g)**
1	49,50	25,60	21,40	13,63	7,35	6,11
2	49,90	23,70	20,00	12,44	7,64	4,68
3	43,10	19,80	17,70	7,61	4,64	2,88
4	49,00	23,40	13,25	10,06	5,84	4,22
5	48,00	23,00	20,00	10,57	7,00	3,51,
6	47,10	22,90	18,00	9,15	5,59	3,53
7	48,15	22,10	19,00	10,31	6,59	3,64
8	44,10	20,30	19,40	9,25	6,22	3,01
9	43,50	21,80	13,00	8,22	4,90	3,28
10	48,50	22,70	18,60	9,76	6,17	3,55
11	50,70	23,50	19,50	11,92	7,42	4,42
12	47,90	24,00	19,00	10,44	6,34	3,85
13	43,50	20,20	18,50	7,99	4,67	3,13
14	42,50	23,00	16,90	7,42	4,74	2,65
15	46,50	21,10	19,60	9,89	6,15	3,71
16	40,60	21,00	18,40	7,41	4,21	3,07
17	45,20	22,30	17,60	8,87	5,62	3,20
18	41,30	19,70	15,00	6,17	3,81	2,27
19	40,00	21,00	15,40	4,09	2,15	1,91
20	40,00	20,20	16,00	6,80	3,75	2,97
21	41,50	20,90	19,00	8,34	5,40	2,84
22	41,90	19,70	22,00	9,08	5,86	3,15
23	45,00	22,00	19,00	8,47	5,55	2,86
24	40,00	19,00	16,30	6,44	3,87	2,54
25	40,00	21,30	13,90	4,73	3,14	1,54
26	40,80	19,40	16,50	6,50	4,05	2,37
27	40,00	18,60	17,50	6,81	4,01	2,86
28	41,40	19,50	17,40	6,41	3,75	2,60
29	44,20	21,50	17,50	7,71	4,73	2,85
30	45,20	19,70	18,30	8,48	5,25	3,10
31	40,65	18,90	15,70	5,91	3,75	2,13
32	40,55	20,10	16,70	6,38	4,08	2,27
33	40,00	19,80	18,20	6,95	4,40	2,51
34	41,00	19,10	18,20	9,94	4,18	2,72
35	41,00	20,70	19,60	7,65	4,76	2,85
36	43,60	18,60	17,70	8,28	4,97	3,26
37	46,60	22,20	19,30	11,24	6,06	5,13
38	45,20	23,30	17,30	9,27	5,66	3,59
39	46,70	21,70	17,70	8,79	5,09	3,62
40	40,00	20,30	16,75	6,70	4,15	2,46
41	42,90	20,00	16,70	7,33	4,52	2,74
42	40,50	19,70	16,50	6,49	3,68	2,74
43	45,10	20,70	18,55	8,59	5,34	3,17
44	41,75	19,60	15,50	5,92	3,70	2,15
45	40,85	18,60	18,00	7,93	4,46	3,35
46	40,80	21,00	17,20	7,61	4,57	2,88
47	41,60	18,00	18,00	6,61	3,97	2,56
48	46,30	21,20	19,50	10,18	5,62	4,47
49	42,00	19,20	19,50	9,05	5,03	3,98
50						
	Length	**Width**	**Height**	**Total weight**	**Weight soft body**	**Weight shell**
Average	43,59	20,93	17,76	8,28	4,99	3,15
STDEV	3,19	1,70	1,85	1,93	1,17	0,85
Min	40,00	18,00	13,00	4,09	2,15	1,54
Max	50,70	25,60	22,00	13,63	7,64	

Species:	**Mussel (*Mytilus edulis*)**	Date of sampling:	**31.8.1999**
Length:	4-6 cm	Sampled by:	Marine Inst.
Location:	**Dvergasteinn, Álftafjörður**	Date of preparaion:	26.4.2000
Coodinates:	655989-230215	IFL#:	Rf-2000-7771

	Length (mm)	**Width (mm)**	**Height (mm)**	**Total weight (g)**	**Weight soft body (g)**	**Weight shell (g)**
1	47,85	19,15	19,60	11,26	5,67	5,45
2	50,40	20,60	20,70	12,71	6,40	6,23
3	49,00	21,75	18,50	10,70	6,15	4,51
4	46,55	23,10	13,40	11,01	5,53	5,31
5	46,60	22,00	18,75	11,07	6,13	4,86
6	44,30	21,40	19,85	10,45	5,62	4,82
7	49,50	24,35	19,10	12,51	6,61	5,85
8	49,60	23,60	22,75	13,04	5,76	7,24
9	52,00	24,00	21,90	16,42	7,48	8,85
10	60,40	25,40	27,70	23,50	12,76	10,67
11	45,40	18,80	23,00	13,77	6,61	7,10
12	50,20	20,30	19,70	16,26	7,91	8,34
13	51,35	22,00	23,00	15,31	8,15	7,14
14	52,60	22,35	21,00	15,68	6,93	8,69
15	50,00	23,80	21,20	15,00	7,87	7,12
16	51,90	22,15	21,10	12,58	6,97	5,56
17	47,10	22,20	20,50	12,29	6,31	5,90
18	48,60	24,20	20,20	13,74	6,98	6,63
19	51,00	22,90	23,25	17,27	7,82	9,41
20	47,80	21,45	21,90	13,53	6,36	7,14
21	51,00	20,70	25,80	17,16	8,78	8,31
22	55,15	24,50	21,90	17,93	8,98	8,89
23	46,50	19,80	19,75	9,46	4,66	4,75
24	48,50	19,80	21,40	14,60	6,30	8,24
25	53,50	22,60	25,40	18,35	9,61	8,70
26	54,15	21,70	24,25	17,90	9,02	8,85
27	58,10	23,10	26,65	16,75	8,13	8,51
28	42,55	18,25	19,60	9,71	4,37	5,29
29	47,10	22,50	20,35	11,73	6,44	5,25
30	48,20	23,50	20,85	12,95	6,92	5,98
31	48,50	20,00	20,65	13,87	6,62	7,24
32	54,10	23,00	24,00	17,47	8,92	8,50
33	58,10	26,10	26,10	23,27	11,95	11,31
34	44,70	21,70	18,60	10,83	5,46	5,28
35	48,90	20,65	21,20	14,45	6,15	8,27
36	50,40	21,00	21,85	14,12	6,59	7,52
37	52,00	23,50	23,60	16,64	8,68	7,94
38	55,10	22,30	26,60	20,42	9,36	10,89
39	59,70	24,10	27,90	24,60	13,10	11,48
40	48,40	21,30	21,50	13,04	6,44	6,56
41	50,90	21,85	21,60	14,46	7,41	6,97
42	52,20	24,10	24,85	17,67	9,28	8,40
43	44,00	19,20	20,65	11,94	5,28	6,61
44	46,50	23,50	18,50	9,57	4,96	4,52
45	52,10	23,50	23,80	19,26	8,73	10,52
46	51,10	23,00	22,15	14,26	7,16	7,77
47	50,55	22,90	22,55	15,90	7,71	8,15
48	53,40	22,50	23,10	16,51	8,10	8,38
49	56,30	25,90	25,20	20,60	10,93	9,60
50	59,60	25,30	24,60	21,76	10,88	10,87
	Length	**Width**	**Height**	**Total weight**	**Weight soft body**	**Weight shell**
Average	50,67	22,35	22,04	15,11	7,54	7,53
STDEV	4,16	1,83	2,76	3,72	1,97	1,89
Min	42,55	18,25	13,40	9,46	4,37	4,51
Max	60,40	26,10	27,90	24,60	13,10	11,48

Species:	**Mussel (*Mytilus edulis*)**	Date of sampling:	**31.08.1999**
Lenght:	4-6cm	Sampled by:	Marine Inst.
Location:	**Skutulsfjörður**	Date of preparation:	27.4.2000
coordinates:	660360-230996	IFL#:	RF-2000-7772

	Length (mm)	**Width (mm)**	**Height (mm)**	**Total weight (g)**	**Weight soft body (g)**	**Weight shell (g)**
1	42,25	21,45	20,85	10,49	5,79	4,65
2	45,20	23,00	18,30	10,54	5,61	4,91
3	50,10	23,50	19,00	12,60	6,81	5,75
4	47,90	24,75	20,25	12,93	6,97	5,92
5	49,00	23,25	20,65	13,34	7,42	5,83
6	46,25	21,20	19,65	11,88	5,69	6,17
7	47,40	21,00	20,10	11,35	6,34	4,99
8	48,00	22,75	22,60	15,04	7,85	7,18
9	52,90	26,30	24,15	19,16	10,46	8,66
10	57,00	27,80	24,55	21,32	12,19	9,08
11	42,70	21,65	18,75	9,54	4,68	4,82
12	46,00	21,35	20,70	11,79	6,00	5,72
13	50,70	21,20	21,50	14,70	6,89	7,76
14	48,50	25,55	20,25	16,12	7,58	8,54
15	50,20	25,00	22,00	16,13	8,26	7,86
16	54,15	25,30	23,30	18,43	10,12	8,25
17	42,15	22,00	17,85	8,69	4,77	3,90
18	42,00	21,90	18,00	8,53	4,61	3,91
19	46,60	22,30	18,30	10,50	5,81	4,67
20	46,70	22,90	18,80	12,34	6,31	5,91
21	48,00	22,90	19,70	12,05	6,61	5,45
22	50,50	26,00	20,80	14,91	7,88	7,02
23	48,55	23,75	22,75	15,20	7,42	7,73
24	51,55	23,00	20,15	14,61	8,00	6,57
25	58,00	25,00	29,10	20,01	14,68	13,33
26	45,20	22,65	19,25	10,10	5,86	4,21
27	46,00	23,00	18,70	10,53	6,15	4,33
28	45,60	21,60	20,30	10,56	6,05	4,52
29	50,75	23,00	19,35	12,82	6,84	5,99
30	56,00	25,70	21,50	13,80	6,68	7,13
31	46,90	22,30	19,45	11,48	5,78	5,65
32	47,35	21,25	20,00	13,07	6,86	6,20
33	45,40	24,20	18,00	10,44	5,87	4,56
34	46,25	22,00	19,60	10,72	6,19	4,54
35	60,65	27,20	25,80	23,85	12,38	11,43
36	44,40	22,30	20,40	12,24	6,15	6,06
37	44,55	21,25	19,40	10,21	5,11	5,07
38	45,30	22,25	20,80	12,71	6,22	6,50
39	44,00	21,20	24,90	15,04	7,08	7,94
40	46,90	23,00	21,40	13,68	6,79	6,88
41	45,30	20,75	20,35	11,23	5,55	5,69
42	46,40	23,20	19,65	11,52	6,17	5,34
43	43,15	20,50	19,45	9,36	5,18	4,18
44	44,00	22,00	19,75	11,46	5,62	5,82
45	45,40	22,65	20,70	12,48	6,78	5,68
46	45,40	22,60	20,00	11,35	5,56	5,78
47	44,50	21,50	20,70	11,60	5,97	5,63
48	47,35	21,15	21,15	13,12	6,85	6,26
49	47,60	21,70	18,75	11,57	6,62	4,96
50	53,65	22,75	24,70	17,46	9,25	8,21
	Length	**Width**	**Height**	**Total weight**	**Weight soft body**	**Weight shell**
Average	47,81	22,93	20,72	13,09	6,97	6,26
STDEV	4,15	1,73	2,23	3,24	1,99	1,84
Min	42,00	20,50	17,85	8,53	4,61	3,90
Max	60,65	27,80	29,10	23,85	14,68	13,33

Appendix IV

Results of Trace Metal Analysis for:
Blue Mussel (*Mytilus edulis*) 1998 and 1999,
Cod (*Gadus Morhua*) and Dab (*Limanda limanda*)
1999 and 2000

Table 4a. Results for liver and flesh of cod (*Gadus morhua*) (ww) 1999

Sample		Fat % Liver	Dry matter % Liver	Pb, ng/g Liver	Cd, ng/g Liver	Cu, µg/g Liver	Zn, µg/g Liver	As, µg/g Liver	Se, µg/g Liver	Dry matter % Flesh**	Fat % Flesh**	Hg, ng/g Flesh**
COD NA 99	**Group 1**	38,62±0,22	52,86±0,01	<LOD	200±10	4,34±0,09	17,8±1,4	5,75±0,16	1,30±0,06	20,08±0,10	0,08±0,01	17,0±1,0
	Group 2	44,61±0,43	58,12±0,18	<LOD	158±8	3,05±0,09	15,0±0,2	4,91±0,15	1,08±0,06			
	Group 3	51,84±0,12	63,81±0,08	<LOD	135±5	4,62±0,07	15,1±0,6	6,15±0,23	1,14±0,06			
	Group 4	54,00±0,01	66,01±0,04	<LOD	99±8	2,83±0,08	11,0±0,6	5,77±0,13	0,82±0,05			
	Group 5	53,49±0,35	65,89±0,56	<LOD	95±1	2,31±0,01	9,66±0,82	6,06±0,13	0,81±0,06			
	Group 6	58,93±0,32	70,20±0,23	<LOD	83±10	2,20±0,08	8,93±0,14	5,37±0,27	0,58±0,01			
COD VF 99	**Group 1**	19,77±0,06	37,99±0,04	<LOD	717±11	4,86±0,18	26,8±0,5	13,2±0,4	2,13±0,10	19,57±0,06	0,06±0,01	19,1±0,4
	Group 2	29,27±0,01	45,32±0,30	<LOD	436±4	5,24±0,06	21,0±0,2	6,46±0,14	1,56±0,04			
	Group 3	31,29±0,12	46,20±0,06	<LOD	524±17	5,85±0,12	22,6±0,1	10,1±0,5	1,89±0,02			
	Group 4	50,94±0,01	62,20±0,03	<LOD	411±4	4,59±0,03	16,2±1,2	4,68±0,09	1,12±0,04			
	Group 5	61,14±0,25	71,02±0,06	<LOD	136±10	3,66±0,05	12,8±0,4	5,65±0,15	0,79±0,05			
COD AF 99	**Group 1**	46,79±0,025	58,66±0,04	<LOD	132±3	3,64±0,06	14,8±0,1	6,31±0,40	0,91±0,05	19,51±0,08	0,06±0,01	23,1±2,0
	Group 2	44,52±0,08	57,19±0,03	<LOD	244±12	3,62±0,03	14,6±0,1	9,04±0,10	1,14±0,04			
	Group 3	46,98±0,06	58,51±0,04	<LOD	388±10	3,61±0,02	23,7±1,2	5,54±0,08	1,26±0,04			
	Group 4	55,85±0,18	66,29±0,01	<LOD	123±5	3,71±0,16	18,6±2,0	6,06±0,14	0,75±0,04			
	Group 5	59,14±0,14	69,71±0,34	<LOD	127±6	3,89±0,03	17,2±1,4	6,36±0,40	0,60±0,03			
	Group 6	56,92±0,05	67,91±0,25	<LOD	105±2	1,71±0,07	12,5±0,2	5,75±0,16	0,57±0,02			
Average of all measurements					242±185	3,75±1,11	16,4±5,0	6,66±2,16	1,08±0,44			19,7±3,1
Limit of detection for samples (MLOD)				75	23	0,17	3,0	1,3	0,2			2,6

**flesh was pooled into one sample

Table 4b. Results for liver and flesh of cod (*Gadus morhua*) (ww) 2000

Sample		Fat % Liver	Dry matter % Liver	Pb, ng/g Liver	Cd, ng/g Liver	Cu,µg/g Liver	Zn, µg/g Liver	As, µg/g Liver	Se, µg/g Liver	Dry matter % flesh*	Fat % flesh*	Hg, ng/g flesh*
COD NA-A 00	**Group 1**	19,26 ± 0,05	36,47 ± 0,04	<MLOD	324 ± 6	3,17± 0,19	24,4 ± 0,2	11,5 ± 0,3	1,62 ± 0,39	19,48 ± 0,01	0,05 ± 0,01	20,8 ± 0,9
	Group 2	31,91 ± 0,10	46,43 ± 0,01	<MLOD	244 ± 8	5,05 ± 0,22	21,9 ± 0,3	8,93 ± 0,51	1,71 ± 0,23			
	Group 3	38,41 ± 0,23	52,32 ± 0,08	<MLOD	272 ± 7	4,88 ± 0,07	19,1 ± 0,3	7,78 ± 0,30	1,70 ± 0,09			
	Group 4	51,23 ± 0,02	63,64 ± 0,23	<MLOD	138 ± 5	3,82 ± 0,21	15,2 ± 0,6	5,18 ± 0,24	0,46 ± 0,09			
	Group 5	55,84 ± 0,20	66,51 ± 0,03	<MLOD	147 ± 1	2,99 ± 0,13	13,0 ± 0,4	6,27 ± 0,66	<MLOD			
COD NV 00	**Group 1**	29,53 ± 0,46	46,81 ± 0,86	<MLOD	540 ± 5	2,72 ± 0,09	22,0 ± 0,4	4 ,84 ± 0,08	1,85 ± 0,27	19,18 ± 0,06	0,05 ± 0,01	27,5 ± 0,5
	Group 2	49,90 ± 0,13	61,36 ± 0,01	<MLOD	225 ± 1	3,60 ± 0,05	14,7 ± 0,3	5,24 ± 0,14	0,76 ± 0,09			
	Group 3	48,96 ± 0,27	60,49 ± 0,21	<MLOD	264 ± 3	3,11 ± 0,14	15,5 ± 0,3	4,98 ± 0,11	1,05 ± 0,44			
	Group 4	58,04 ± 0,16	67,87 ± 0,06	<MLOD	184 ± 2	2,02 ± 0,04	12,6 ± 0,4	4,45 ± 0,37	<MLOD			
	Group 5	70,30 ± 0,56	77,97 ± 0,34	<MLOD	141 ± 3	1,44 ± 0,08	7,67 ± 0,28	4,25 ± 0,13	<MLOD			
COD VF 00	**Group 1****									19,40 ± 0,05	0,05 ± 0,01	27,3 ± 2,8
	Group 2	18,28 ± 0,11	36,28 ± 0,64	<MLOD	693 ± 11	10,0 ± 0,18	36,5 ± 0,2	8,46 ± 0,24	1,90 ± 0,32			
	Group 3	21,37 ± 0,13	38,86 ± 0,23	<MLOD	834 ± 5	11,6 ± 0,13	32,7 ± 0,1	7,19 ± 0,26	1,51 ± 0,42			
	Group 4	17,59 ± 0,18	34,88 ± 0,26	<MLOD	602 ± 14	7,98 ± 0,10	30,5 ± 0,4	7,61 ± 0,14	1,88 ± 0,26			
	Group 5	41,95 ± 0,01	55,26 ± 0,06	<MLOD	437 ± 6	5,77 ± 0,12	22,0 ± 0,4	5,53 ± 0,16	1,83 ± 0,31			
	Group 6	40,02 ± 0,16	53,28 ± 0,01	<MLOD	476 ± 12	9,81 ± 0,09	25,5 ± 0,5	5,64 ± 0,25	1,63 ± 0,20			
Average of all measurements		39,51 ± 16,32	53,23 ± 13,18		368 ± 219	5,20 ± 3, 18	20,9 ± 8,1	6,52 ± 2,03	1,59 ± 0,36			25,2 ± 1,4
Limit of detection for samples (MLOD)				62	29	0,18	0,92	1,2	0,34			5,1

*flesh is pooled into one sample
**sample was too small for analysis

Table 5a. Results for liver and flesh of dab (*Limanda limanda*) (ww) 1999

Sample	Fat % Liver	Dry matter % Liver	Pb, ng/g Liver	Cd, ng/g Liver	Cu,µg/g Liver	Zn, µg/g Liver	As, µg/g Liver	Se, µg/g Liver	Dry matter % Flesh	Fat % Flesh	Hg, ng/g Flesh
DAB NV 99	8,57±0,28	27,65±0,05	<MLOD	1130±22	4,62±0,15	28,8±1,4	11,3±0,2	1,73±0,04	19,50±0,14	0,18±0,01	63,3±2,9
DAB SV 99	12,07±0,09	31,12±0,09	<MLOD	453±4	3,05±0,11	27,5±0,8	3,79±0,21	1,52±0,10	19,80±0,8	0,35±0,04	42,8±1,3
DAB AF 99	10,46±0,01	28,48±0,15	<MLOD	421±11	2,49±0,13	23,4±0,5	3,36±0,24	1,16±0,07	20,05±0,11	0,52±0,06	29,5±0,9
DAB VF 99	11,37±0,04	30,25±0,13	<MLOD	810±25	5,40±0,13	32,8±1,0	6,79±0,19	1,57±0,06	20,28±0,49	0,22±0,06	19,3±0,3
Limit of detection for samples (MLOD)			75	23	0,17	3,0	0,65	0,2			2,6

Table 5b. Results for liver and flesh of dab (*Limanda limanda*) (ww) 2000

Sample	Fat % Liver	Dry matter % Liver	Pb, ng/g Liver	Cd, ng/g Liver	Cu,µg/g Liver	Zn, µg/g Liver	As, µg/g Liver	Se, µg/g Liver	Dry matter % Flesh	Fat % Flesh	Hg, ng/g Flesh
DAB SV 00	14,31 ± 0,06	33,03 ± 0,06	<MLOD	536 ± 6	3,15 ± 0,09	30,0 ± 0,4	4,90 ± 0,21	0,95 ± 0,14	20,45 ± 0,11	0,43 ± 0,06	69,4 ± 1,7
Limit of detection for samples (MLOD)			62	29	0,18	0,92	1,2	0,34			5,1

Table 6a. Results of trace metals in Blue mussel (*Mytilus edulis*) 1998 (dw)

Sample	Fat %	Dry matter %	Pb, µg/kg dw	Cd, mg/kg dw	Cu, mg/kg dw	Zn, mg/kg dw	As, mg/kg dw	Se, mg/kg dw	Hg, µg/kg dw
Hvassahraun 98	0,09±0,01	5,45±0,16	*	2,35 ± 0,17	43,1 ± 0,4	159 ± 10	16,3 ± 0,3	3,95 ± 0,18	106 ± 2
Straumsvík 98	0,35±0,01	8,39±0,02	*	3,28 ± 0,02	17,9 ± 0,2	117 ± 3	12,2 ± 0,1	3,86 ± 0,11	60 ± 1
Hvaleyri 98	0,20±0,01	9,16±0,03	*	1,70 ± 0,06	35,7 ± 1,1	130 ± 1	11,4 ± 0,4	3,32 ± 0,12	45 ± 2
Hvítanes 98	0,13±0,01	8,24±0,04	*	1,66 ± 0,11	17,1 ± 0,2	178 ± 2	10,9 ± 0,4	3,17 ± 0,16	51 ± 1
Hvalstöð 98	0,34±0,01	11,29±0,01	*	1,96 ± 0,08	22,0 ± 0,4	105 ± 7	8,9 ± 0,4	3,48 ± 0,14	35 ± 1
Mjóifjörður 98 I	0,27±0,01	8,96±0,01	*	7,78 ± 0,09	14,2 ± 0,9	119 ± 3	13,7 ± 0,5	3,95 ± 0,15	60 ± 2
Mjóifjörður 98 II	0,41±0,01	11,63±0,04	*	5,27 ± 0,09	9,7 ± 0,3	113 ± 3	15,4 ± 0,5	3,73 ± 0,13	49 ± 1
Mjóifjörður 98 III	0,19±0,01	8,95±0,11	*	3,65 ± 0,09	10,6 ± 0,1	180 ± 3	16,2 ± 0,7	3,46 ± 0,11	76 ± 2
Grímsey 98	0,40±0,01	10,19±0,04	*	2,64 ± 0,10	40,7 ± 0,2	190 ± 9	21,0 ± 0,4	2,83 ± 0,05	79 ± 3
Vestmannaeyjar 98	1,07±0,01	14,56±0,01	*	1,33 ± 0,03	13,2 ± 0,3	124 ± 1	12,2 ± 0,4	3,17 ± 0,12	114 ± 2
Limit of detection for samples (MLOD)		9,68		0,87	0,52	9,20	2,8	0,65	11

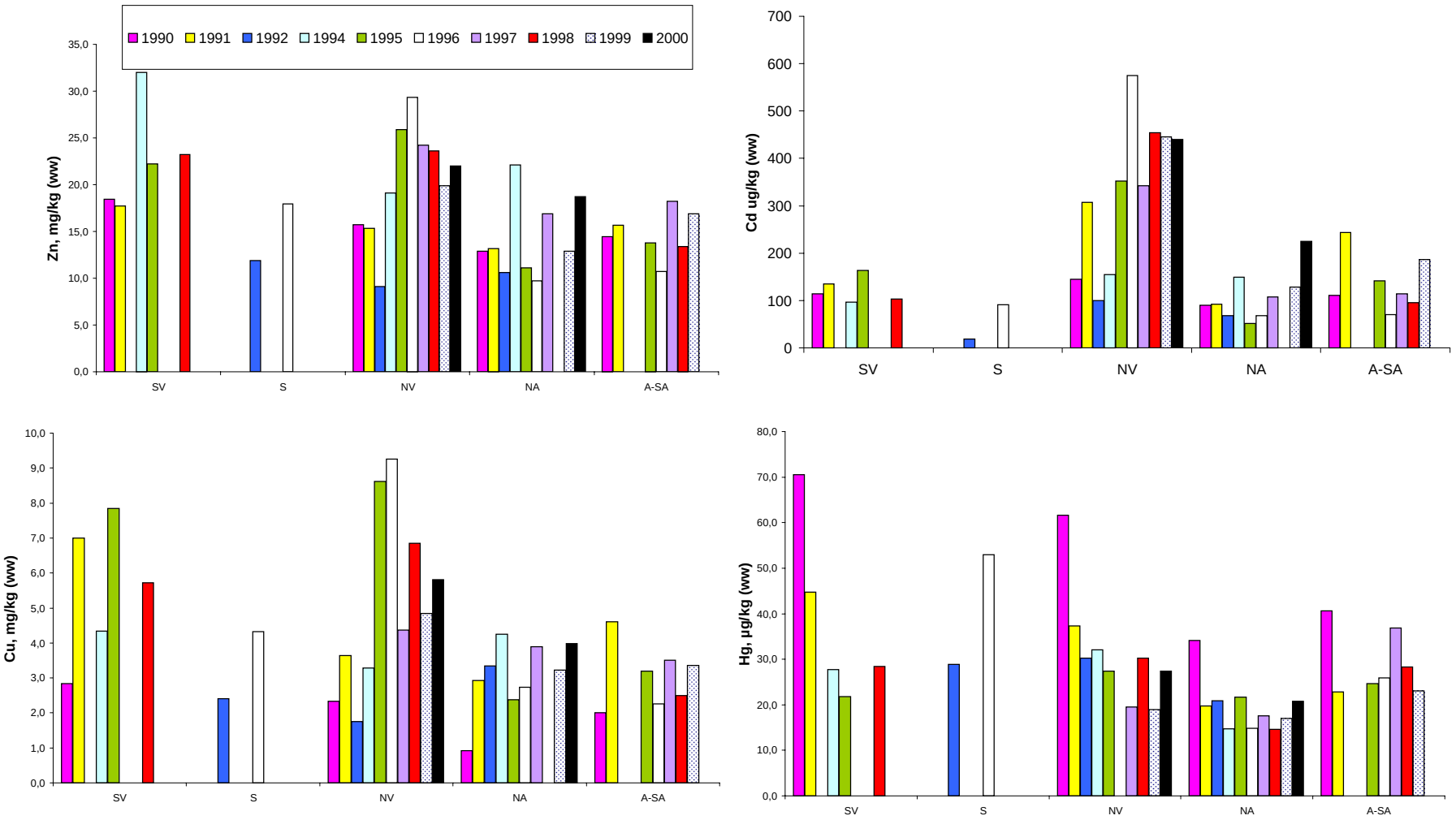
* Pb analysis was unsuccessful

Table 6b. Results of trace metals in Blue mussel (*Mytilus edulis*) 1999 (dw)

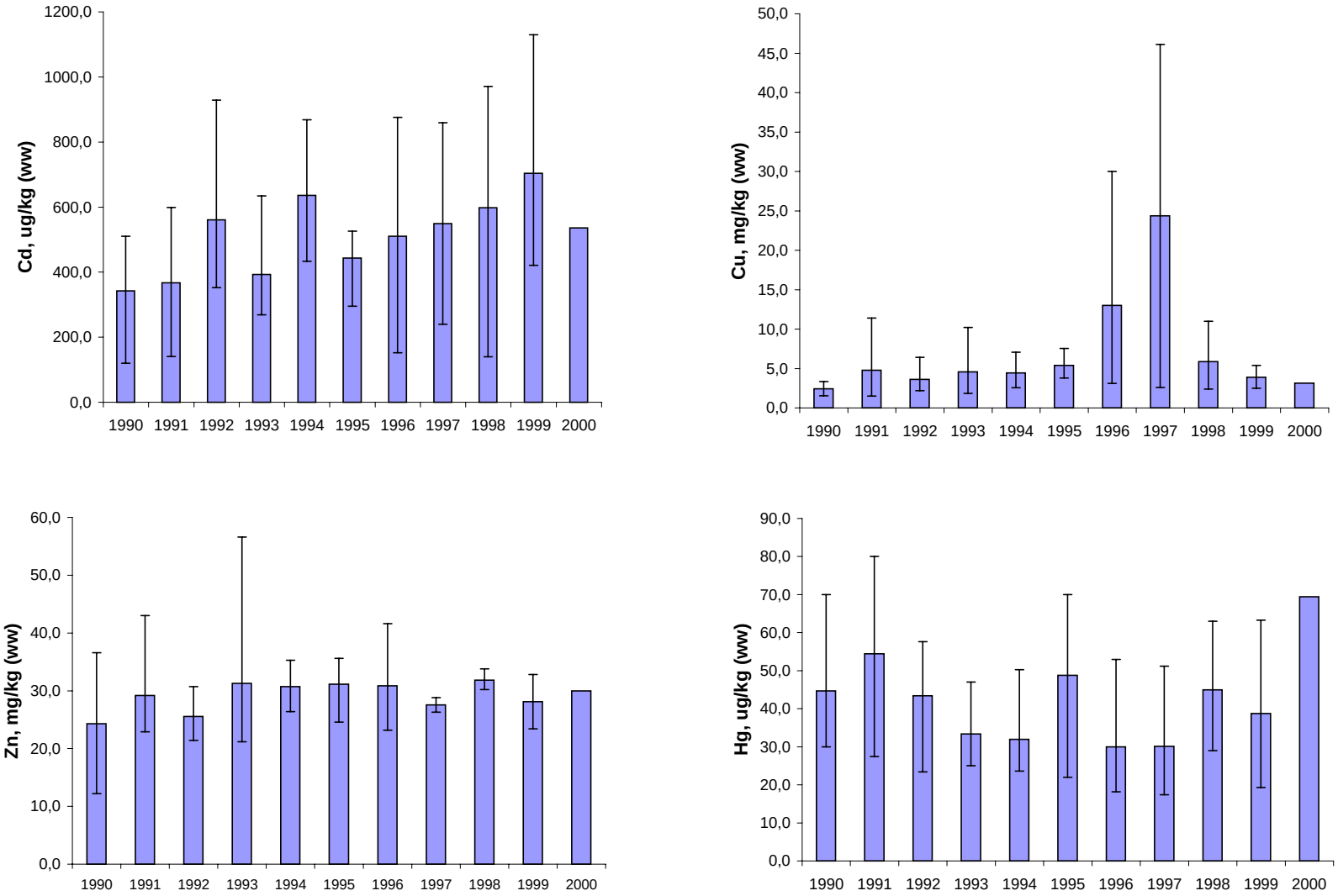
Samples	Fat %	dry matter %	Pb, µg/kg dw	Cd, mg/kg dw	Cu, mg/kg dw	Zn, mg/kg dw	As, mg/kg dw	Se, mg/kg dw	Hg, µg/kg dw
Hvaleyri 99	0,22 ± 0,01	9,24 ± 0,09	*	1,58 ± 0,08	**	173 ± 2	9,4 ± 0,5	2,05 ± 0,04	43 ± 3
Hvítanes 99	0,40 ± 0,01	10,79 ± 0,01	*	1,21 ± 0,03	**	119 ± 2	6,9 ± 0,4	1,84 ± 0,05	77 ± 36
Hvalstöð 99	0,21 ± 0,01	8,62 ± 0,04	*	2,29 ± 0,13	**	147 ± 5	9,2 ± 0,5	2,19 ± 0,06	67 ± 17
Dvergasteinn 99, Álftafjörður	0,17 ± 0,01	8,00 ± 0,01	*	418 ± 0,15	**	136 ± 1	18,8 ± 0,2	2,05 ± 0,09	63 ± 8
Skutulsfjörður 99	0,11 ± 0,01	6,92 ± 0,05	*	1,63 ± 0,07	**	159 ± 4	53,4 ± 3,3	1,56 ± 0,13	71 ± 10
Mjóifjörður I 99	0,38 ± 0,01	10,47 ± 0,01	*	8,96 ± 0,12	**	110 ± 1	10,8 ± 0,2	2,24 ± 0,08	<MLOD
Mjóifjörður II 99	0,19 ± 0,01	9,27 ± 0,01	*	4,47 ±0,07	**	155 ± 3	12,8 ± 0,6	2,16 ± 0,10	58 ± 3
Mjóifjörður III 99	0,15 ± 0,01	7,79 ± 0,01	*	3,66 ± 0,04	**	205 ± 5	14,5 ± 0,9	2,02 ± 0,09	99 ± 10
Grímsey 99	0,24 ± 0,01	9,15 ± 0,03	*	3,52 ± 0,09	**	198 ± 3	16,9 ± 0,5	2,06 ± 0,04	106 ± 8
Limit of detection for samples (MLOD)		8,92		0,22		9,1	2,6	0,22	43

*Pb analysis was unsuccessful

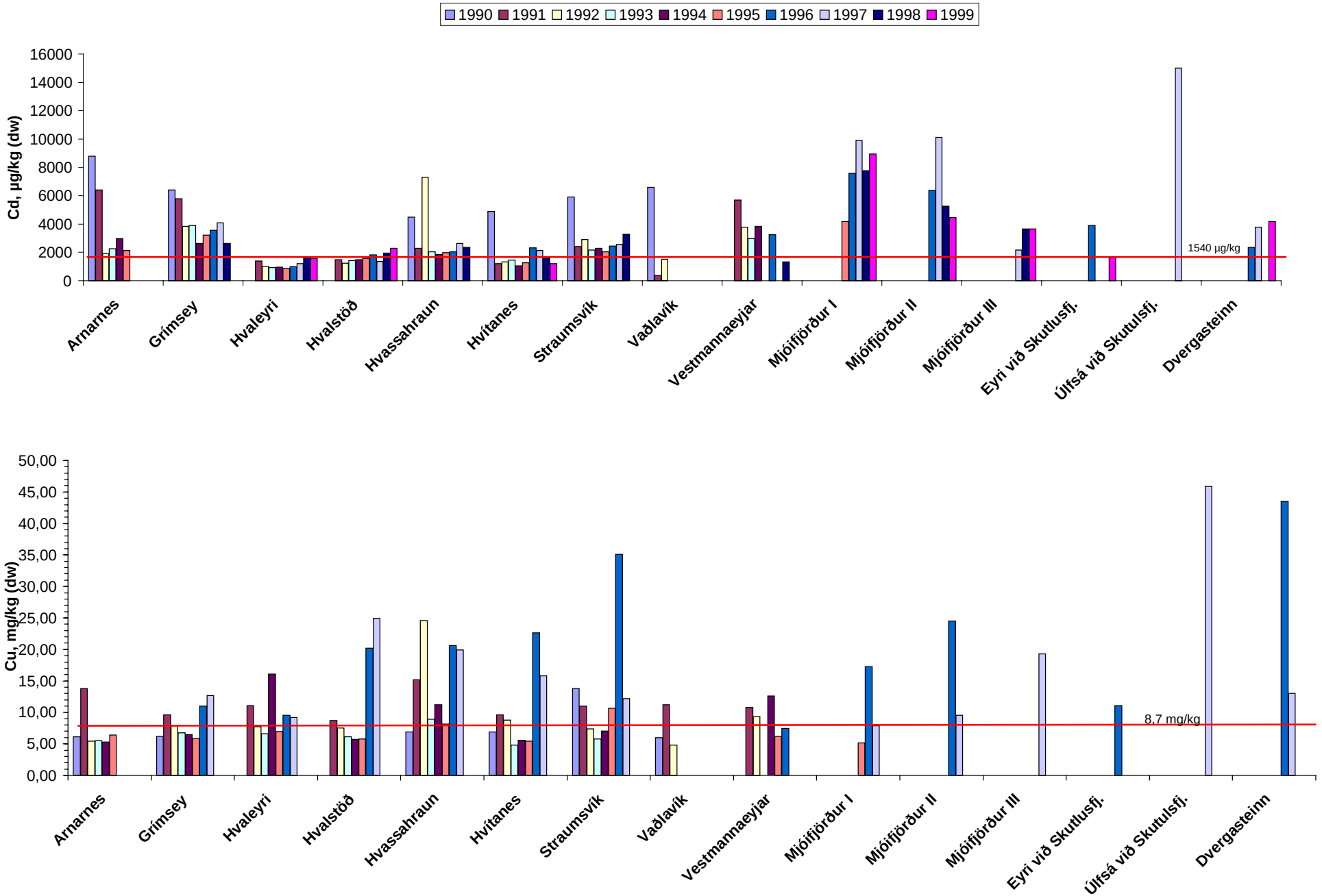
** samples were contaminated with copper during homogenization



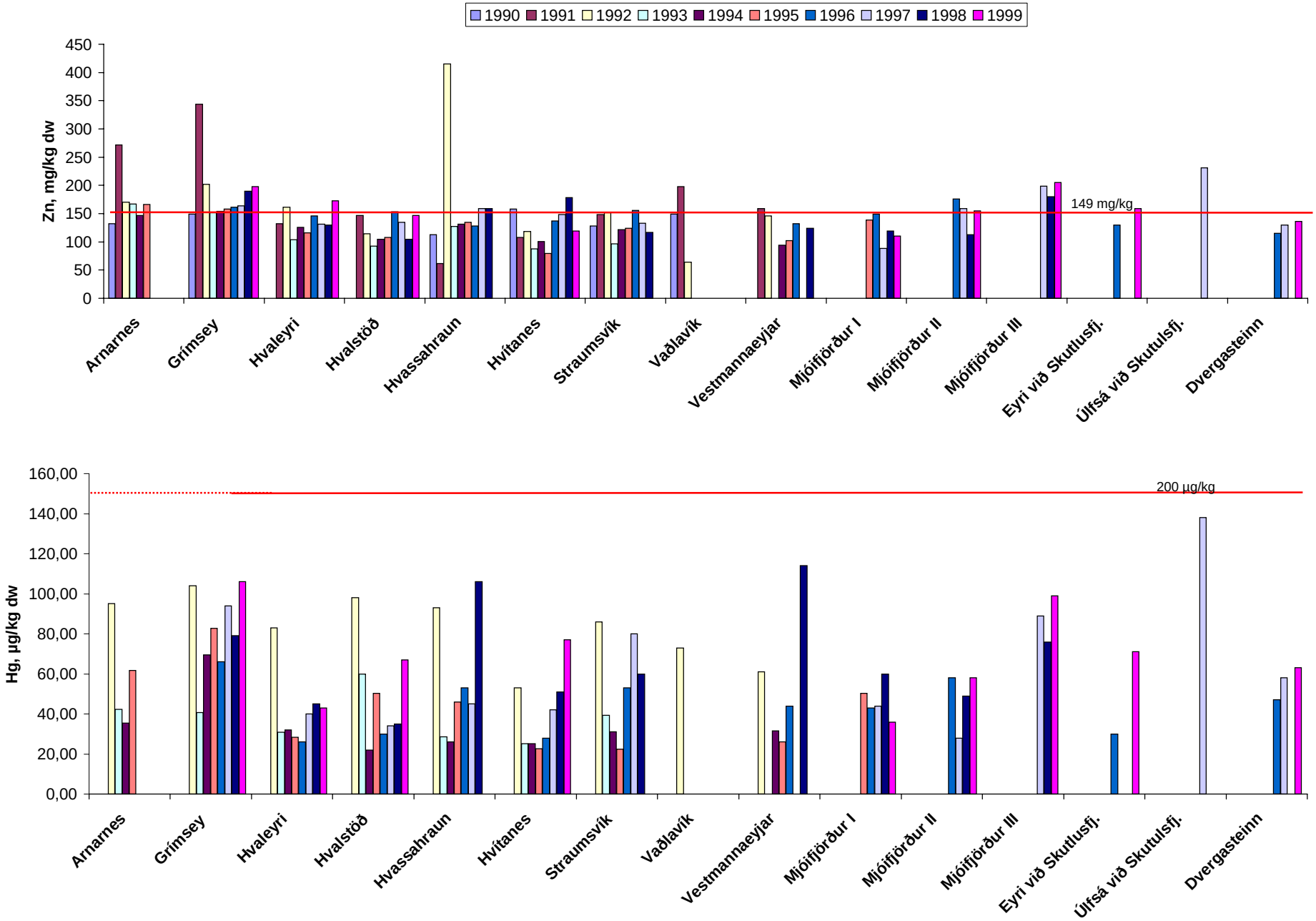
Graph 1. Heavy metal concentration in livers of 30-45 cm cod (*Gadus morhua*) from Icelandic waters in march 1990 - 2000. Mercury (Hg) was analysed in the flesh.



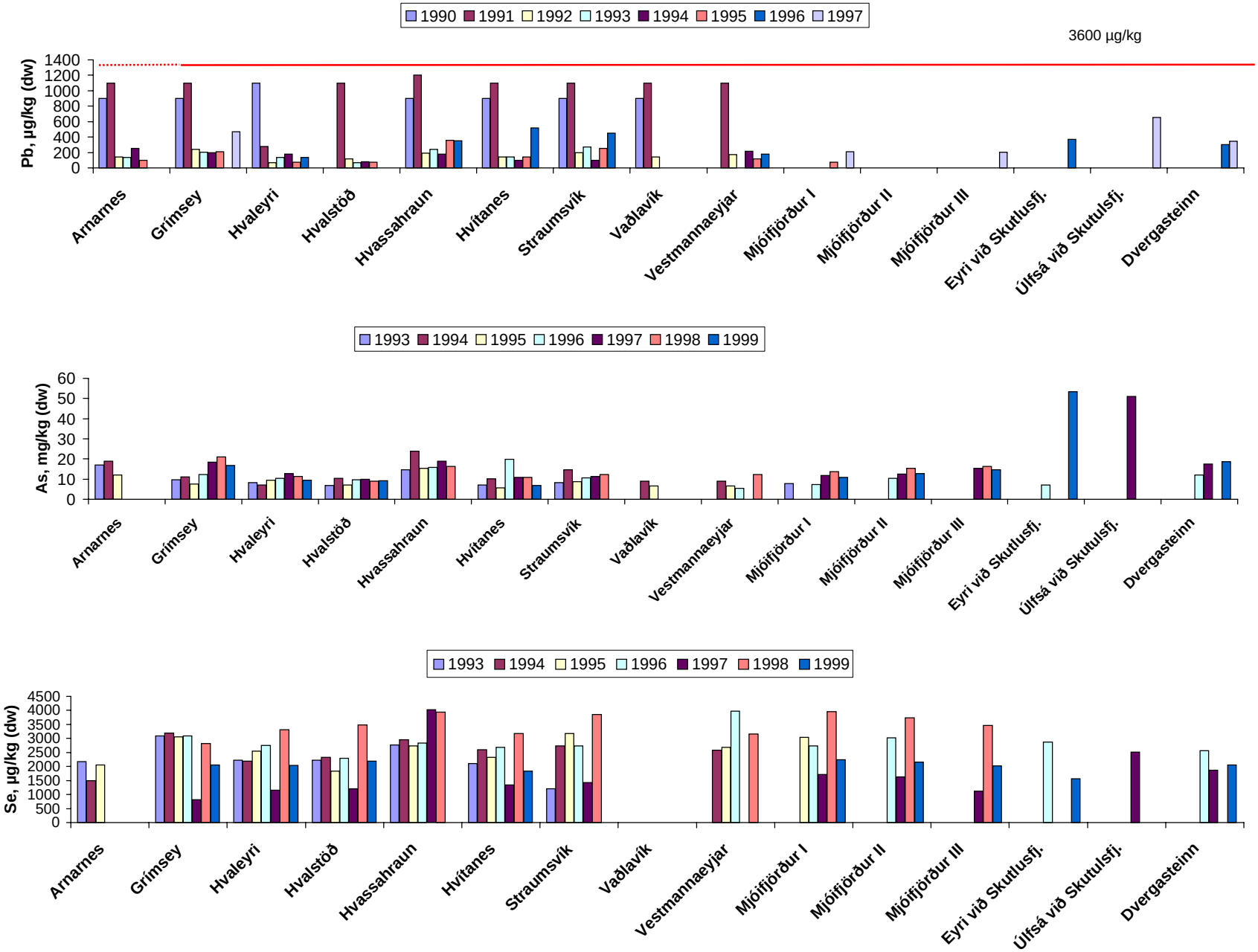
Graph 2. Average heavy metal concentration in livers of dab (*Limanda limanda*) from Icelandic waters 1990-2000. Mercury (Hg) was analysed in the flesh. Error bars indicate concentration range.



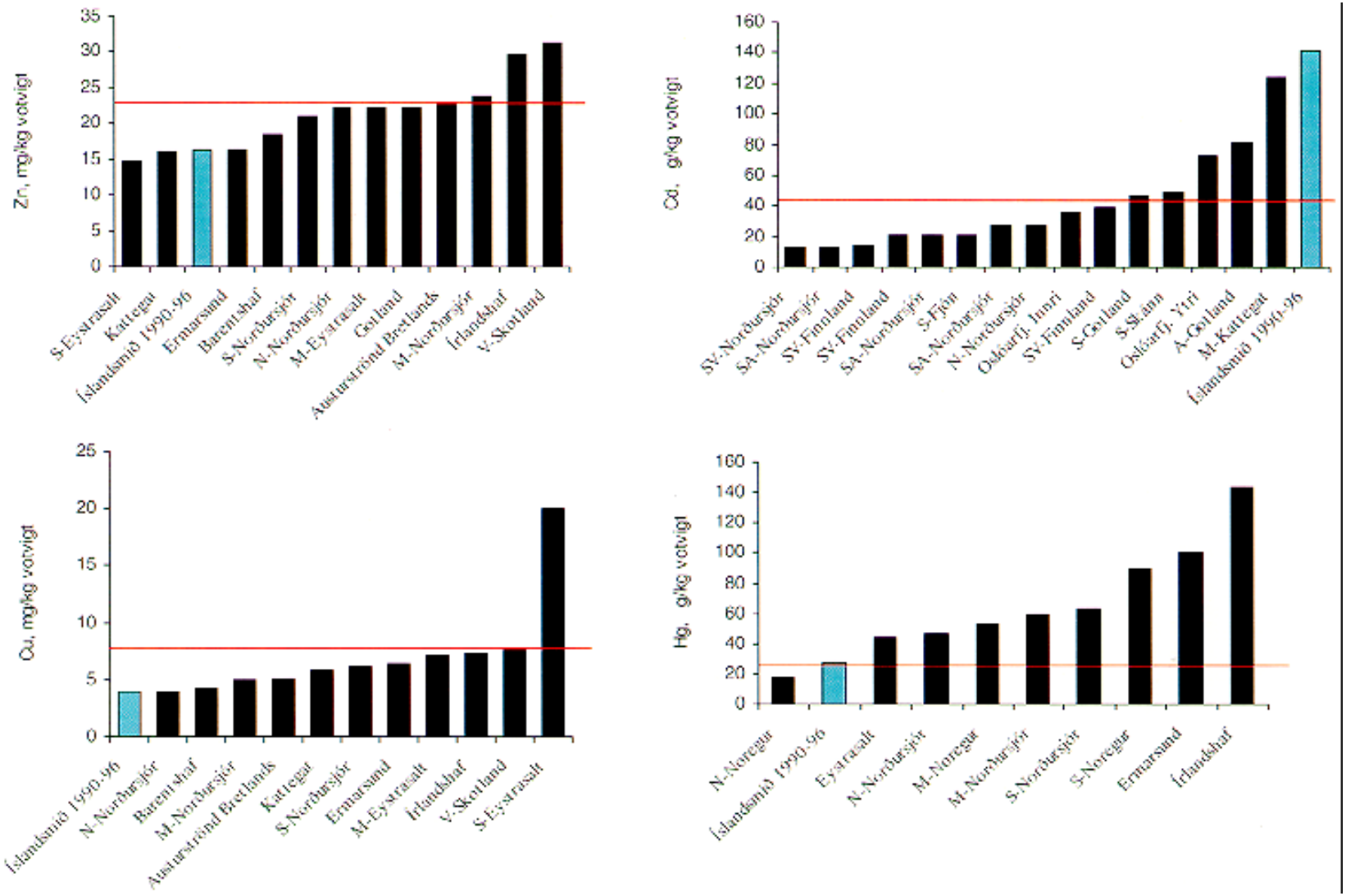
Graph 3a. Cadmium and copper concentrations (dw) in mussel *Mytilus edulis)* around Iceland 1990 -1999. Red line indicates ICES90 75% baseline (8



Graph 3b. Zink and mercury concentrations (dw) in mussel *Mytilus edulis)* around Iceland 1990 -1999. Red line indicates ICES90 75% baseline (8



Graph 3c. Lead concentration (dw) in mussel*Mytilus edulis*) around Iceland 1990-1999 (no Pb measurements in 1998 and 1999). Red line indicates ICES90 75% baseline (8). Arsen and selenium concentrations (dw) from same locations 1993-1999.



Graph 6. Average heavy metal concentrations in cod (*Gadus Morhua*) from Icelandic waters and other nordic areas (6). The red line shows the ICES85 75% baseline (7).

Appendix V

Results of Organochlorine Analysis for:
Blue Mussel (*Mytilus edulis*) 1998 and 1999,
Cod (*Gadus Morhua*) and Dab (*Limanda limanda*)
1999 and 2000

Table 7a. Organochlorines in cod liver (*Gadus morhua*) (ww, ng/g) 1999.

	COD 99 AF	COD 99 AF	COD 99 AF	COD 99 AF		COD 99 AF	COD 99 AF	COD 99 AF			
	H1	H2	H3	H4A	H4B	H4*	H5	H6			
PCB28	4,9	3,9	4,4	4,2	4,0	4,1	4,5	4,7			
PCB31	4,0	2,9	3,4	3,3	3,3	3,3	3,6	4,0			
PCB52	8,9	7,9	7,8	8,3	7,8	8,1	8,4	8,2			
PCB101	10,8	9,0	7,7	8,8	8,7	8,8	8,0	6,5			
PCB105	5,3	5,5	4,7	4,3	4,6	4,5	4,5	3,5			
PCB118	15,5	15,5	13,3	12,6	10,8	11,7	11,9	9,5			
PCB138	20,6	23,1	17,2	17,6	15,5	16,5	15,1	10,7			
PCB153	30,5	33,0	25,6	26,5	24,9	25,7	22,0	14,5			
PCB156	1,8	1,9	1,7	1,7	1,5	1,6	1,6	1,2			
PCB170	2,0	3,5	2,2	2,2	3,0	2,6	2,0	1,3			
PCB180	7,4	8,5	6,2	6,5	6,5	6,5	5,8	3,9			
Σ7PCB	98,6	101	82,1	84,3	78,2	81,3	75,6	57,9			
HCB	40,7	38,6	40,6	40,6	40,9	40,8	41,8	38,9			
a-HCH	8,7	8,0	8,3	9,3	9,5	9,4	10,1	9,2			
b-HCH	0,5	0,5	0,5	0,7	0,9	0,8	0,7	0,7			
g-HCH	2,2	2,0	2,0	2,3	2,3	2,3	2,5	2,3			
p,p'-DDE	70,2	70,9	63,3	61,9	60,1	61,0	56,0	44,3			
p,p'-DDD	29,1	23,9	24,1	24,0	21,3	22,7	23,5	21,6			
p,p'-DDT	15,2	10,4	10,4	11,2	13,8	12,5	10,7	9,8			
o,p'-DDT	0,0	0,0	0,0	0,0	0,0	<0.4	9,1	8,9			
ΣDDT	114	105	97,8	97,1	95,2	96,1	99,3	84,5			
transnonachlor	47,0	50,0	40,4	38,0	39,6	38,8	37,2	31,5			
a-chlordan	33,4	34,4	30,3	28,4	29,6	29,0	29,4	27,4			
g-chlordan	11,4	10,9	10,0	9,7	10,0	9,8	10,5	9,8			
oxychlordan	8,9	8,9	8,4	7,7	7,8	7,8	7,3	6,4			
ΣCHL	100,7	104,2	89,0	83,9	87,0	85,4	84,4	75,1			
Tox-26	28,2	29,4	25,0	24,9	24,5	24,7	25,0	22,4			
Tox-50	48,5	51,3	44,4	44,3	44,8	44,6	43,6	39,4			
Tox-50	11,1	12,6	12,4	13,1	22,2	13,1	13,2	12,5			
% extr.lipids	47,0	45,5	46,7	55,3	55,4	55,4	57,8	54,4			

*Average of two measurements, A og B, done with one week interval. **PCB #28, 52, 101, 118, 138, 153 ,180.

Table 7a. Organochlorines in cod liver (*Gadus morhua*) (ww, ng/g) 1999.

	COD 99 VF	COD 99 VF	COD 99 VF	COD 99 VF		COD 99 VF	COD 99 VF
	H1	H2	H3	H4A	H4B	H4*	H5
PCB28	2,4	3,7	3,0	4,0	4,7	4,4	5,0
PCB31	1,5	2,5	1,8	2,9	3,6	3,2	3,5
PCB52	4,4	7,1	5,1	8,0	7,8	7,9	9,8
PCB101	8,8	11,3	8,7	10,8	10,7	10,8	11,3
PCB105	2,8	4,5	3,4	3,6	3,7	3,7	4,5
PCB118	12,0	15,9	13,2	12,4	12,5	12,4	13,5
PCB138	18,5	23,9	19,2	17,2	17,2	17,2	18,0
PCB153	34,0	40,4	33,2	28,9	29,1	29,0	30,5
PCB156	1,3	1,7	1,5	1,5	1,5	1,5	1,7
PCB170	2,4	3,2	3,6	2,7	2,8	2,8	2,9
PCB180	8,6	10,0	8,1	6,7	6,6	6,6	7,4
Σ7PCB	88,6	112,2	90,4	87,9	88,6	88,2	95,5
HCB	12,5	24,9	20,8	34,5	33,2	33,8	43,6
a-HCH	2,5	3,8	3,8	6,9	6,9	6,9	7,6
b-HCH	0,2	0,4	0,4	0,7	0,7	0,7	0,8
g-HCH	0,6	0,9	0,9	1,7	1,7	1,7	1,9
p,p'-DDE	51,9	73,6	63,1	64,4	65,8	65,1	74,2
p,p'-DDD	13,5	22,7	15,3	21,3	21,9	21,6	27,2
p,p'-DDT	5,4	11,6	10,2	11,6	15,1	13,4	15,4
o,p'-DDT	0,0	0,0	0,0	0,0	0,0	0,0	12,3
ΣDDT	70,8	107,9	88,6	97,3	103	100	129
transnonachlor	34,8	50,4	43,8	45,3	44,9	45,1	51,2
a-chlordan	15,2	26,1	20,7	30,4	30,0	30,2	38,2
g-chlordan	4,0	6,7	5,2	9,5	9,4	9,5	11,9
oxychlordan	6,7	9,7	8,6	10,4	10,6	10,5	11,1
ΣCHL	60,8	92,8	78,3	85,2	84,3	84,8	112,4
Tox-26	17,1	27,0	20,7	27,2	27,9	27,6	32,2
Tox-50	29,0	46,6	34,0	46,1	49,8	48,0	57,3
Tox-50	4,6	8,9	9,4	17,4	22,2	19,8	22,9
% extr.lipids	18,6	27,5	28,6	50,5	51,7	51,1	59,2

*Average of two measurements, A og B, done with one week interval. **PCB #28, 52, 101, 118, 138, 153 ,180.

Table 7a. Organochlorines in cod liver (*Gadus morhua*) (ww, ng/g) 1999.

	COD 99 NA	COD 99 NA	COD 99 NA		COD 99 NA	COD 99 NA	COD 99 NA	COD 99 NA
	H1	**H2**	H3A	H3B	**H3***	**H4**	**H5**	**H6**
PCB28	2,7	2,9	3,6	3,7	3,6	3,8	4,3	4,7
PCB31	2,1	2,3	2,7	2,9	2,8	3,0	3,7	4,0
PCB52	5,5	6,8	6,7	6,8	6,7	6,8	6,9	7,5
PCB101	7,8	8,9	8,9	9,3	9,1	7,5	7,8	6,5
PCB105	2,8	3,0	3,1	3,3	3,2	3,2	3,7	3,6
PCB118	8,9	9,2	10,4	11,4	10,9	8,8	9,3	8,2
PCB138	12,2	13,3	14,0	14,3	14,1	11,2	12,4	10,8
PCB153	19,4	21,0	22,6	24,2	23,4	17,2	20,4	15,8
PCB156	1,1	1,1	1,4	1,6	1,5	1,3	1,3	1,5
PCB170	1,9	2,2	2,6	2,6	2,6	1,7	1,9	1,6
PCB180	4,8	5,1	5,4	5,7	5,6	4,2	5,0	4,0
Σ7PCB	61,2	67,2	71,6	75,4	73,5	59,3	66,1	57,4
HCB	20,5	26,3	25,4	26,4	25,9	29,8	34,0	35,1
a-HCH	6,3	7,9	9,0	9,3	9,1	8,8	9,6	10,3
b-HCH	0,6	0,6	0,7	0,7	0,7	0,8	0,8	0,8
g-HCH	1,7	2,1	2,4	2,5	2,4	2,4	2,7	2,7
p,p'-DDE	42,5	50,1	49,2	50,7	50,0	42,7	45,8	42,3
p,p'-DDD	13,6	16,7	16,9	17,5	17,2	17,1	16,6	18,2
p,p'-DDT	5,7	11,0	12,2	12,9	12,5	12,2	11,8	12,1
o,p'-DDT	0,0	0,00	0,0	0,0	0,0	10,9	12,2	11,9
ΣDDT	61,8	77,8	78,3	81,1	79,7	82,9	86,4	84,6
transnonachlor	31,7	34,5	37,4	37,8	37,6	31,9	37,7	31,1
a-chlordan	19,8	23,0	24,7	24,7	24,7	25,1	26,2	27,3
g-chlordan	6,0	7,4	7,4	7,5	7,4	8,4	9,3	10,1
oxychlordan	5,6	6,8	7,8	7,9	7,9	6,3	7,8	6,5
ΣCHL	63,1	71,7	77,3	77,9	77,6	71,6	81,0	74,9
Tox-26	17,0	20,1	21,7	23,1	22,4	20,6	21,4	22,2
Tox-50	29,8	35,3	37,7	39,5	38,6	37,3	36,9	40,5
Tox-50	12,5	16,1	18,1	19,6	18,9	18,9	19,1	21,7
% extr.lipids	34,1	43,8	49,7	51,2	50,5	49,7	50,0	57,3

*Average of two measurements, A og B, done with one week interval. **PCB #28, 52, 101, 118, 138, 153 ,180.

Table 7b. Organochlorines in dab liver (*Limanda limanda*) (ww, ng/g) 1999

	DAB 99 VF		**DAB 99 VF**	**DAB 99 NV**	**DAB 99 AF**	**DAB 99 SV**
	A	B	*			
PCB28	2,6	2,7	2,6	1,1	2,2	2,6
PCB31	1,3	1,9	1,6	0,7	1,7	1,8
PCB52	1,0	1,2	1,1	0,6	1,8	1,4
PCB101	1,5	0,6	1,1	1,6	2,4	2,4
PCB105	0,0	0,0	0,0	0,1	0,6	0,1
PCB118	1,2	1,5	1,4	2,3	2,9	2,8
PCB138	3,4	4,1	3,7	3,5	2,0	5,3
PCB153	5,3	5,6	5,5	6,3	7,5	7,7
PCB156	0,45	0,40	0,4	0,40	0,39	0,51
PCB170	0,4	0,4	0,4	0,5	0,7	0,6
PCB180	1,3	1,7	1,5	1,5	2,1	2,4
Σ7PCB	16,2	17,3	16,8	16,9	20,9	24,6
HCB	3,4	3,8	3,6	3,4	6,2	4,1
a-HCH	1,2	1,2	1,2	1,1	1,13	0,99
b-HCH	0,1	0,1	0,1	0,1	0,1	0,1
g-HCH	0,26	0,42	0,3	0,20	0,35	0,27
p,p'-DDE	8,3	9,5	8,9	9,0	17,4	18,8
p,p'-DDD	0,8	0,9	0,9	0,9	3,1	1,7
p,p'-DDT	0,8	0,3	0,5	0,6	2,3	1,0
o,p'-DDT	0,0	0,0	0,0	0,0	0,00	0,00
ΣDDT	9,9	10,7	10,3	10,5	22,7	21,6
transnonachlor	4,1	4,6	4,4	4,5	8,2	6,0
a-chlordan	1,4	1,5	1,5	1,4	4,9	2,3
g-chlordan	0,2	0,3	0,2	0,26	1,0	0,4
oxychlordan	0,8	0,8	0,8	1,0	1,7	0,9
ΣCHL	6,5	7,2	6,9	7,1	15,9	9,6
Tox-26	2,3	2,7	2,5	2,6	6,0	4,1
Tox-50	3,4	4,3	3,9	3,9	11,1	7,9
Tox-50	2,0	1,8	1,9	1,3	4,4	3,5
% extr.lipids	11,6	12,0	11,8	9,3	11,0	12,7

*Average of two measurements, A og B, done with one week interval. **PCB #28, 52, 101, 118, 138, 153, 180.

Table 8. Organochlorines in livers of dab (*Limanda limanda*) and cod (*Gadus Morhua*) (ww, ng/g) 2000.

	COD 00 NV	COD 00 NV	COD 00 NV	COD 00 NV		COD 00 NV	COD 00 NV
	H1	**H2**	**H3**	H4 A	H4 B	**H4***	**H5**
PCB28	2,4	2,6	2,9	3,4	4,4	3,9	4,8
PCB31	1,8	1,8	1,9	2,4	3,3	2,9	3,8
PCB52	3,9	5,6	4,9	6,1	6,7	6,4	7,5
PCB101	7,5	9,2	8,0	8,1	8,4	8,3	6,8
PCB105	2,1	2,7	2,5	2,5	2,5	2,5	1,8
PCB118	8,6	11,3	10,4	10,5	10,7	10,6	8,4
PCB138	11,4	18,8	15,5	14,2	15,2	14,7	11,0
PCB153	18,2	28,5	24,7	22,6	22,9	22,8	15,2
PCB156	1,1	1,6	1,5	1,4	1,5	1,5	1,2
PCB170	1,4	2,6	2,2	1,9	2,0	2,0	1,1
PCB180	4,2	7,4	6,8	6,0	6,3	6,2	3,9
Σ7PCB	56,2	83,4	73,2	70,9	74,6	72,8	57,6
HCB	11,6	20,9	20,6	24,6	23,9	24,3	26,7
a-HCH	2,9	5,2	5,3	5,9	6,0	6,0	7,3
b-HCH	0,3	0,7	0,6	0,5	0,5	0,5	0,7
g-HCH	0,9	1,3	1,3	1,5	1,4	1,5	2,0
p,p'-DDE	38,0	58,5	49,9	50,2	51,5	50,9	46,7
p,p'-DDD	12,1	18,7	15,8	18,8	18,0	18,4	21,4
p,p'-DDT	5,7	13,1	12,5	13,0	14,7	13,9	16,6
o,p'-DDT	2,5	4,3	3,8	4,8	5,1	5,0	7,8
ΣDDT	58,3	94,6	82,0	86,8	89,3	88,1	92,5
transnonachlor	22,8	34,1	29,5	31,7	31,2	31,5	27,3
a-chlordan	15,9	20,9	19,7	22,8	22,5	22,7	26,7
g-chlordan	4,0	5,9	5,4	6,4	6,0	6,2	8,1
oxychlordan	4,4	7,5	6,8	6,8	7,2	7,0	6,1
ΣCHL	47,1	68,4	61,4	67,7	66,9	67,3	68,2
Tox-26	20,5	30,7	27,2	31,4	32,4	31,9	34,0
Tox-50	29,0	43,7	42,1	47,1	48,8	48,0	52,4
Tox-62	4,4	9,2	8,6	11,3	14,9	13,1	14,7
% extr.lipids	28,6	50,4	49,2	56,7	56,8	56,8	68,3

*Average of two measurements, A og B, done with one week interval. **PCB #28, 52, 101, 118, 138, 153 ,180.

Table 8. Organochlorines in livers of dab (*Limanda limanda*) and cod (*Gadus Morhua*) (ww, ng/g) 2000.

	COD 00 VF	COD 00 VF	COD 00 VF		COD 00 VF	COD 00 VF	COD 00 VF
	H2	**H3**	H4 A	H4 B	**H4***	**H5**	**H6**
PCB28	2,2	2,4	2,6	1,7	2,2	4,3	3,5
PCB31	1,7	1,6	2,0	1,1	1,6	2,9	2,4
PCB52	3,3	2,8	2,6	2,0	2,3	4,4	3,9
PCB101	7,5	6,7	5,7	5,5	5,6	8,8	9,6
PCB105	3,0	3,4	2,5	2,6	2,6	2,9	3,4
PCB118	10,1	11,2	8,7	9,1	8,9	11,3	12,0
PCB138	14,3	17,5	12,7	13,5	13,1	14,9	17,3
PCB153	28,5	32,5	24,7	26,5	25,6	26,3	31,8
PCB156	1,1	1,2	1,0	1,0	1,0	1,1	1,4
PCB170	2,2	2,3	2,1	2,1	2,1	1,6	2,6
PCB180	6,8	6,7	6,1	6,4	6,3	5,2	8,1
Σ7PCB	72,7	79,8	63,1	64,7	63,9	75,2	86,2
HCB	6,6	7,3	5,9	6,1	6,0	13,4	10,4
a-HCH	1,9	2,0	1,7	1,5	1,6	4,3	3,9
b-HCH	0,2	0,3	0,2	0,2	0,2	0,3	0,4
g-HCH	0,8	0,8	0,6	0,5	0,6	1,4	1,5
p,p'-DDE	41,0	40,6	33,3	36,2	34,8	41,1	50,3
p,p'-DDD	10,1	9,4	6,3	6,5	6,4	9,8	10,0
p,p'-DDT	7,5	13,0	4,9	5,3	5,1	5,1	6,3
o,p'-DDT	0,6	0,6	0,3	0,5	0,4	1,7	1,4
ΣDDT	59,2	63,6	44,8	48,5	46,7	57,7	68,0
transnonachlor	20,8	21,4	16,6	17,8	17,2	23,1	26,0
a-chlordan	2,3	7,2	6,9	7,0	7,0	12,0	11,5
g-chlordan	2,3	1,6	1,5	1,5	1,5	2,8	2,5
oxychlordan	4,6	5,5	4,1	4,4	4,3	6,2	6,7
ΣCHL	30,0	35,7	25,0	26,3	25,7	44,1	46,7
Tox-26	17,3	15,0	11,6	12,4	12,0	21,6	20,1
Tox-50	24,3	20,1	16,3	16,4	16,4	33,4	30,6
Tox-62	3,7	1,5	0,8	1,4	1,1	6,6	4,4
% extr.lipids	21,9	23,0	18,9	18,7	18,8	43,9	41,0

*Average of two measurements, A og B, done with one week interval. **PCB #28, 52, 101, 118, 138, 153 ,180.

Table 8. Organochlorines in livers of dab (*Limanda limanda*) and cod (*Gadus Morhua*) (ww, ng/g) 2000.

	COD 00 NA-A H1	COD 00 NA-A H2	COD 00 NA-A H3	COD 00 NA-A H4 A	COD 00 NA-A H4 B	COD 00 NA-A H4*	COD 00 NA-A H5		DAB 00 SV		
PCB28	2,0	2,5	3,0	3,6	3,8	3,7	2,7	PCB28	0,9		
PCB31	1,1	1,4	1,9	2,4	2,6	2,5	1,9	PCB31	0,8		
PCB52	3,9	5,8	5,3	5,4	5,2	5,3	5,2	PCB52	1,6		
PCB101	8,5	11,3	8,8	8,3	8,4	8,4	7,5	PCB101	3,2		
PCB105	2,3	2,3	2,0	1,7	1,8	1,8	1,7	PCB105	0,9		
PCB118	10,3	11,5	9,5	8,8	8,9	8,9	7,9	PCB118	3,6		
PCB138	13,3	15,2	12,5	11,3	11,6	11,5	9,9	PCB138	7,4		
PCB153	22,8	23,6	20,1	17,0	16,9	17,0	14,2	PCB153	10,7		
PCB156	1,1	1,3	1,1	1,1	1,0	1,1	0,9	PCB156	0,5		
PCB170	2,0	1,9	1,6	1,3	1,4	1,4	1,1	PCB170	1,0		
PCB180	6,0	5,9	5,1	4,1	4,3	4,2	3,9	PCB180	2,7		
Σ7PCB	66,8	75,8	64,3	58,5	59,1	58,8	51,3	Σ7PCB	30,1		
HCB	11,0	16,3	17,0	18,3	18,0	18,2	20,7	HCB	5,0		
a-HCH	2,9	4,7	5,4	7,1	7,1	7,1	7,4	a-HCH	1,1		
b-HCH	0,3	0,4	0,4	0,6	0,6	0,6	0,7	b-HCH	0,1		
g-HCH	0,8	1,3	1,6	1,9	1,9	1,9	2,0	g-HCH	0,3		
p,p'-DDE	46,6	60,9	43,7	39,5	39,8	39,7	36,5	p,p'-DDE	25,4		
p,p'-DDD	15,4	20,4	15,6	14,6	15,2	14,9	15,5	p,p'-DDD	3,3		
p,p'-DDT	13,2	17,3	11,4	10,5	12,8	11,7	11,3	p,p'-DDT	4,6		
o,p'-DDT	4,8	7,4	5,7	5,4	6,5	6,0	7,1	o,p'-DDT	1,5		
ΣDDT	80,0	106,0	76,4	70,0	74,3	72,2	70,4	ΣDDT	34,8		
transnonachlor	27,7	36,6	27,7	24,6	25,1	24,9	22,6	transnonachlor	9,3		
a-chlordan	17,8	24,7	21,1	19,3	19,7	19,5	21,7	a-chlordan	4,8		
g-chlordan	4,2	6,2	5,5	5,2	5,5	5,4	6,8	g-chlordan	0,8		
oxychlordan	4,5	6,0	5,0	4,7	4,6	4,7	4,5	oxychlordan	1,6		
ΣCHL	54,2	73,5	59,3	53,8	54,9	54,4	55,6	ΣCHL	16,5		
Tox-26	18,5	31,1	25,8	24,4	25,4	24,9	26,3	Tox-26	9,8		
Tox-50	33,9	48,9	40,4	38,7	43,1	40,9	42,6	Tox-50	13,4		
Tox-62	9,7	16,5	11,4	13,1	16,4	14,8	20,7	Tox-50	5,4		
% extr.lipids	22,5	35,0	39,6	51,4	51,9	51,7	55,8	% extr.lipids	15,2		

*Average of two measurements, A og B, done with one week interval. **PCB #28, 52, 101, 118, 138, 153 ,180.

Table 9a. Organochlorines in mussel (*Mytilus edulis*) (dw, ng/g) 1998.

	Hvassahr. 98	Mjófifj. 98	Mjóifj. 98	Mjóifj. 98	Grímsey 98	Straumsvík 98	Hvítanes 98	Hvaleyri 98	Hvalstöð 98	Vestmanna-
	*	I	II	III		*				eyjar 98
PCB28	<1,03	<1,03	<1,03	<1,03	<1,03	1,43	<1,03	1,31	<1,03	<1,03
PCB31	<1,24	<1,24	<1,24	<1,24	<1,24	<1,34	<1,24	1,31	<1,24	<1,24
PCB52	<0,21	0,7	<0,21	<0,21	<0,21	0,72	0,49	0,33	0,53	1,24
PCB101	<0,21	<0,21	<0,21	<0,21	<0,21	1,19	0,49	0,55	2,30	4,88
PCB105	<0,10	<0,10	<0,10	<0,10	0,20	0,48	<0,10	0,22	0,71	1,37
PCB118	0,55	0,22	0,26	0,34	0,69	1,43	0,61	0,76	2,30	4,05
PCB138	0,73	0,33	0,43	0,56	1,18	2,80	1,21	1,42	3,01	9,48
PCB153	1,10	0,45	0,60	0,45	1,96	3,34	1,58	1,86	3,01	8,93
PCB156	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	0,18	0,48
PCB170	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	0,21
PCB180	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	1,03
Σ3PCB**	2,39	1,00	1,29	1,34	3,83	7,57	3,40	4,04	8,33	22,46
HCB	0,18	0,22	0,26	0,22	0,20	0,18	0,12	0,11	0,09	0,55
a-HCH	<0,10	0,33	0,43	0,89	0,39	0,24	0,24	0,22	0,27	0,34
b-HCH	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
g-HCH	<0,10	<0,10	0,17	0,34	0,29	<0,10	<0,10	<0,10	<0,10	<0,10
p,p'-DDE	0,46	0,56	0,77	0,34	1,57	0,77	0,73	0,66	0,89	6,04
p,p'-DDD	<0,31	0,22	0,17	<0,10	<0,10	0,72	<1,03***	1,20	<1,03***	1,79
p,p'-DDT	<0,21	<0,21	<0,21	<0,21	<0,21	0,36	<1,03***	0,66	<1,03***	0,21
o,p'-DDT	<0,21	<0,21	<0,21	<0,21	<0,21	<0,21	<0,21	<0,21	<0,21	<0,21
ΣDDT	0,46	0,78	0,95	0,34	1,57	1,79	0,73	2,51	0,89	8,17
transnonachlor	<0,21	0,33	0,43	<0,21	0,39	0,36	<0,21	0,33	0,35	3,23
a-chlordan	<0,21	0,33	0,34	<0,21	0,29	<0,21	<0,21	<0,21	0,27	2,06
g-chlordan	<0,21	<0,21	<0,21	<0,21	<0,21	<0,21	<0,21	<0,21	<0,21	0,34
Tox-26	<0,21	<0,21	0,26	<0,21	<0,21	0,54	<0,21	0,33	0,53	1,30
Tox-50	<0,21	0,67	0,69	0,45	0,49	0,48	<0,21	0,44	0,35	2,27
Tox-62	<0,21	<0,21	<0,21	<0,21	<0,21	<0,21	<0,21	<0,21	<0,21	0,62
% extr.lipids	0,16	0,41	0,55	0,26	0,46	0,43	0,22	0,33	0,43	0,88

*Average of two measurements done with one week interval.
**PCB # 118, 138, 153.
***Higer LOD due to impurities in sample

Table 9b. Organochlorines in mussel (*Mytilus edulis*) (dw, ng/g) 1999.

	Mjóifj. 99 botn	Mjóifj. 99 miðja	Mjóifj. 99 Dalatangi*	Grímsey 99	Skutulsfjörður 1999	Hvítanes 1999	Hvaleyri 1999*	Hvalstöð 1999	Álftafjörður 1999			
PCB28	<2,02	<2,02	<2,02	<2,02	<2,02	<2,02	<2,02	<2,02	<2,02			
PCB31	<1,79	<1,79	<1,79	<1,79	<1,79	<1,79	<1,79	<1,79	<1,79			
PCB52	<0,45	<0,45	<0,45	<0,45	<0,45	0,74	0,76	0,58	<0,45			
PCB101	0,19	0,11	<0,13	<0,11	0,72	1,20	1,19	0,93	0,25			
PCB105	0,19	0,11	0,13	0,11	0,29	0,37	0,43	0,35	0,13			
PCB118	0,19	0,22	0,19	0,33	0,72	1,20	1,19	0,93	0,25			
PCB138	0,38	0,43	0,32	0,66	1,30	1,58	1,73	1,51	0,50			
PCB153	0,48	0,54	0,45	0,87	1,59	2,22	2,06	1,86	0,63			
PCB156	<0,11	<0,11	<0,11	<0,11	<0,11	<0,11	<0,11	<0,11	<0,11			
PCB170	<0,11	<0,11	<0,11	<0,11	<0,11	<0,11	<0,11	<0,11	<0,11			
PCB180	<0,11	<0,11	<0,11	<0,11	<0,11	0,19	0,11	<0,11	<0,11			
Σ3PCB**	1,05	1,19	0,96	1,86	3,61	5,00	4,87	4,29	1,38			
HCB	0,10	0,11	0,13	0,11	0,14	0,19	0,11	0,12	0,13			
a-HCH	0,48	0,32	0,39	0,44	0,14	0,37	0,22	0,23	0,25			
b-HCH	<0,11	<0,11	<0,11	<0,11	<0,11	<0,11	<0,11	<0,11	<0,11			
g-HCH	<0,22	<0,22	<0,22	<0,22	<0,22	<0,22	<0,22	<0,22	<0,22			
p,p'-DDE	0,48	0,65	0,32	0,98	0,43	0,74	0,65	0,58	0,25			
p,p'-DDD	0,38	0,22	0,26	<0,22	<0,22	0,19	0,65	<0,22	<0,22			
p,p'-DDT	<0,78	<0,34	<0,67	<0,34	<0,34	<0,34	<1,45	<0,34	<0,34			
o,p'-DDT	<0,22	<0,22	<0,22	<0,22	<0,22	<0,22	<0,22	<0,22	<0,22			
transnonachlor	0,38	0,32	0,26	0,22	0,29	0,37	0,32	0,23	0,25			
a-chlordan	0,38	0,22	0,13	0,22	<0,11	0,37	0,22	0,23	0,13			
g-chlordan	<0,22	<0,22	<0,22	<0,22	<0,22	<0,22	<0,22	<0,22	<0,22			
Tox-26	0,38	0,22	0,19	0,22	0,29	0,56	<0,78	0,35	0,25			
Tox-50	0,86	0,54	0,39	0,33	0,29	0,65	0,43	0,35	0,38			
Tox-62	0,19	<0,11	<0,11	<0,11	<0,11	0,09	<0,11	<0,11	<0,11			
% extr.lipids	0,42	0,25	0,15	0,26	0,16	0,52	0,30	0,23	0,19			

*Average of two measurements done with at least 1 week interval.
**PCB # 118, 138, 153.

Table 10a. Blindsamples. Blanks for individual compounds subtracted from samples and limits of detection* (mussel 1998, cod and dab 1999)

compound	blank-1 ng	blank-2 ng	blank-3 ng	blank-4 ng	blank-5 ng	average ng	3 x STDEV	LOD in 20 g sample (mussel) ng/g	LOD in 5 g sample (cod+dab) ng/g
a-HCH	0	0	0	0	0	0	0	0	0
HCB	0,32	0,28	0,27	0,3	0,35	0,3	0,096	0,0048	0,019
b-HCH	0	0	0	0	0	0	0	0	0
g-HCH	3,37	3,16	2,72	2,5	2,05	2,76	1,58	0,079	0,32
PCB-31	7,02	3,72	1,09	3,84	3,49	3,83	6,33	0,32	1,27
PCB-28	9,5	5,22	1,35	5,17	4,96	5,24	8,66	0,43	1,73
PCB-52	2,55	1,52	0,68	1,5	1,34	1,52	2,01	0,10	0,40
oxychlordane	1,85	1,78	0,45	1,58	1,05	1,34	1,77	0,09	0,35
gamma-Chl.	0	0	0	0	0	0	0	0	0
PCB-101	0,67	0,58	0,42	0,43	0,32	0,48	0,42	0,021	0,084
alfa-Chl.	0,24	0,24	0,33	0	0	0,16	0,46	0,023	0,091
transnonachlo	0	0	0	0	0	0	0	0	0
4,4'-DDE	0,54	0,16	0,1	0	0,35	0,23	0,65	0,032	0,13
tox 26	0	0	0	0,01	0,22	0,05	0,29	0,015	0,058
PCB-118	0,15	0,07	0,29	0,24	0,18	0,19	0,25	0,013	0,051
4,4'-DDD	0,46	0,55	0	0,41	0,12	0,31	0,71	0,035	0,14
2,4'-DDT	0	0	0	0	0	0	0	0	0
PCB-153	0,54	0,5	0,46	0,36	0,27	0,42	0,33	0,016	0,066
PCB-105	0	0	0	0,09	0,11	0	0,17	0,008	0,033
4,4'-DDT	0,39	1,02	0,12	0,32	0,1	0,39	1,12	0,056	0,22
PCB-138	0,76	0,88	0,67	0,47	0,34	0,63	0,65	0,033	0,13
tox 50	1,09	0,84	0	0	0	0,39	1,61	0,080	0,32
PCB-156	0	0	0	0,04	0	0,01	0,054	0,003	0,011
PCB-180	0,38	0,27	0,21	0,22	0,15	0,25	0,26	0,013	0,052
tox 62	0	0	0	0	0	0	0	0	0
PCB-170	0,32	0,21	0	0,28	0,06	0,17	0,42	0,021	0,083

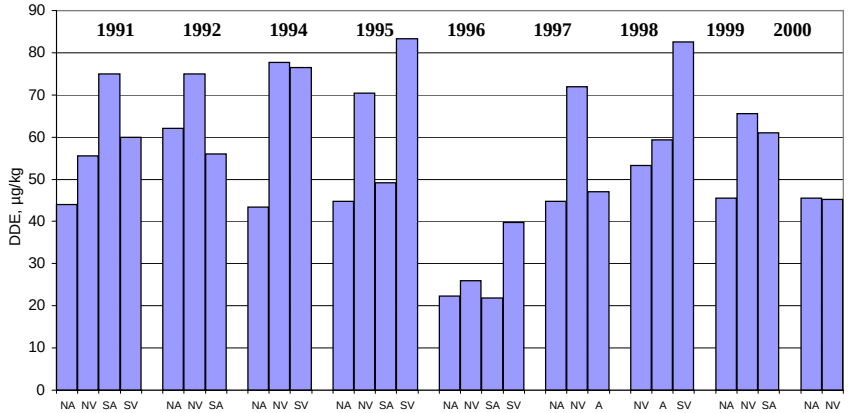
*LOD is defined as 3xSTDEV of blank (when blank values are subtracted from sample values), or as 3xnoise of baseline when compounds are not detected in the l

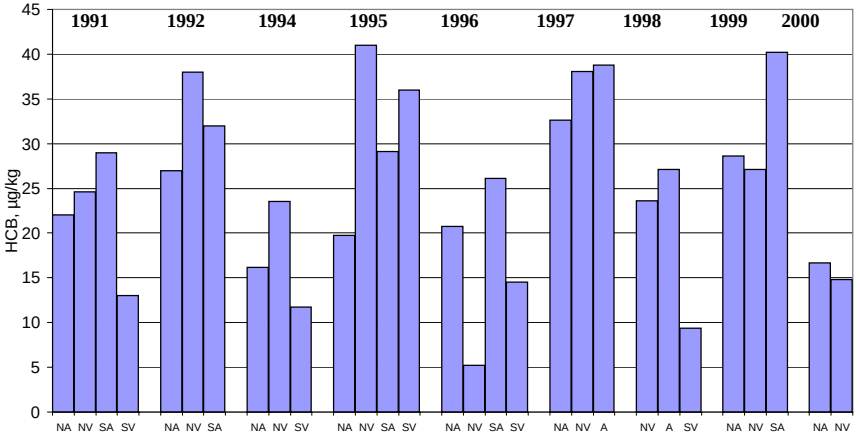
Table 10b. Blindsamples. Blanks for individual compounds subtracted from samples and limits of detection* (mussel 1999).

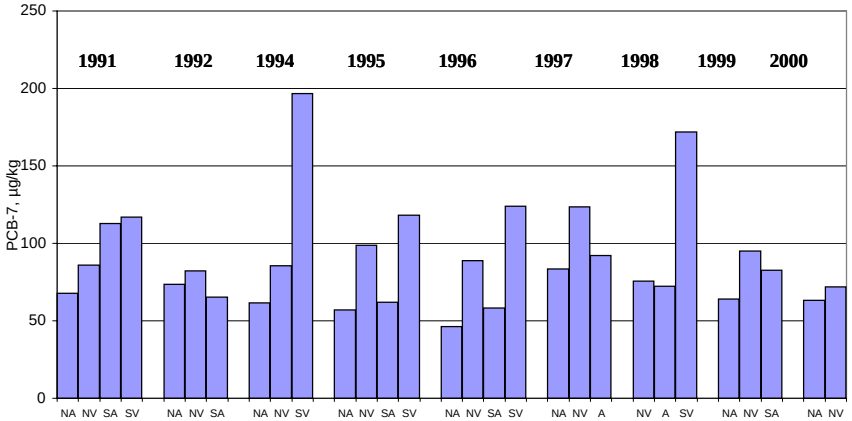
	blank	blank	blank	blank	**average**	3xSTDEV		**LOD in 20 g sample**
compound	1	2	3	4				**(mussel) ng/g**
a-HCH	0	0	0	0	0,00	0,00		<0.01
HCB	0,12	0,11	0,08	0,14	0,11	0,08		0,004
b-HCH	0	0	0	0	0,00	0,00		<0.01
g-HCH	1,19	1,4	1,09	1,18	1,22	0,39		0,02
PCB-18	15,21	17,78	9,67	12,72	12,53	8,32		0,42
PCB-31	8,45	9,83	6,26	7,26	7,32	3,29		0,16
PCB-28	8,72	9,63	6,39	7,35	7,49	3,51		0,18
PCB-52	2,90	3,83	2,34	2,58	2,61	0,84		0,04
PCB-44	3,11	3,84	2,62	2,7	2,81	0,79		0,04
oxychlordan	0	0	0	0	0,00	0,00		0,00
gamma-Chl.	0	0	0	0	0,00	0,00		0,00
PCB-101	0,78	0,73	0,62	0,68	0,70	0,21		0,01
PCB-99	0,25	0,26	0,22	0,23	0,24	0,05		0,00
alfa-Chl.	0	0,04	0	0	0,01	0,06		0,00
transnonachlo	0	0	0	0	0,00	0,00		0,00
4,4'-DDE	0,09	0,08	0,04	0,03	0,06	0,09		0,00
Tox-26	0,12	0,1	0,1	0	0,08	0,16		0,01
PCB-149	0,6	0,48	0,51	0,48	0,52	0,17		0,01
PCB-118	0,46	0,38	0,41	0,4	0,41	0,10		0,01
4,4'-DDD	0,56	0,33	0,15	0,15	0,30	0,58		0,03
2,4'-DDT	0,13	0,18	0,08	0	0,10	0,23		0,01
PCB-153	0,59	0,43	0,49	0,5	0,50	0,20		0,01
PCB-105	0,2	0,14	0,2	0,28	0,21	0,17		0,01
4,4'-DDT	3,28	1,58	0,66	0,75	1,57	3,64		0,18
PCB-138	0,61	0,44	0,54	0,58	0,54	0,22		0,01
PCB-187	0,13	0,1	0,11	0,13	0,12	0,04		0,00
Tox-50	0	0	0	0	0,00	0,00		0,00
PCB-128	0,09	0,06	0,06	0,11	0,08	0,07		0,00
PCB-156	0,05	0,02	0,04	0,04	0,04	0,04		0,00
PCB-180	0,25	0,14	0,22	0,21	0,21	0,14		0,01
Tox-62	0	0	0	0	0,00	0,00		0,00
PCB-170	0,13	0,05	0,12	0,1	0,10	0,11		0,01
PCB-194	0	0	0,01	0	0,00	0,02		0,00

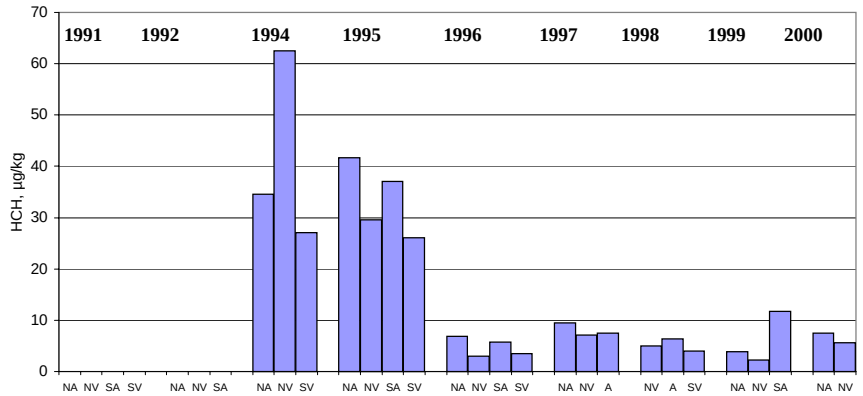
Table 10c. Blindsamples. Blanks for individual compounds subtracted from samples and limits of detection*(cod and dab 2000)

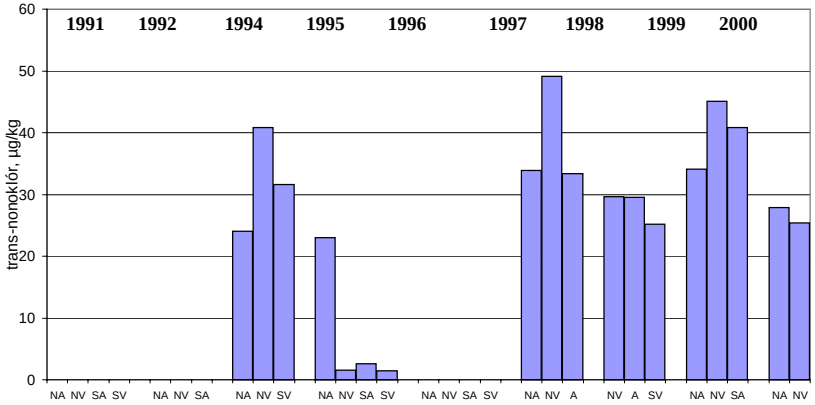
	blank-1	blank-2	blank-3	average	3 x STDEV	LOD (ng/g)
compound	ng	ng	ng	ng		cod + DAB/appr.3 g
a-HCH	0	0	0	0		0,1
HCB	0,05	0	0,05	0,03	0,09	0,03
b-HCH	0	0	0	0		0,2
g-HCH	0	0	0	0		0,2
PCB-31	4,78	5,29	7,52	5,86	4,37	1,46
PCB-28	6,03	6,55	5,20	5,93	2,04	0,68
PCB-52	2,13	2,16	1,85	2,05	0,51	0,17
oxychlordane	0	0	0	0		0,2
gamma-Chl.	0	0	0	0		0,1
PCB-101	0,68	0,70	0,52	0,63	0,30	0,10
alfa-Chl.	0	0	0	0		0,1
transnonachlo	0	0	0	0		0,1
4,4'-DDE	0	0	0	0		0,1
tox 26	0	0	0	0		0,2
PCB-118	0,43	0,38	0,30	0,37	0,20	0,07
4,4'-DDD	0,21	0	0,17	0,13	0,33	0,11
2,4'-DDT	0	0	0	0		0,3
PCB-153	0,55	0,41	0,27	0,41	0,42	0,14
PCB-105	0,26	0,07	0,15	0,16	0,29	0,10
4,4'-DDT	1,37	0,21	0	0,53	2,21	0,74
PCB-138	0,63	0,43	0,34	0,47	0,45	0,15
tox 50	0	0	0	0		0,3
PCB-156	0	0	0	0		0,1
PCB-180	0,37	0,15	0,12	0,21	0,41	0,14
tox 62	0	0	0	0		0,5
PCB-170	0,23	0	0	0,08	0,40	0,13
*LOD is defined as 3xSTDEV of blank (when blank values are subtracted from sample values), or						
as 3xnoise of baseline when compounds are not detected in the blanks						



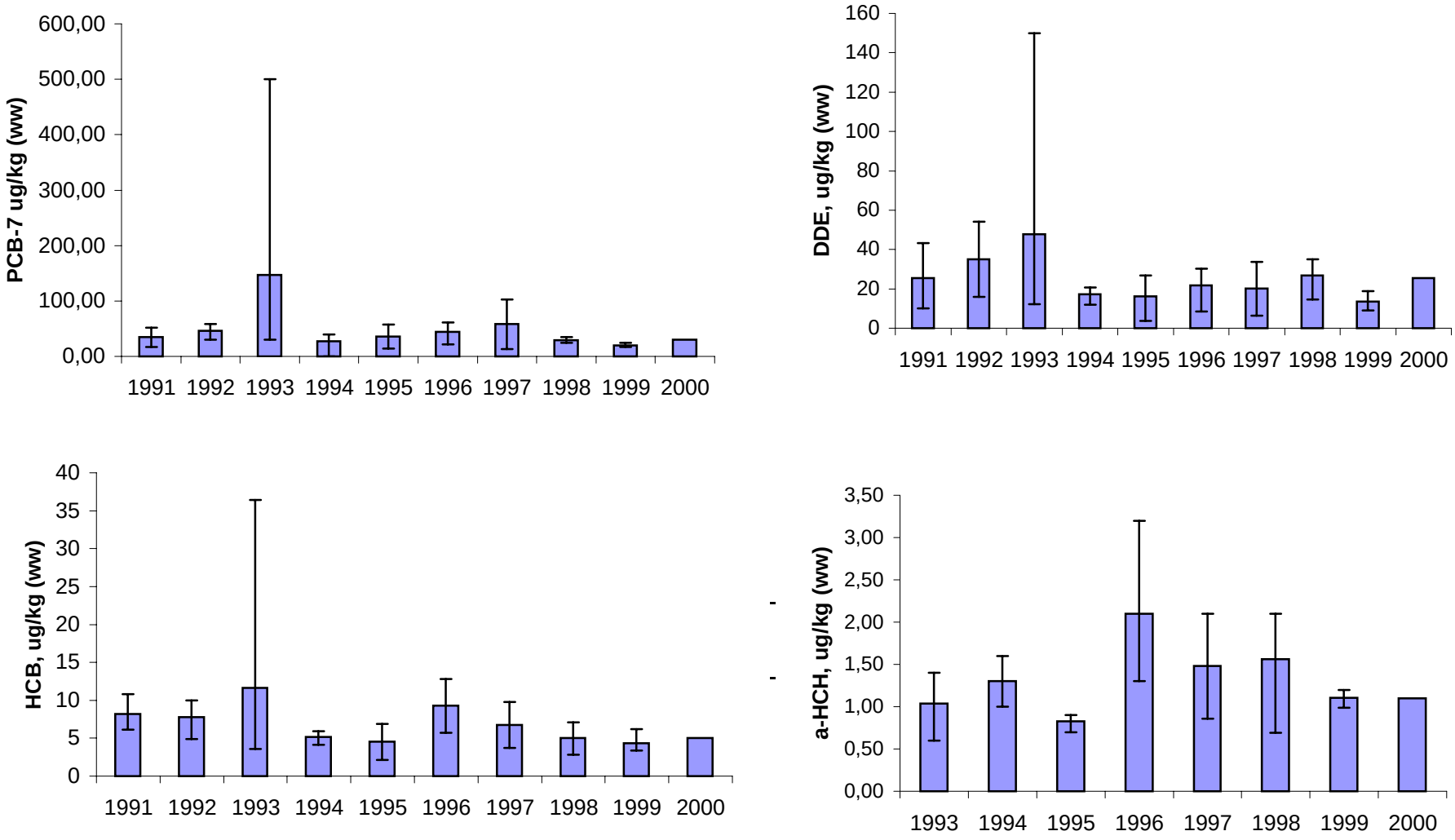








Graph 4. Average conentrations of organochlorine compounds (ww) in livers of 30-45cm cod (*Gadus Morhua*) in Icelandic waters 1991-2000.



Graph 5. Average concentrations of organochlorine compounds in livers of dab (*Limanda limanda*) 1991-2000